

3R-035

Ground Water Remediation Report

**DATE:
Apr 2008**

3R035

BLAGG ENGINEERING, INC.

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

April 25, 2008

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

**Re: BP America Production Company
Groundwater Monitoring Report
Jones A LS # 3, Unit G, Sec. 15, T28N, R8W, NMPM
San Juan County, New Mexico**

NMOCD Administrative/Environmental Order #: 3RP-35-0

Dear Mr. von Gonten:

BP America Production Company (**BP**) has retained Blagg Engineering, Inc. (**BEI**) to conduct environmental monitoring of groundwater at the Jones A LS # 3.

The last formal correspondence to NMOCD was conducted with a letter dated March 27, 2006. Since then, BP has followed its NMOCD approved groundwater management plan and continues to monitor the site. No permanent closure is requested at this time.

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

Respectfully submitted:
Blagg Engineering, Inc.

Nelson J. Velez
Staff Geologist

Attachment: Groundwater Report (2 copies)

cc: Mr. Brandon Powell, Environmental Specialist, NMOCD District III Office, Aztec, NM
Mr. Larry Schlotterback, Environmental Coordinator, BP, Farmington, NM (without lab report)
Ms. Shannon Hoover, Senior Geologist, URS Corp., Austin, Texas

NJV/njv

JONES A LS 3 04-25-08 CVL.DOC

3R035

BP AMERICA PRODUCTION CO. **COPY**

GROUNDWATER REMEDIATION REPORT

**JONES A LS #3
(G) SECTION 15, T28N, R8W, NMPM
SAN JUAN COUNTY, NEW MEXICO**

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

APRIL 2008

**PREPARED BY:
BLAGG ENGINEERING, INC.**

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

**BP AMERICA PRODUCTION COMPANY
JONES A LS # 3 - Dehydrator Pit
SW/4 NE/4, Sec. 15, T28N, R8W**

Pit Closure Date: 3/20/03

Monitor Well Installation Date: 5/28/04 (MW #2), 5/23/06 (MW #1 & MW #3)

Monitor Well Sampling Dates: 6/07/06, 8/23/06, 11/16/06, 1/25/07, 4/25/07, 7/19/07, 10/9/07

Site History:

A site dehydrator pit closure was initiated in March 2003. Potential groundwater impact was identified within the source area via installation of a monitor well in May 2004 (MW #2). Documentation for this work and subsequent groundwater monitoring data for the site have previously been submitted for New Mexico Oil Conservation Division (NMOCD) review. Further site delineation and limited excavation of the source area was suggested within the report. The reporting herein is for site monitoring for 2006 and 2007.

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 included benzene, toluene, ethylbenzene, and total xylenes (BTEX) by US EPA Method 8021B and general water chemistry.

Fluids generated during monitor well development and purging were managed by discarding into the separator tank pit located on the well site. The tank pit contents are then disposed through approved NMOCD operational procedures for removal of produced fluids.

Groundwater Quality & Flow Direction Information:

A background (MW #1) and down gradient (MW #3) monitor well were installed in May 2006. Boring logs for all monitor wells installed are included. Since June 2006, quarterly sampling has been conducted at the source (MW #2) and down gradient areas. MW #2 has tested with fluctuations below and above the New Mexico Water Quality Control Commission (NMWQCC) standards since its installation. Down gradient delineation appears to have been achieved, based on test results of MW #3. General water quality does not appear to show any abnormalities. A summary of laboratory analytical results is included within the tables on the following pages and field/laboratory reports are included.

Groundwater contour maps of relative water table elevations have consistently been measured with a gradient to the southwest direction (Figure 2 through Figure 8).

Summary and/or Recommendations:

Limited excavation of the impacted soil at the source area is still recommended. Thereafter, installation of replacement monitor well MW #2 and continued quarterly sampling are potentially required until a minimum of four (4) consecutive sampling events below NMWQCC standards has been attained.

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

JONES A LS # 3 - DEHY. PIT
UNIT G, SEC. 15, T28N, R8W

REVISED DATE: October 24 , 2007

FILENAME: (J3-4Q07.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
07-Jun-06	MW #1	11.04	20.00	828	1,100	7.08		ND	ND	ND	ND
23-Aug-06		11.34			900	7.15		ND	ND	ND	ND
14-Jun-04	MW #2	10.78	20.00		2,400	7.14		290	780	52	470
29-Dec-04		10.53			N/A	N/A		7.8	11	2.5	13
28-Mar-05		9.97			2,100	7.02		720	4,800	640	6,800
23-Jun-05		10.85			2,100	6.93		140	220	30	570
07-Jun-06		12.88	21.52	2,600	2,400	6.98		32	11	4.0	17
23-Aug-06		13.28			2,100	6.97		9.9	ND	1.2	3.9
16-Nov-06		12.25			2,400	6.96		24	18	4.9	20
25-Jan-07		11.01			900	7.34		4.0	4.3	1.4	7.9
25-Apr-07		12.05			2,300	7.06		8.4	4.7	2.2	10
19-Jul-07		13.15			2,200	6.91		60	35	7.3	32
09-Oct-07		11.98			2,200	6.95		4.8	12	3.7	22
07-Jun-06	MW #3	12.59	20.06	2,310	2,300	7.00		ND	ND	ND	ND
23-Aug-06		13.01			1,900	7.03		ND	ND	ND	ND
16-Nov-06		11.94			2,000	6.98		1.1	ND	2.1	7.5
25-Jan-07		12.64			1,100	7.52		ND	ND	1.7	4.0
25-Apr-07		11.76			2,200	7.06		ND	ND	6.7	17
19-Jul-07		12.84			2,100	7.00		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) .

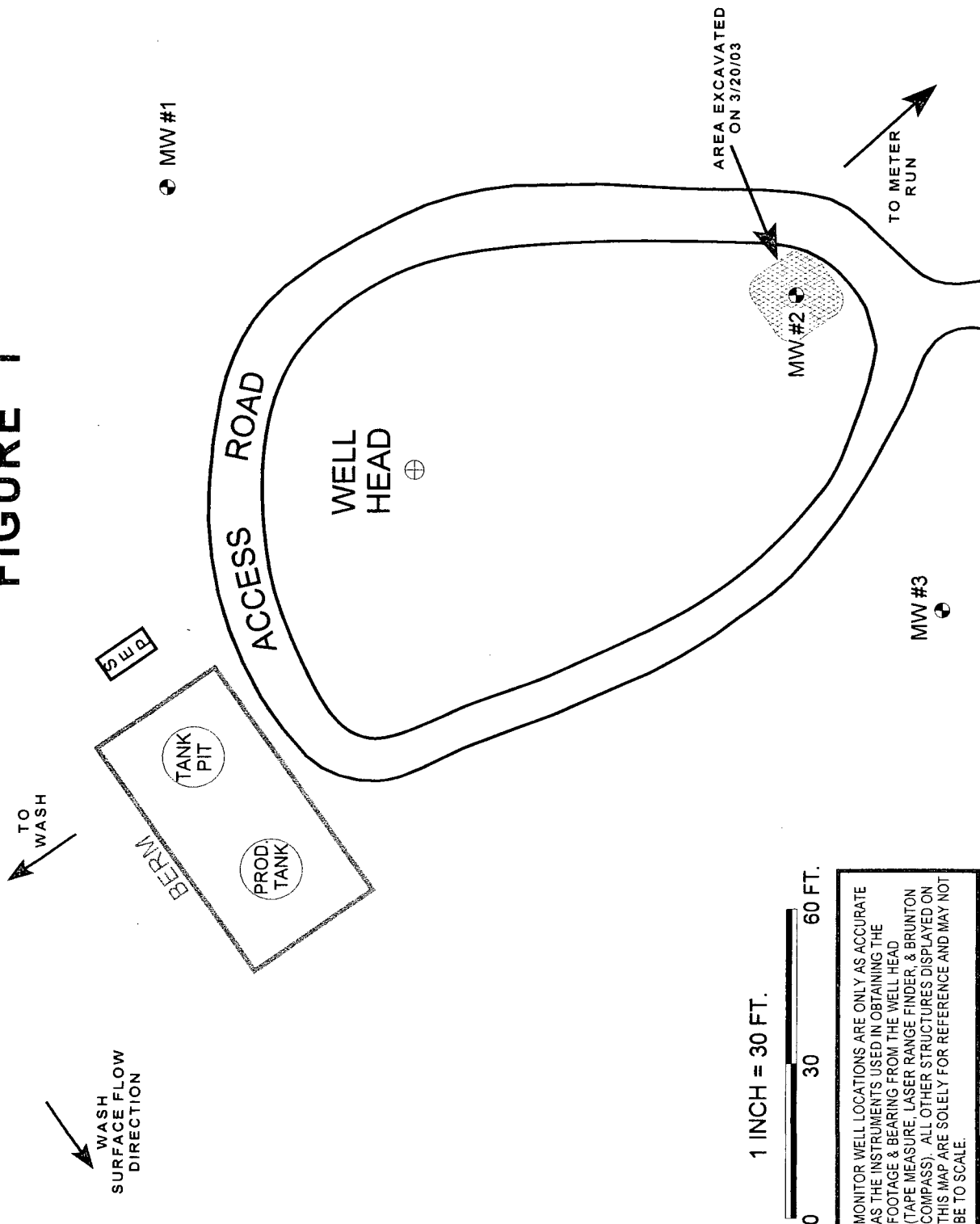
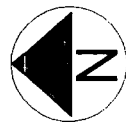
GENERAL WATER QUALITY
BP AMERICA PRODUCTION COMPANY
JONES A LS # 3

Sample Date : June 7 , 2006

PARAMETERS	MW # 1	MW # 2	MW # 3	Units
LAB pH	7.43	7.39	7.43	s. u.
LAB CONDUCTIVITY @ 25 C	1,280	4,140	3,030	umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	828	2,600	2,310	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	841	2,650	2,270	mg / L
SODIUM ABSORPTION RATIO	1.0	3.1	1.7	ratio
TOTAL ALKALINITY AS CaCO3	220	238	242	mg / L
TOTAL HARDNESS AS CaCO3	542	1,400	1,390	mg / L
BICARBONATE as HCO3	220	238	242	mg / L
CARBONATE AS CO3	<0.1	<0.1	<0.1	mg / L
HYDROXIDE AS OH	<0.1	<0.1	<0.1	mg / L
NITRATE NITROGEN	0.10	0.50	<0.01	mg / L
NITRITE NITROGEN	0.003	0.005	0.005	mg / L
CHLORIDE	38.0	48.0	30.0	mg / L
FLUORIDE	1.03	0.94	0.87	mg / L
PHOSPHATE	<0.01	<0.01	<0.01	mg / L
SULFATE	408	1,650	1,410	mg / L
IRON	0.556	1.29	0.145	mg / L
CALCIUM	186	491	507	mg / L
MAGNESIUM	18.6	41.9	30.3	mg / L
POTASSIUM	0.04	0.72	0.73	mg / L
SODIUM	55.4	268	147	mg / L
CATION / ANION DIFFERENCE	0.04	0.09	0.05	%

- NOTES :** 1) s. u. INDICATES STANDARD UNIT.
2) umhos / cm INDICATES MICRO OHMS PER CENTIMETER.
3) mg / L INDICATES MILLIGRAMS PER LITER.

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.

SITE MAP

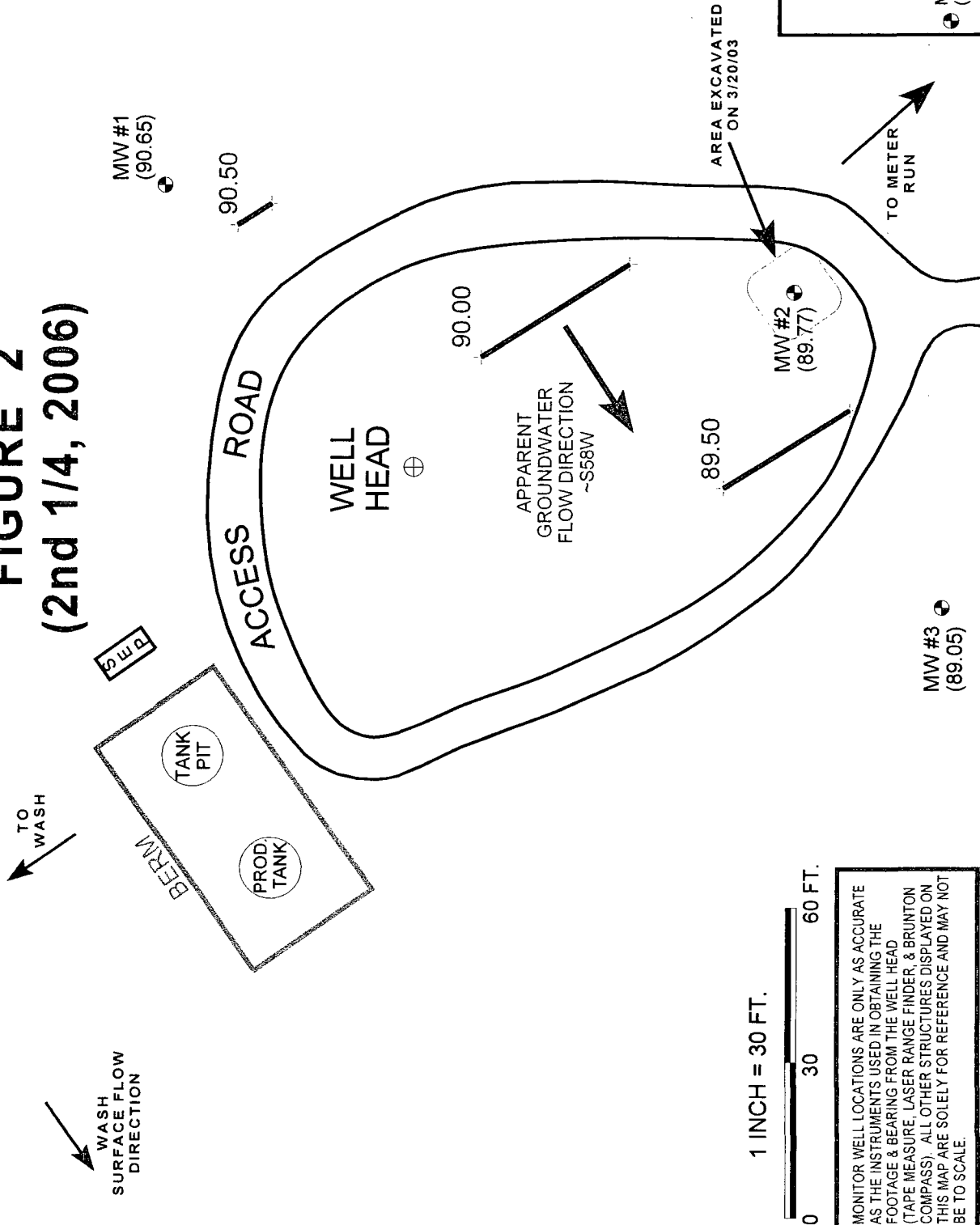
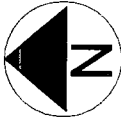
06/06

PROJECT: MW INSTALLATIONS
DRAWN BY: NJV
FILENAME: JONES A LS 3-SM.SKF
REVISED: 08-23-06 NJV

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

BP AMERICA PRODUCTION CO.
JONES A LS #3
SW/4 NE/4 SEC. 15, T28N, R8W
SAN JUAN COUNTY, NEW MEXICO

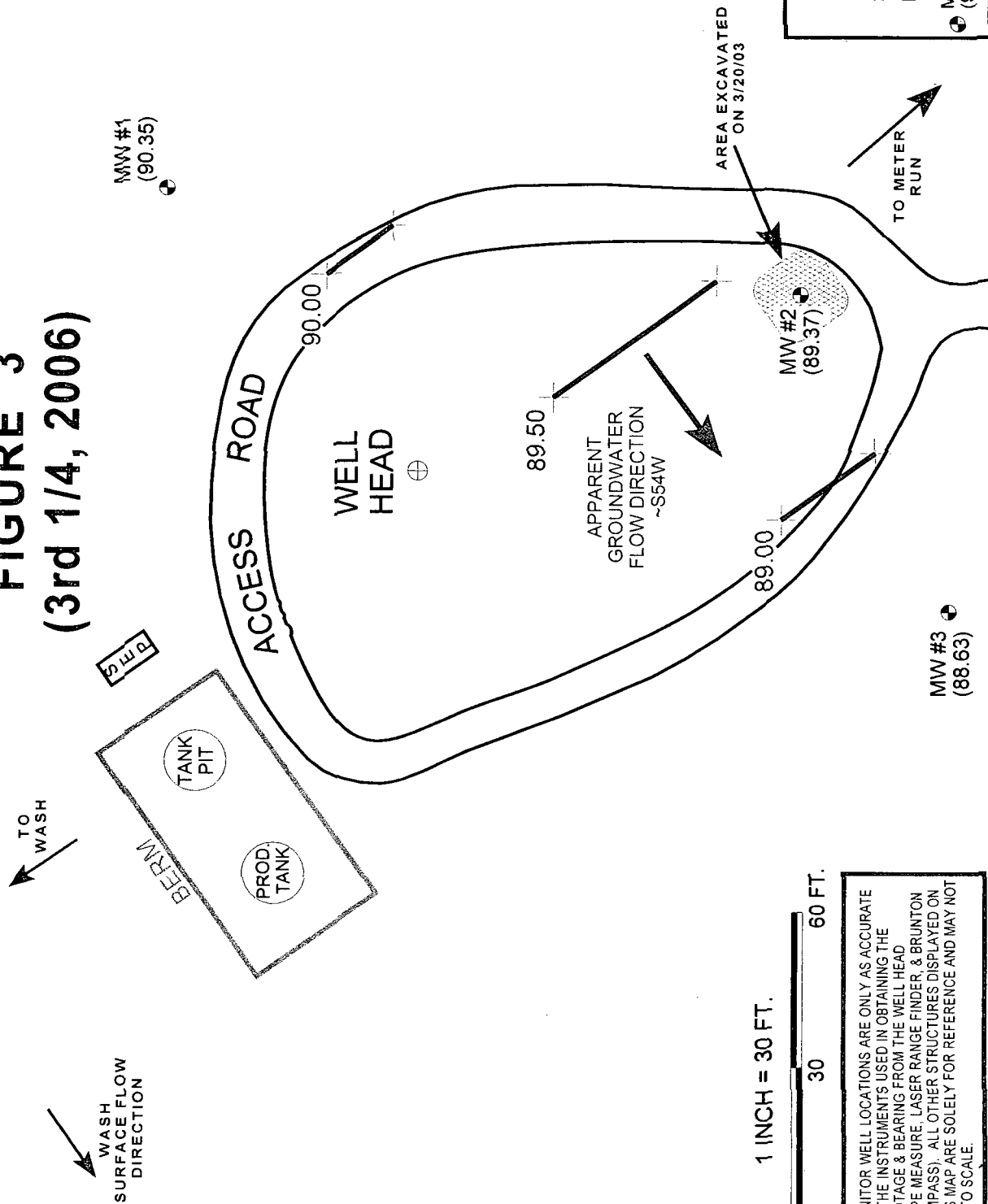
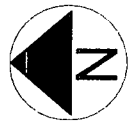
FIGURE 2 (2nd 1/4, 2006)



Top of Well Elevation	Groundwater Elevation as of 6/7/06.
MW #1 (101.69)	
MW #2 (102.65)	
MW #3 (101.64)	
MW #1 (90.65)	

BP AMERICA PRODUCTION CO. JONES A LS #3 SW/4 NE/4 SEC. 15, T28N, R8W 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: 06-07-06-GW.SKF REVISED: 06-15-06 NJV	GROUNDWATER CONTOUR MAP 06/06

FIGURE 3
(3rd 1/4, 2006)



1 INCH = 30 FT.



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 #1	(101.69)
MW #2	(102.65)
MW #3	(101.64)
MW #1	Groundwater Elevation as of 8/23/06.
MW #1	(90.35)

BP AMERICA PRODUCTION CO.

JONES A LS #3

SW/4 NE/4 SEC. 15, T28N, R8W

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: 08-23-06-GW.SKF

REVISED: 08-23-06 NJV

GROUNDWATER

CONTOUR

MAP

08/06

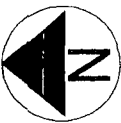
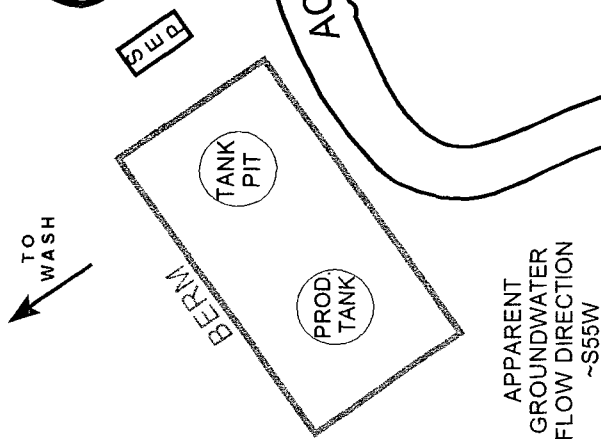


FIGURE 4
(4th 1/4, 2006)



MW #1
(91.31)

AREA EXCAVATED
ON 3/20/03

	Top of Well Elevation
MW #1	(101.69)
MW #2	(102.65)
MW #3	(101.64)
MW #1	Groundwater Elevation as of 11/16/06
●	(91.31)

1 INCH = 30 FT.



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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.

BIP AMERICA PRODUCTION CO.
JONES A LS # 3
SW/4 NE/4 SEC. 15, T28N, R8W
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 11-16-06-GW.SKF
REVISED: 11-16-06 NJV

**GROUNDWATER
CONTOUR
MAP**
11/06

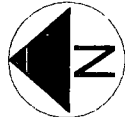
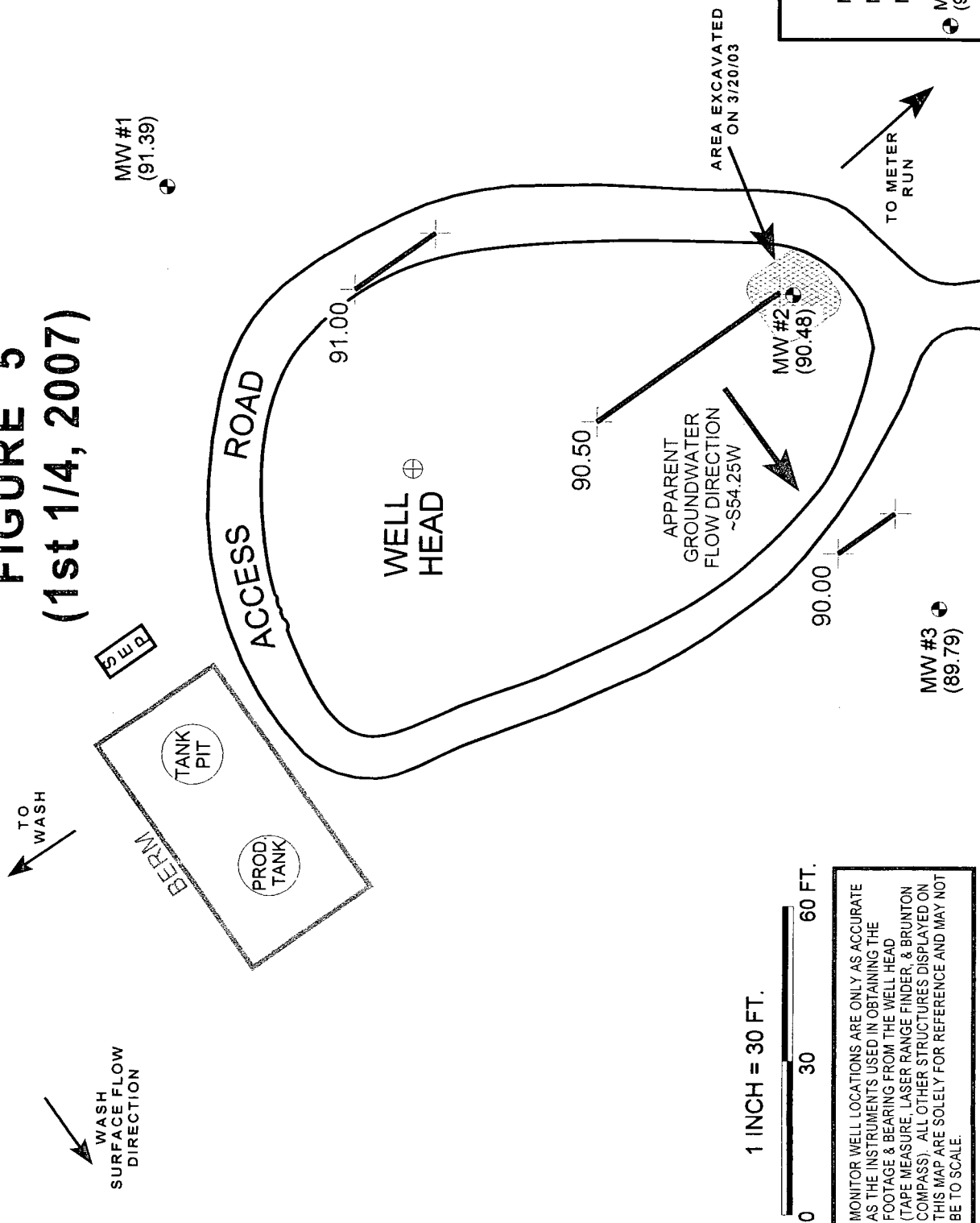


FIGURE 5
(1st 1/4, 2007)



Top of Well Elevation	
MW #1	(101.69)
MW #2	(102.65)
MW #3	(101.64)
MW #1	(91.39)
Groundwater Elevation as of 1/25/07.	

1 INCH = 30 FT.



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BP AMERICA PRODUCTION CO.

JONES A LS # 3

SW/4 NE/4 SEC. 15, T28N, R8W

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: 01-25-07-GW.SKF

REVISED: 01-25-07 NJV

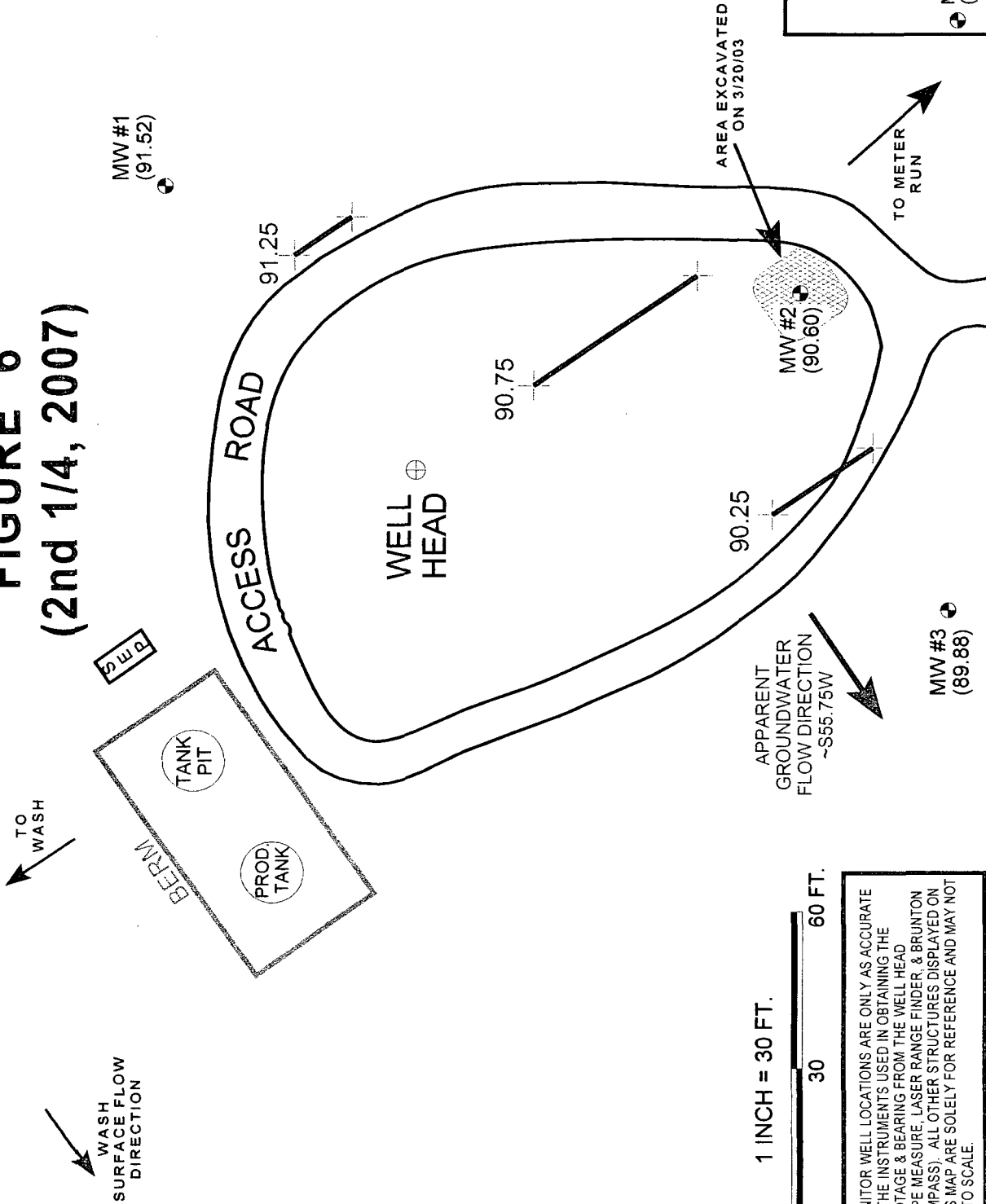
GROUNDWATER

CONTOUR

MAP

01/07

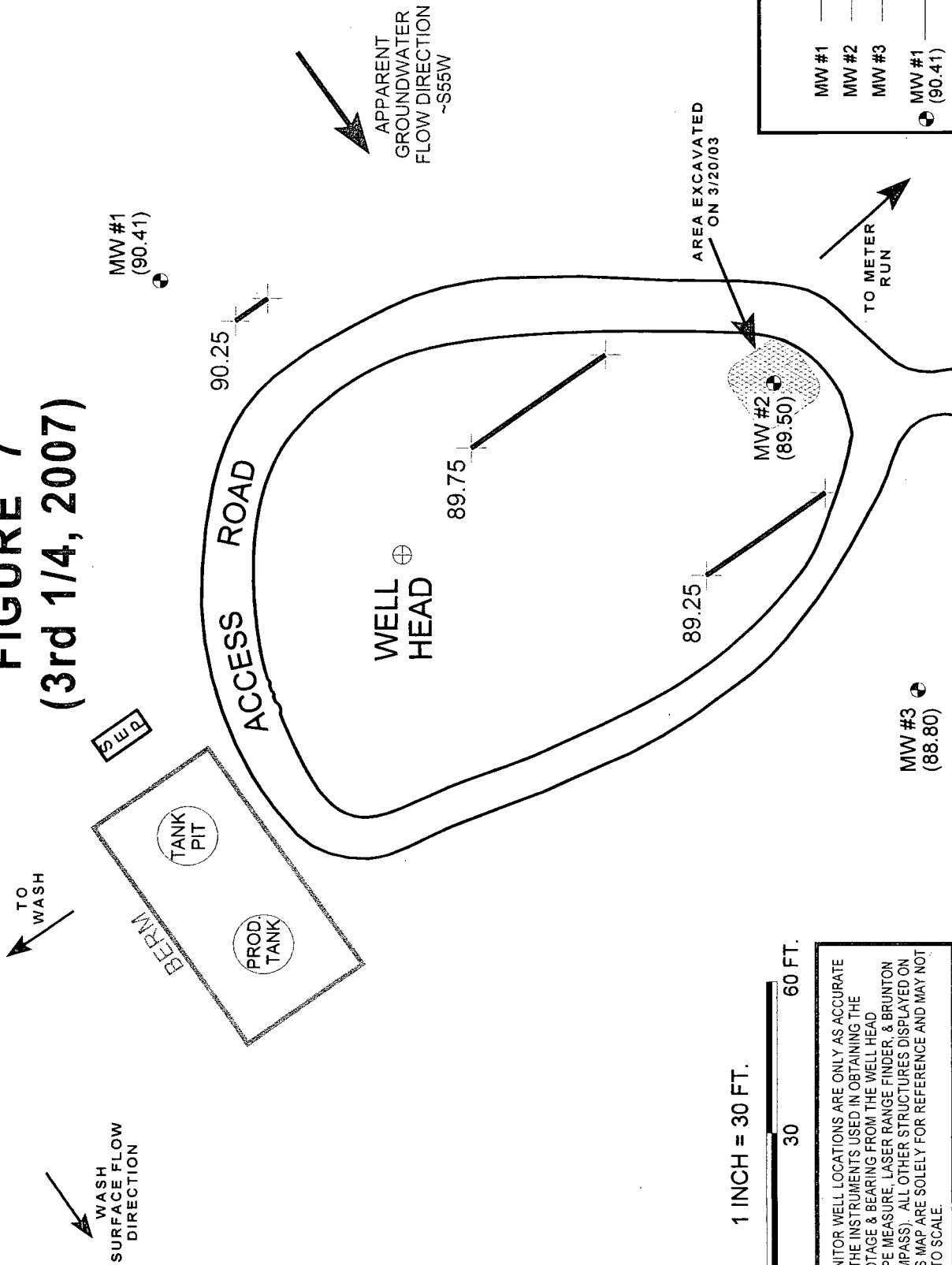
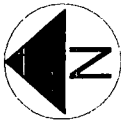
FIGURE 6
(2nd 1/4, 2007)



BP AMERICA PRODUCTION CO. JONES A L S # 3 SW/4 NE/4 SEC. 15, T28N, R8W 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: 04-25-07-GW.SKF REVISED: 04-30-07 NJV	GROUNDWATER CONTOUR MAP 04/07
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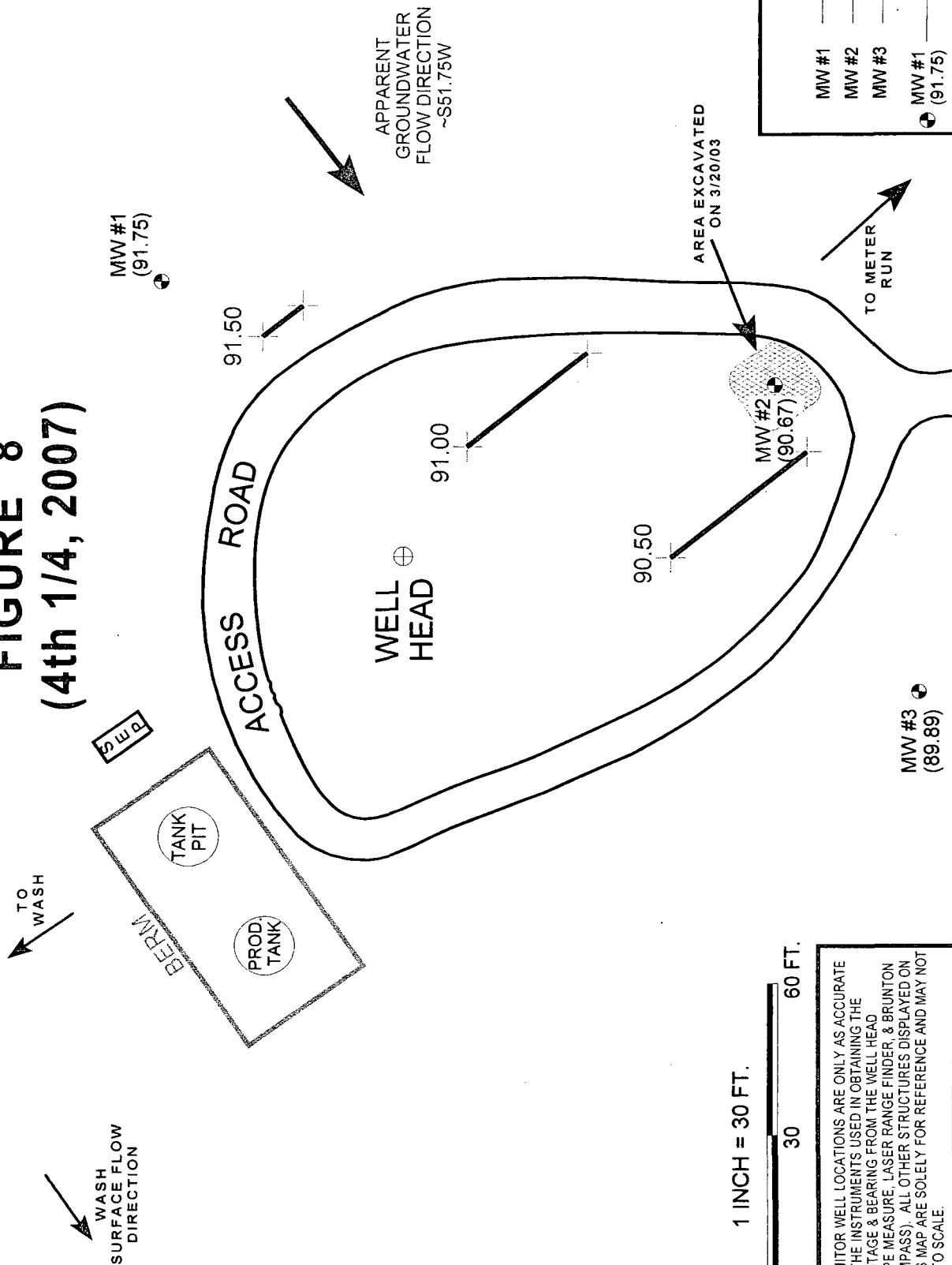
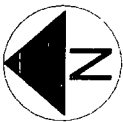
MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE & BEARING FROM THE WELL HEAD (TAPE MEASURE, LASER RANGE FINDER, & BRUNTON COMPASS). ALL OTHER STRUCTURES DISPLAYED ON THIS MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE.

FIGURE 7
(3rd 1/4, 2007)



BIP AMERICA PRODUCTION CO. JONES A L S #3 SW/4 NE/4 SEC. 15, T28N, R8W SAN JUAN COUNTY, NEW MEXICO	BLAGG ENGINEERING, INC. CONSULTING PETROLEUM / RECLAMATION SERVICES P.O. BOX 87 BLOOMFIELD, NEW MEXICO 87413 PHONE: (505) 632-1199	PROJECT: MW SAMPLING DRAWN BY: NJV FILENAME: 07-19-07-GW.SKF REVISED: 07-21-07 NJV	GROUNDWATER CONTOUR MAP 07/07
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FIGURE 8
(4th 1/4, 2007)



Top of Well Elevation	Groundwater Elevation as of 10/9/07.
MW #1 (101.69)	MW #1 (91.75)
MW #2 (102.65)	
MW #3 (101.64)	

BP AMERICA PRODUCTION CO.
JONES A LS # 3
SW/4 NE/4 SEC. 15, T28N, R8W
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: 10-09-07-GW.SKF
REVISED: 10-09-07 NJV

GROUNDWATER CONTOUR MAP
10/07

BLAGG ENGINEERING, INC.

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

MW #1

BORE / TEST HOLE REPORT

CLIENT: **BP AMERICA PRODUCTION COMPANY**
LOCATION NAME: **JONES A LS # 3 UNIT G, SEC. 15, T28N, R8W**
CONTRACTOR: **BLAGG ENGINEERING, INC. / ENVIROTECH, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (CME 75)**
BORING LOCATION: **73 FT., N49E FROM WELL HEAD.**

BORING #..... **BH - 2**
MW #..... **1**
PAGE #..... **2**
DATE STARTED **5/23/06**
DATE FINISHED **5/23/06**
OPERATOR..... **DP**
PREPARED BY **NJV**

DEPTH
FEET

INTERVAL

LITHOLOGY
INTERVAL

MW
SCHEMATIC

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.95 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (0.0 - 10.0 FT. BELOW GRADE).

TOS 8.05

GW DEPTH APPROX. 8.84 FT. FROM GROUND SURFACE MEASURED ON 5/24/06.

DARK YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, WET TO SATURATED, FIRM TO LOOSE, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (10.0 - 18.0 FT. BELOW GRADE).

TD 18.05

NOTE:  - SAND TO SILTY SAND.

TOS - TOP OF SCREEN FROM GROUND SURFACE.

TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

GW - GROUND WATER.

Monitor well consist of 2 inch PVC piping - casing from 1.95 ft. above grade to 8.05 ft. below grade, 0.010 slotted screen between 8.05 to 18.05 feet below grade, sand packed annular to 6.00 ft. below grade, bentonite chips between 4.00 to 6.00 feet below grade, completed remaining annular with clean auger cuttings, and concreted locking well protector around above grade casing.

BLAGG ENGINEERING, INC.

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

MW #2

BORE / TEST HOLE REPORT

CLIENT: **BP AMERICA PRODUCTION COMPANY**
LOCATION NAME: **JONES A LS # 3 UNIT G, SEC. 15, T28N, R8W**
CONTRACTOR: **BLAGG ENGINEERING, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (EARTHPROBE 200)**
BORING LOCATION: **81 FEET, S25E FROM WELL HEAD.**

BORING #..... **BH - 1**
MW #..... **2**
PAGE #..... **1**
DATE STARTED **5/28/04**
DATE FINISHED **5/28/04**
OPERATOR..... **JCB**
PREPARED BY **NJV**

DEPTH (FT.)	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
1				TOP OF CASING APPROX. 1.30 FEET ABOVE GRADE.
2				
3				
4				
5				DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 10.0 FT. BELOW GRADE).
6				
7				
8				
9				
10				▼ GW DEPTH ON 6/12/04 = 9.42 FT. (APPROX.) FROM GROUND SURFACE.
11				
12				
13				
14				
15				LIGHT TO DARK GRAY SAND, NON COHESIVE, SATURATED, STRONG HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (10.0 - 20.0 FT. BELOW GRADE).
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

TOS 8.70 ft.
TD 18.70 ft.

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

Monitor well consist of 2 inch PVC piping - casing from 1.30 ft. above grade to 8.70 ft. below grade, 0.010 slotted screen between 8.70 to 18.70 feet below grade, sand packed annular to approx. 3 ft. below grade, then backfilled with native clean soil. Locking cap with lock at top of casing.

BLAGG ENGINEERING, INC.

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

MW #3

BORE / TEST HOLE REPORT

CLIENT: **BP AMERICA PRODUCTION COMPANY**
LOCATION NAME: **JONES A LS # 3 UNIT G, SEC. 15, T28N, R8W**
CONTRACTOR: **BLAGG ENGINEERING, INC. / ENVIROTECH, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (CME 75)**
BORING LOCATION: **105.5 FT., S15W FROM WELL HEAD.**

BORING #..... **BH - 3**
MW #..... **3**
PAGE #..... **3**
DATE STARTED **5/23/06**
DATE FINISHED **5/23/06**
OPERATOR..... **DP**
PREPARED BY **NJV**

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC
2			
4			
6			
8			
10			TOS 8.26
12			
14			
16			
18			TD 18.26
20			
22			
24			
26			
28			
30			
32			
34			
36			
38			
40			

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.80 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (0.0 - 10.0 FT. BELOW GRADE).

▼ GW DEPTH APPROX. 10.54 FT. FROM GROUND SURFACE MEASURED ON 5/24/06.

DARK YELLOWISH BROWN SAND, NON COHESIVE, MOIST TO WET, FIRM TO LOOSE, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (10.0 - 13.0 FT. BELOW GRADE).

LIGHT TO MEDIUM GRAY SAND TO SILTY SAND, NON COHESIVE, WET TO SUPER SATURATED, FIRM TO LOOSE, SWAMPY TYPE ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (13.0 - 18.5 FT. BELOW GRADE).

NOTE:  - SAND TO SILTY SAND.

TOS - TOP OF SCREEN FROM GROUND SURFACE.

TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

GW - GROUND WATER.

Monitor well consist of 2 inch PVC piping - casing from 1.80 ft. above grade to 8.26 ft. below grade, 0.010 slotted screen between 8.26 to 18.26 feet below grade, sand packed annular to 6.00 ft. below grade, bentonite chips between 4.00 to 6.00 feet below grade, completed remaining annular with clean auger cuttings, and concreted locking well protector around above grade casing.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A & 14634

JONES A LS #3 - DEHY. PIT

UNIT G, SEC. 15, T28N, R8W

LABORATORY (S) USED : HALL ENVIRONMENTAL

ENVIROTECH

Date : June 7, 2006

SAMPLER : N J V

Filename : 06-07-06.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 - 1	101.69	90.65	11.04	20.00	0700	7.08	1,100	17.6	4.50
MW - 2	102.65	89.77	12.88	21.52	0830	6.98	2,400	18.6	4.25
MW - 3	101.64	89.05	12.59	20.06	0745	7.00	2,300	19.8	3.75

INSTRUMENT CALIBRATIONS =

7.00	2,800
06/07/06	0655

DATE & TIME =

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2".

Excellent recovery in all MW's . Sampled all MW's for BTEX & major anions / cations . MW #2
had sewer type odor & blackish in visual appearance .

Top of casing MW #1 ~ 1.95 ft. , MW #2 ~ 3.00 ft. , MW #3 ~ 1.80 ft. above grade .

Hall Environmental Analysis Laboratory

Date: 12-Jun-06

CLIENT: Blagg Engineering
Project: Jones A LS #3

Lab Order: 0606080

Lab ID: 0606080-01

Collection Date: 6/7/2006 7:00:00 AM

Client Sample ID: MW-1

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: HLM
Benzene	ND	1.0		µg/L	1	6/8/2006 4:30:17 PM
Toluene	ND	1.0		µg/L	1	6/8/2006 4:30:17 PM
Ethylbenzene	ND	1.0		µg/L	1	6/8/2006 4:30:17 PM
Xylenes, Total	ND	3.0		µg/L	1	6/8/2006 4:30:17 PM
Surr: 4-Bromofluorobenzene	89.0	85-115		%REC	1	6/8/2006 4:30:17 PM

Lab ID: 0606080-02

Collection Date: 6/7/2006 8:30:00 AM

Client Sample ID: MW-2

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: HLM
Benzene	32	1.0		µg/L	1	6/8/2006 4:59:23 PM
Toluene	11	1.0		µg/L	1	6/8/2006 4:59:23 PM
Ethylbenzene	4.0	1.0		µg/L	1	6/8/2006 4:59:23 PM
Xylenes, Total	17	3.0		µg/L	1	6/8/2006 4:59:23 PM
Surr: 4-Bromofluorobenzene	102	85-115		%REC	1	6/8/2006 4:59:23 PM

Lab ID: 0606080-03

Collection Date: 6/7/2006 7:45:00 AM

Client Sample ID: MW-3

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: HLM
Benzene	ND	1.0		µg/L	1	6/8/2006 9:50:25 PM
Toluene	ND	1.0		µg/L	1	6/8/2006 9:50:25 PM
Ethylbenzene	ND	1.0		µg/L	1	6/8/2006 9:50:25 PM
Xylenes, Total	ND	3.0		µg/L	1	6/8/2006 9:50:25 PM
Surr: 4-Bromofluorobenzene	89.2	85-115		%REC	1	6/8/2006 9:50:25 PM

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

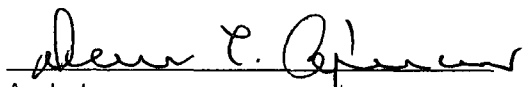
Client: Blagg / BP
Sample ID: MW #1
Laboratory Number: 37349
Chain of Custody: 14634
Sample Matrix: Water
Preservative: Cool
Condition: Cool & Intact

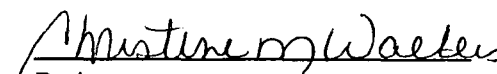
Project #: 94034-010
Date Reported: 06-08-06
Date Sampled: 06-07-06
Date Received: 06-07-06
Date Extracted: N/A
Date Analyzed: 06-08-06

Parameter	Analytical Result	Units		
pH	7.43	s.u.		
Conductivity @ 25° C	1,280	umhos/cm		
Total Dissolved Solids @ 180C	828	mg/L		
Total Dissolved Solids (Calc)	841	mg/L		
SAR	1.0	ratio		
Total Alkalinity as CaCO3	220	mg/L		
Total Hardness as CaCO3	542	mg/L		
Bicarbonate as HCO3	220	mg/L	3.61	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	0.10	mg/L	0.00	meq/L
Nitrite Nitrogen	0.003	mg/L	0.00	meq/L
Chloride	38.0	mg/L	1.07	meq/L
Fluoride	1.03	mg/L	0.05	meq/L
Phosphate	<0.01	mg/L	0.00	meq/L
Sulfate	408	mg/L	8.49	meq/L
Iron	0.556	mg/L	0.02	meq/L
Calcium	186	mg/L	9.28	meq/L
Magnesium	18.6	mg/L	1.53	meq/L
Potassium	0.04	mg/L	0.00	meq/L
Sodium	55.4	mg/L	2.41	meq/L
Cations			13.22	meq/L
Anions			13.23	meq/L
Cation/Anion Difference			0.04%	

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: Jones A LS #3.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client: Blagg / BP
Sample ID: MW #2
Laboratory Number: 37350
Chain of Custody: 14634
Sample Matrix: Water
Preservative: Cool
Condition: Cool & Intact

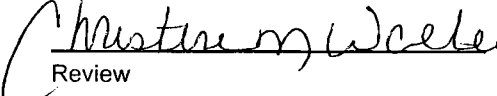
Project #: 94034-010
Date Reported: 06-08-06
Date Sampled: 06-07-06
Date Received: 06-07-06
Date Extracted: N/A
Date Analyzed: 06-08-06

Parameter	Analytical Result	Units		
pH	7.39	s.u.		
Conductivity @ 25° C	4,140	umhos/cm		
Total Dissolved Solids @ 180C	2,600	mg/L		
Total Dissolved Solids (Calc)	2,650	mg/L		
SAR	3.1	ratio		
Total Alkalinity as CaCO3	238	mg/L		
Total Hardness as CaCO3	1,400	mg/L		
Bicarbonate as HCO3	238	mg/L	3.89	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	0.50	mg/L	0.01	meq/L
Nitrite Nitrogen	0.005	mg/L	0.00	meq/L
Chloride	48.0	mg/L	1.35	meq/L
Fluoride	0.94	mg/L	0.05	meq/L
Phosphate	<0.01	mg/L	0.00	meq/L
Sulfate	1,650	mg/L	34.35	meq/L
Iron	1.29	mg/L	0.05	meq/L
Calcium	491	mg/L	24.50	meq/L
Magnesium	41.9	mg/L	3.45	meq/L
Potassium	0.72	mg/L	0.02	meq/L
Sodium	268	mg/L	11.66	meq/L
Cations			39.63	meq/L
Anions			39.66	meq/L
Cation/Anion Difference			0.09%	

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: Jones A LS #3.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

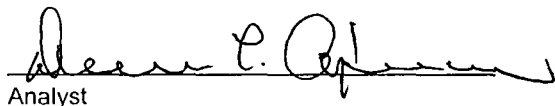
Client: Blagg / BP
Sample ID: MW #3
Laboratory Number: 37351
Chain of Custody: 14634
Sample Matrix: Water
Preservative: Cool
Condition: Cool & Intact

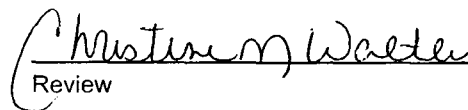
Project #: 94034-010
Date Reported: 06-08-06
Date Sampled: 06-07-06
Date Received: 06-07-06
Date Extracted: N/A
Date Analyzed: 06-08-06

Parameter	Analytical Result	Units		
pH	7.43	s.u.		
Conductivity @ 25° C	3,030	umhos/cm		
Total Dissolved Solids @ 180C	2,310	mg/L		
Total Dissolved Solids (Calc)	2,270	mg/L		
SAR	1.7	ratio		
Total Alkalinity as CaCO3	242	mg/L		
Total Hardness as CaCO3	1,390	mg/L		
Bicarbonate as HCO3	242	mg/L	3.97	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	<0.01	mg/L	0.00	meq/L
Nitrite Nitrogen	0.005	mg/L	0.00	meq/L
Chloride	30.0	mg/L	0.85	meq/L
Fluoride	0.87	mg/L	0.05	meq/L
Phosphate	<0.01	mg/L	0.00	meq/L
Sulfate	1,410	mg/L	29.36	meq/L
Iron	0.145	mg/L	0.01	meq/L
Calcium	507	mg/L	25.30	meq/L
Magnesium	30.3	mg/L	2.49	meq/L
Potassium	0.73	mg/L	0.02	meq/L
Sodium	147	mg/L	6.39	meq/L
Cations			34.20	meq/L
Anions			34.21	meq/L
Cation/Anion Difference			0.05%	

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: Jones A LS #3.


Analyst


Review

Remarks:

Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

ANALYSIS REQUEST

[illegible]

14634

ENVIRONMENTAL PROTECTION

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering

Project: Jones A LS #3

Work Order: 0606080

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8021

Batch ID: R19554

Sample ID: 5ML RB

MBLK

Analysis Date: 6/8/2006

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

Analysis Date: 6/8/2006

Benzene	20.86	µg/L	1.0	104	85	115			
Toluene	18.34	µg/L	1.0	91.7	85	118			
Ethylbenzene	18.92	µg/L	1.0	94.6	85	116			
Xylenes, Total	57.89	µg/L	3.0	96.5	85	119			

Sample ID: 100NG BTEX LCSD

LCSD

Analysis Date: 6/8/2006

Benzene	20.53	µg/L	1.0	103	85	115	1.61	27	
Toluene	18.62	µg/L	1.0	93.1	85	118	1.47	19	
Ethylbenzene	19.23	µg/L	1.0	96.2	85	116	1.64	10	
Xylenes, Total	58.60	µg/L	3.0	97.7	85	119	1.23	13	

Qualifiers:

E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name **BLAGG**

Date and Time Received:

6/7/2006

Work Order Number **0606080**

Received by **GLS**

Checklist completed by

Signature

Date

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☒

No ☐

N/A ☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

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?

2°

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

JONES A LS # 3 - DEHY. PIT

LABORATORY (S) USED : HALL ENVIRONMENTAL

UNIT G, SEC. 15, T28N, R8W

Date : August 23, 2006

SAMPLER : N J V

Filename : 08-23-06.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 - 1	101.69	90.35	11.34	20.00	1150	7.15	900	20.4	4.25
MW - 2	102.65	89.37	13.28	21.52	1315	6.97	2,100	21.3	4.00
MW - 3	101.64	88.63	13.01	20.06	1240	7.03	1,900	21.6	3.50

INSTRUMENT CALIBRATIONS =

DATE & TIME =

7.00	2,800
08/22/06	0900

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2".

Excellent recovery in all MW's. Sampled all MW's for BTEX analyzes only. MW #2
had sewer type odor & blackish in visual appearance.

Top of casing MW #1 ~ 1.95 ft., MW #2 ~ 3.00 ft., MW #3 ~ 1.80 ft. above grade.

Hall Environmental Analysis Laboratory, Inc.

Date: 31-Aug-06

CLIENT: Blagg Engineering
Lab Order: 0608303
Project: Jones A LS #3
Lab ID: 0608303-01

Client Sample ID: MW #1
Collection Date: 8/23/2006 11:50:00 AM
Date Received: 8/24/2006
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	8/28/2006 10:27:14 PM
Toluene	ND	1.0		µg/L	1	8/28/2006 10:27:14 PM
Ethylbenzene	ND	1.0		µg/L	1	8/28/2006 10:27:14 PM
Xylenes, Total	ND	3.0		µg/L	1	8/28/2006 10:27:14 PM
Surr: 4-Bromofluorobenzene	105	72.2-125		%REC	1	8/28/2006 10:27:14 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: 31-Aug-06

CLIENT: Blagg Engineering
Lab Order: 0608303
Project: Jones A LS #3
Lab ID: 0608303-02

Client Sample ID: MW #2
Collection Date: 8/23/2006 1:15:00 PM
Date Received: 8/24/2006
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	9.9	1.0		µg/L	1	8/28/2006 10:56:20 PM
Toluene	ND	1.0		µg/L	1	8/28/2006 10:56:20 PM
Ethylbenzene	1.2	1.0		µg/L	1	8/28/2006 10:56:20 PM
Xylenes, Total	3.9	3.0		µg/L	1	8/28/2006 10:56:20 PM
Surr: 4-Bromofluorobenzene	105	72.2-125		%REC	1	8/28/2006 10:56:20 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: 31-Aug-06

CLIENT: Blagg Engineering
Lab Order: 0608303
Project: Jones A LS #3
Lab ID: 0608303-03

Client Sample ID: MW #3
Collection Date: 8/23/2006 12:40:00 PM
Date Received: 8/24/2006
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	8/28/2006 11:25:22 PM
Toluene	ND	1.0		µg/L	1	8/28/2006 11:25:22 PM
Ethylbenzene	ND	1.0		µg/L	1	8/28/2006 11:25:22 PM
Xylenes, Total	ND	3.0		µg/L	1	8/28/2006 11:25:22 PM
Surr: 4-Bromofluorobenzene	109	72.2-125		%REC	1	8/28/2006 11:25:22 PM

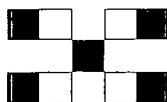
Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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



ANALYSIS REQUEST

[illegible]

Remarks:

CHAIN-OF-CUSTODY RECORD				QA / QC Package:				
Client: <u>BLUES EXPL./BP AMERICA</u>				Std ☐ Level 4 ☐				
Address: <u>P.O. BOX 87</u>				Other: _____				
BUSD. NM 87413				Project Name: <u>JONES A LS #3</u>				
				Project #: _____				
				Project Manager: <u>NV</u>				
Phone #: <u>632-1199</u>				Sampler: <u>NV</u>				
Fax #: _____				Sample Temperature: <u>20</u>				
Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative		HEAL No.	
					HgCl ₂	HNO ₃		
<u>8/23/06</u>	<u>1150</u>	<u>WATER</u>	<u>MW #1</u>	<u>2-40 ml</u>	<u>✓</u>		<u>0608303</u>	
<u>8/23/06</u>	<u>1315</u>	<u>WATER</u>	<u>MW #2</u>	<u>2-40 ml</u>	<u>✓</u>		<u>1</u>	
<u>8/23/06</u>	<u>1240</u>	<u>WATER</u>	<u>MW #3</u>	<u>2-40 ml</u>	<u>✓</u>		<u>3</u>	
Date: <u>8/24/06</u>	Time: <u>1015</u>	Relinquished By: (Signature) <u>[Signature]</u>	Relinquished By: (Signature) <u>[Signature]</u>	Received By: (Signature) <u>[Signature]</u>				HEAL No. <u>8-24-06</u>
Date: _____	Time: _____	Relinquished By: (Signature) _____	Relinquished By: (Signature) _____	Received By: (Signature) _____				HEAL No. <u>1600</u>

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Jones A LS #3

Work Order: 0608303

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8021

Sample ID: 5ML REAGENT BLA

MBLK

Batch ID: R20460 Analysis Date: 8/28/2006 9:03:02 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: R20460 Analysis Date: 8/28/2006 6:35:20 PM

Benzene	21.94	µg/L	1.0	110	85	115
Toluene	22.83	µg/L	1.0	114	85	118
Ethylbenzene	22.42	µg/L	1.0	112	85	116
Xylenes, Total	66.05	µg/L	3.0	110	85	119

Sample ID: 100NG BTEX LCSD

LCSD

Batch ID: R20460 Analysis Date: 8/28/2006 7:04:26 PM

Benzene	20.70	µg/L	1.0	104	85	115	5.78	27
Toluene	20.60	µg/L	1.0	103	85	118	10.3	19
Ethylbenzene	20.75	µg/L	1.0	104	85	116	7.74	10
Xylenes, Total	61.70	µg/L	3.0	103	85	119	6.82	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	Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG**

Date and Time Received:

8/24/2006

Work Order Number **0608303**

Received by **GLS**

Checklist completed by

Signature

Date

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

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?

2°

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

JONES A LS #3 - DEHY. PIT

LABORATORY (S) USED : HALL ENVIRONMENTAL

UNIT G, SEC. 15, T28N, R8W

Date : November 16, 2006

SAMPLER : N J V

Filename : 11-16-06.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 - 1	101.69	91.31	10.38	20.00	-	-	-	-	-
MW - 2	102.65	90.40	12.25	21.52	1525	6.96	2,400	16.3	4.50
MW - 3	101.64	89.70	11.94	20.06	1500	6.98	2,000	16.9	4.00

INSTRUMENT CALIBRATIONS =

DATE & TIME =

7.00	2,800
11/14/06	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".

Excellent recovery in both MW's . Sampled MW #2 & #3 for BTEX analyses only . MW #2 had sewer type odor & blackish in visual appearance .

Top of casing MW #1 ~ 1.95 ft. , MW #2 ~ 3.00 ft. , MW #3 ~ 1.80 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: 21-Nov-06

CLIENT: Blagg Engineering
Project: Jones A LS #3

Lab Order: 0611236

Lab ID: 0611236-01

Collection Date: 11/16/2006 3:25:00 PM

Client Sample ID: MW#2

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	24	1.0		µg/L	1	11/20/2006 6:58:29 PM
Toluene	18	1.0		µg/L	1	11/20/2006 6:58:29 PM
Ethylbenzene	4.9	1.0		µg/L	1	11/20/2006 6:58:29 PM
Xylenes, Total	20	3.0		µg/L	1	11/20/2006 6:58:29 PM
Surr: 4-Bromofluorobenzene	96.2	70.2-105		%REC	1	11/20/2006 6:58:29 PM

Lab ID: 0611236-02

Collection Date: 11/16/2006 3:00:00 PM

Client Sample ID: MW#3

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	1.1	1.0		µg/L	1	11/20/2006 7:28:57 PM
Toluene	ND	1.0		µg/L	1	11/20/2006 7:28:57 PM
Ethylbenzene	2.1	1.0		µg/L	1	11/20/2006 7:28:57 PM
Xylenes, Total	7.5	3.0		µg/L	1	11/20/2006 7:28:57 PM
Surr: 4-Bromofluorobenzene	94.2	70.2-105		%REC	1	11/20/2006 7:28:57 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

Client: BLAGG ENR. / BP AMERICA

Address: P.O. BOX 87

BLFD. PM 87413

Phone #: 632-1199

Fax #:

Date

Time

Matrix

Sample I.D. No.

Number/Volume

Preservative

HgCl₂

HNO₃

HEAL No.

0611236

11/16/08 1525

WATER

MW #2

2-40 ml

✓

-1

11/16/08 1500

WATER

MW #3

2-40 ml

✓

-2

QA/QC Package:

Std ☐ Level 4 ☐

Other:

Project Name:

JONES A LS #3

Project #:

NV

Project Manager:

NV

Sampler:

NV

Sample Temperature:

3°

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

ANALYSIS REQUEST

BTEX + MTBE + TPH (Gasoline Only)

(BTEX + MTBE + TMDs (8021B))

TPH Method 8015B (Gas/Diesel)

TPH (Method 418.1)

EDB (Method 504.1)

EDC (Method 802.1)

8310 (PNA or PAH)

RCRA 8 Metals

Anions (F, Cl, NO₃, NO₂, PO₄, SO₄)

8081 Pesticides / PCB's (8082)

8260B (VOA)

8270 (Semi-VOA)

Air Bubbles or Headspace (Y or N)

Remarks:

Received By: (Signature) 11/17/08

943

Relinquished By: (Signature)

Date: 11/16/08 1700

Relinquished By: (Signature)

Date:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Jones A LS #3

Work Order: 0611236

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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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	Spiking recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG

Date and Time Received:

11/17/2006

Work Order Number 0611236

Received by TLS

Checklist completed by

Signature

Date

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

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?

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****JONES A LS #3 - DEHY. PIT**LABORATORY (S) USED : **HALL ENVIRONMENTAL****UNIT G, SEC. 15, T28N, R8W**Date : **January 25, 2007**SAMPLER : **N J V**Filename : **01-25-07.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 - 1	101.69	91.39	10.30	20.00	-	-	-	-	-
MW - 2	102.65	90.48	12.17	21.52	0955	7.06	2,300	9.6	4.50
MW - 3	101.64	89.79	11.85	20.06	0920	7.16	2,000	6.1	4.00

INSTRUMENT CALIBRATIONS =

DATE & TIME =

7.00	2,800
01/22/07	1115

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's . Sampled MW # 2 & # 3 for BTEX analyses only . MW # 2
had sewer type odor & blackish in visual appearance .

Top of casing MW # 1 ~ 1.95 ft. , MW # 2 ~ 3.00 ft. , MW # 3 ~ 1.80 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: 29-Jan-07

CLIENT: Blagg Engineering
Project: Jones A LS #3**Lab Order:** 0701311**Lab ID:** 0701311-01**Collection Date:** 1/25/2007 9:55:00 AM**Client Sample ID:** MW#2**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: LMM
Benzene	4.0	1.0		µg/L	1	1/26/2007 10:50:12 PM
Toluene	4.3	1.0		µg/L	1	1/26/2007 10:50:12 PM
Ethylbenzene	1.4	1.0		µg/L	1	1/26/2007 10:50:12 PM
Xylenes, Total	7.9	3.0		µg/L	1	1/26/2007 10:50:12 PM
Surr: 4-Bromofluorobenzene	86.5	70.2-105		%REC	1	1/26/2007 10:50:12 PM

Lab ID: 0701311-02**Collection Date:** 1/25/2007 9:20:00 AM**Client Sample ID:** MW#3**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: LMM
Benzene	ND	1.0		µg/L	1	1/26/2007 11:20:16 PM
Toluene	ND	1.0		µg/L	1	1/26/2007 11:20:16 PM
Ethylbenzene	1.7	1.0		µg/L	1	1/26/2007 11:20:16 PM
Xylenes, Total	4.0	3.0		µg/L	1	1/26/2007 11:20:16 PM
Surr: 4-Bromofluorobenzene	85.5	70.2-105		%REC	1	1/26/2007 11:20:16 PM

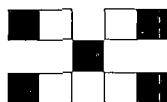
Qualifiers:

- * 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

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

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



ANALYSIS REQUEST

CHAIN-OF-CUSTODY RECORD				QA / QC Package:			
				Std ☐ Level 4 ☐			
Client: <u>BLACK ENGR. / BP AMERICA</u>				Other: _____			
Address: <u>P.O. BOX 87</u>				Project Name: <u>JONES A US #3</u>			
<u>BEFO. NM 87413</u>				Project #: _____			
				Project Manager: <u>NV</u>			
Phone #: <u>632-1199</u>				Sampler: <u>NV</u>			
Fax #: _____				Sample Temperature: <u>30</u>			
Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative HgCl ₂ HNO ₃		HEAL No.
<u>1/25/07</u>	<u>0955</u>	<u>WATER</u>	<u>MW #2</u>	<u>2-40ml</u>	<u>✓</u>		<u>0701311</u>
<u>1/25/07</u>	<u>0920</u>	<u>WATER</u>	<u>MW #3</u>	<u>2-40ml</u>	<u>✓</u>		<u>-2</u>
Date: <u>1/25/07</u>	Time: <u>1110</u>	Relinquished By: <u>[Signature]</u>	Relinquished By: (Signature)	Received By: (Signature) <u>[Signature]</u>		HEAL No. <u>0701311</u>	
Date: <u>1/25/07</u>	Time: <u>1110</u>	Relinquished By: (Signature)	Relinquished By: (Signature)	Received By: (Signature) <u>[Signature]</u>		HEAL No. <u>0701311</u>	

QA/QC SUMMARY REPORT

Client: Blagg Engineering

Project: Jones A LS #3

Work Order: 0701311

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8021

Sample ID: 5ML RB

MBLK

Batch ID: R22287 Analysis Date: 1/26/2007 10:39:39 AM

Benzene	ND	µg/L	1.0
Toluene	ND	µg/L	1.0
Ethylbenzene	ND	µg/L	1.0
Xylenes, Total	ND	µg/L	3.0

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R22287 Analysis Date: 1/26/2007 12:10:12 PM

Benzene	17.99	µg/L	1.0	90.0	85.9	113
Toluene	18.70	µg/L	1.0	93.5	86.4	113
Ethylbenzene	18.92	µg/L	1.0	94.6	83.5	118
Xylenes, Total	56.87	µg/L	3.0	94.8	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	recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG

Date and Time Received:

1/26/2007

Work Order Number 0701311

Received by TLS

Checklist completed by

Signature

Date

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

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****JONES A LS # 3 - DEHY. PIT****LABORATORY (S) USED : HALL ENVIRONMENTAL****UNIT G, SEC. 15, T28N, R8W****Date : April 25, 2007****SAMPLER : N J V****Filename : 04-25-07.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 - 1	101.69	91.52	10.17	20.00	-	-	-	-	-
MW - 2	102.65	90.60	12.05	21.52	0905	7.06	2,300	12.6	4.50
MW - 3	101.64	89.88	11.76	20.06	0835	7.06	2,200	10.9	4.00

INSTRUMENT CALIBRATIONS =**DATE & TIME =**

7.00 2,800

04/25/07 0855

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's . Sampled MW # 2 & # 3 for BTEX analyses only . MW # 2 had sewer type odor & blackish in visual appearance .

Top of casing MW # 1 ~ 1.95 ft. , MW # 2 ~ 3.00 ft. , MW # 3 ~ 1.80 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: 30-Apr-07

CLIENT: Blagg Engineering
Project: Jones A LS #3**Lab Order:** 0704415**Lab ID:** 0704415-01**Collection Date:** 4/25/2007 9:05:00 AM**Client Sample ID:** MW #2**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	4/28/2007 11:05:25 AM
Benzene	8.4	1.0		µg/L	1	4/28/2007 11:05:25 AM
Toluene	4.7	1.0		µg/L	1	4/28/2007 11:05:25 AM
Ethylbenzene	2.2	1.0		µg/L	1	4/28/2007 11:05:25 AM
Xylenes, Total	10	2.0		µg/L	1	4/28/2007 11:05:25 AM
1,2,4-Trimethylbenzene	1.5	1.0		µg/L	1	4/28/2007 11:05:25 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/28/2007 11:05:25 AM
Surr: 4-Bromofluorobenzene	87.9	70.2-105		%REC	1	4/28/2007 11:05:25 AM

Lab ID: 0704415-02**Collection Date:** 4/25/2007 8:35:00 AM**Client Sample ID:** MW #3**Matrix:** AQUEOUS

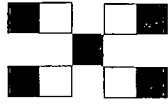
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	4/28/2007 11:35:31 AM
Benzene	ND	1.0		µg/L	1	4/28/2007 11:35:31 AM
Toluene	ND	1.0		µg/L	1	4/28/2007 11:35:31 AM
Ethylbenzene	6.7	1.0		µg/L	1	4/28/2007 11:35:31 AM
Xylenes, Total	17	2.0		µg/L	1	4/28/2007 11:35:31 AM
1,2,4-Trimethylbenzene	1.6	1.0		µg/L	1	4/28/2007 11:35:31 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/28/2007 11:35:31 AM
Surr: 4-Bromofluorobenzene	89.1	70.2-105		%REC	1	4/28/2007 11:35:31 AM

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

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

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



ANALYSIS REQUEST

CHAIN-OF-CUSTODY RECORD				QA / QC Package:			
				Other:		Std ☐ Level 4 ☐	
Client: <u>BAGG ENGR. / BP AMERICA</u>				Project Name: <u>JONES A LS #3</u>			
Address: <u>P.O. Box 87</u>				Project #: <u>20</u>			
<u>BUFF., NM 87413</u>				Project Manager: <u>NV</u>			
Phone #: <u>632-1199</u>				Sampler: <u>NV</u>			
Fax #:				Sample Temperature: <u>17°</u>			
Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative		HEAL No.
					HgCl ₂	HNO ₃	
<u>4/25/07</u>	<u>0905</u>	<u>WATER</u> <u>2985</u> <u>20</u>	<u>MW #2</u>	<u>2-40 ml</u>	<u>✓</u>		<u>5704415</u> <u>1</u>
<u>4/25/07</u>	<u>0835</u>	<u>WATER</u> <u>2935</u> <u>20</u>	<u>MW #3</u>	<u>2-40 ml</u>	<u>✓</u>		<u>2</u>
Date: <u>4/25/07</u>	Time: <u>1535</u>	Relinquished By: (Signature) <u>[Signature]</u>		Received By: (Signature) <u>[Signature]</u>		HEAL No. <u>4129107</u> <u>1411</u>	
Date: <u>4/25/07</u>	Time: <u>1535</u>	Relinquished By: (Signature) <u>[Signature]</u>		Received By: (Signature) <u>[Signature]</u>			

QA/QC SUMMARY REPORT

Client: Blagg Engineering
 Project: Jones A LS #3

Work Order: 0704415

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

Method: SW8021

Sample ID: 5ML REAGENT BLA

MBLK

Batch ID: R23390 Analysis Date: 4/27/2007 8:31:58 AM

Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5
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
1,2,4-Trimethylbenzene	ND	µg/L	1.0
1,3,5-Trimethylbenzene	ND	µg/L	1.0

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R23390 Analysis Date: 4/28/2007 10:05:11 AM

Methyl tert-butyl ether (MTBE)	19.34	µg/L	2.5	96.7	51.2	138
Benzene	19.11	µg/L	1.0	95.6	85.9	113
Toluene	19.66	µg/L	1.0	98.3	86.4	113
Ethylbenzene	19.70	µg/L	1.0	98.5	83.5	118
Xylenes, Total	58.72	µg/L	2.0	97.9	83.4	122
1,2,4-Trimethylbenzene	18.03	µg/L	1.0	90.1	83.5	115
1,3,5-Trimethylbenzene	18.05	µg/L	1.0	90.3	85.2	113

Sample ID: 100NG BTEX LCSD

LCSD

Batch ID: R23390 Analysis Date: 4/28/2007 10:35:06 AM

Methyl tert-butyl ether (MTBE)	18.85	µg/L	2.5	94.2	51.2	138	2.58	28
Benzene	18.42	µg/L	1.0	92.1	85.9	113	3.67	27
Toluene	18.85	µg/L	1.0	94.3	86.4	113	4.18	19
Ethylbenzene	19.01	µg/L	1.0	95.0	83.5	118	3.55	10
Xylenes, Total	56.20	µg/L	2.0	93.7	83.4	122	4.38	13
1,2,4-Trimethylbenzene	17.47	µg/L	1.0	87.4	83.5	115	3.13	21
1,3,5-Trimethylbenzene	17.46	µg/L	1.0	87.3	85.2	113	3.35	10

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:

4/26/2007

Work Order Number 0704415

Received by TLS

Checklist completed by

Signature

Date

4-26-07

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?

7°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding

Comments:

Corrective Action

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

JONES A LS # 3 - DEHY. PIT
UNIT G, SEC. 15, T28N, R8W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : July 19, 2007

SAMPLER : N J V

Filename : 07-19-07.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.)
MW - 1	101.69	90.41	11.28	20.00	-	-	-	-	-
MW - 2	102.65	89.50	13.15	21.52	0705	6.91	2,200	17.2	4.25
MW - 3	101.64	88.80	12.84	20.06	0635	7.00	2,100	16.2	3.50

INSTRUMENT CALIBRATIONS =

DATE & TIME =

7.00	2,800
07/19/07	0630

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 's . Sampled MW # 2 & # 3 for BTEX analyses only .

Top of casing MW # 1 ~ 1.95 ft. , MW # 2 ~ 3.00 ft. , MW # 3 ~ 1.80 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: 24-Jul-07

CLIENT: Blagg Engineering
Project: Jones A LS #3

Lab Order: 0707270

Lab ID: 0707270-01

Collection Date: 7/19/2007 7:05:00 AM

Client Sample ID: MW #2

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	60	1.0		µg/L	1	7/24/2007 1:00:22 AM
Toluene	35	1.0		µg/L	1	7/24/2007 1:00:22 AM
Ethylbenzene	7.3	1.0		µg/L	1	7/24/2007 1:00:22 AM
Xylenes, Total	32	2.0		µg/L	1	7/24/2007 1:00:22 AM
Surr: 4-Bromofluorobenzene	92.0	70.2-115		%REC	1	7/24/2007 1:00:22 AM

Lab ID: 0707270-02

Collection Date: 7/19/2007 6:35:00 AM

Client Sample ID: MW #3

Matrix: AQUEOUS

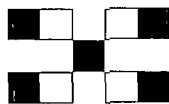
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	7/24/2007 1:30:17 AM
Toluene	ND	1.0		µg/L	1	7/24/2007 1:30:17 AM
Ethylbenzene	ND	1.0		µg/L	1	7/24/2007 1:30:17 AM
Xylenes, Total	ND	2.0		µg/L	1	7/24/2007 1:30:17 AM
Surr: 4-Bromofluorobenzene	84.0	70.2-115		%REC	1	7/24/2007 1:30:17 AM

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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Albuquerque, New Mexico 87109
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www.hallenviromental.com



ANALYSIS REQUEST

[illegible]

QA/QC SUMMARY REPORT

Client: Blagg Engineering

Project: Jones A LS #3

Work Order: 0707270

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8021

Sample ID: 5ML RB

MBLK

Batch ID: R24492 Analysis Date: 7/23/2007 8:17:05 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: R24492 Analysis Date: 7/23/2007 10:47:42 AM

Benzene	19.89	µg/L	1.0	99.4	85.9	113			
Toluene	19.41	µg/L	1.0	97.0	86.4	113			
Ethylbenzene	19.46	µg/L	1.0	97.3	83.5	118			
Xylenes, Total	57.77	µg/L	2.0	96.3	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:

7/20/2007

Work Order Number 0707270

Received by

TLS

Checklist completed by

Amiya Shomei
Signature

7/20/07
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?

13°

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

JONES A LS # 3 - DEHY. PIT
UNIT G, SEC. 15, T28N, R8W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : October 9, 2007

SAMPLER : N J V

Filename : 10-09-07.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 - 1	101.69	91.75	9.94	20.00	-	-	-	-	-
MW - 2	102.65	90.67	11.98	21.52	1150	6.95	2,200	20.9	4.75
MW - 3	101.64	89.89	11.75	20.06	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

7.00 2,800

DATE & TIME =

10/09/07 1145

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2".

Excellent recovery in MW #2. Collected BTEX sample from MW #2 only.

Top of casing MW #1 ~ 1.95 ft., MW #2 ~ 3.00 ft., MW #3 ~ 1.80 ft. above grade.

Hall Environmental Analysis Laboratory, Inc.

Date: 15-Oct-07

CLIENT: Blagg Engineering
Lab Order: 0710250
Project: Jones A LS #3
Lab ID: 0710250-01

Client Sample ID: MW #2
Collection Date: 10/9/2007 11:50:00 AM
Date Received: 10/11/2007
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	4.8	1.0		µg/L	1	10/13/2007 8:57:13 AM
Toluene	12	1.0		µg/L	1	10/13/2007 8:57:13 AM
Ethylbenzene	3.7	1.0		µg/L	1	10/13/2007 8:57:13 AM
Xylenes, Total	22	2.0		µg/L	1	10/13/2007 8:57:13 AM
Surr: 4-Bromofluorobenzene	99.3	70.2-105		%REC	1	10/13/2007 8:57:13 AM

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

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

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CHAIN-OF-CUSTODY RECORD					QA / QC Package:		
					Std ☐	Level 4 ☐	Other: _____
Client: <u>BLAKE ENER / BP AMERICA</u>					Project Name: <u>JONES A LS #3</u>		
Address: <u>P.O. BOX 87</u>					Project #: <u>NV</u>		
<u>BLFO, NM 87413</u>					Project Manager: <u>NV</u>		
Phone #: <u>632-1199</u>					Sampler: <u>NV</u>		
Fax #: _____					Sample Temperature: <u>5</u>		
Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative HgCl ₂ HNO ₃		HEAL No.
11/19/07	1150	WATER	MW #2	2-40 ml	✓		0F10250
Date: <u>11/19/07</u>	Time: <u>1610</u>	Relinquished By: (Signature) <u>[Signature]</u>		Received By: (Signature) <u>[Signature]</u>		Date: <u>10/11/07</u>	
Date: <u>11/19/07</u>	Time: <u>1610</u>	Relinquished By: (Signature) <u>[Signature]</u>		Received By: (Signature) <u>[Signature]</u>		Date: <u>10/11/07</u>	

QA/QC SUMMARY REPORT

Client: Blagg Engineering

Project: Jones A LS #3

Work Order: 0710250

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: SW8021

Sample ID: 5ML RB

MBLK

Batch ID: R25551 Analysis Date: 10/12/2007 10:24:23 AM

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

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R25551 Analysis Date: 10/12/2007 12:54:50 PM

Benzene	19.63	µg/L	1.0	98.2	85.9	113			
Toluene	18.95	µg/L	1.0	94.8	86.4	113			
Ethylbenzene	18.80	µg/L	1.0	94.0	83.5	118			
Xylenes, Total	55.71	µg/L	2.0	92.9	83.4	122			

Sample ID: 100NG BTEX LCSD

LCSD

Batch ID: R25551 Analysis Date: 10/13/2007 12:12:27 PM

Benzene	20.51	µg/L	1.0	103	85.9	113	4.39	27	
Toluene	19.23	µg/L	1.0	96.2	86.4	113	1.46	19	
Ethylbenzene	19.41	µg/L	1.0	97.1	83.5	118	3.18	10	
Xylenes, Total	57.77	µg/L	2.0	96.3	83.4	122	3.62	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:

10/11/2007

Work Order Number **0710250**

Received by **TLS**

Checklist completed by

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