

3R - 396

**ANNUAL
MONITORING
REPORT**

05/04/2009

3R396

RECEIVED

BP AMERICA PRODUCTION CO.

2009 MAY 4 AM 9 44

GROUNDWATER REMEDIATION REPORT

**GCU #188
(J) SECTION 30, T29N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO**

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

APRIL 2009

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

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

BP AMERICA PRODUCTION COMPANY

GCU # 188 - Production Tank Pit

NW/4 SE/4, Sec. 30, T29N, R12W

Pit Closure Date: 6/26/02

Monitor Well Installation Dates: 3/11/03 (MW #2), 7/13/06 (MW #1 & #3), 5/23/07 (MW #4), 5/24/07 (MW #5 & #6)

Monitor Well Sampling Dates: 4/14/08, 6/9/08, 8/26/08, 12/22/08

Pit Closure & Background:

Initial groundwater impacts at this site were discovered in May 2003 following work on an earthen production tank pit. Impacted soils were removed from the site and a single groundwater monitoring well (MW #2) was placed in the source area to test water depth and quality. Initial water test results indicated impacts were present, but at levels near or below New Mexico Water Quality Control Commission (NMWQCC) standards. Quarterly monitoring was maintained and in August 2006, MW #2 had achieved four (4) consecutive sampling events below NMWQCC's standards for BTEX. The groundwater report submitted in 2006 recommended further delineation to quantify gradient and impact extent with a minimum of two (2) additional monitoring wells. The recommendation was achieved in 2006 with the installation of MW #1 (up gradient/background) and MW #3 (presumed down gradient direction). Upon review of the BTEX levels in MW #3, BP added three (3) additional monitor wells in 2007 in order to determine the lateral areal extent of the groundwater impacts (MW #4, MW #5, and MW #6).

Groundwater Monitor Well Sampling Procedures:

Each monitor well was developed by hand-bailing, using new disposable bailers after installation. Prior to sample collections, each monitor well was purged approximately three (3) well bore volumes with new disposable bailers. The groundwater samples were collected following US EPA: SW-846 protocol, were placed into laboratory supplied containers with appropriate preservative, and stored in an ice chest for express delivery to an analytical laboratory for testing under strict chain-of-custody procedures. Analytical testing for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by US EPA Method 8021B or 8260 was conducted.

Fluids generated during monitor well development and purging was managed by discarding into the separator below-grade tank (BGT) located on the well site. The BGT contents are then disposed through approved NMOCD operational procedures for removal of produced fluids.

Groundwater Quality & Flow Direction Information:

Sampling of the groundwater monitor wells has been ongoing since March 2003. A summary of laboratory analytical results is included within the tables on the following pages and field/laboratory reports are included. Quarterly monitoring of MW #3, MW #4, & MW #5 for BTEX only was conducted during 2008 calendar year (see last attached summary).

Groundwater contour maps of relative water table elevations have consistently been measure to flow in the north-northeast or north-northwest direction (Figure 2 through Figure 5).

Summary and/or Recommendations:

Hydrocarbon impact from the apparent source area (production tank pit) appears to have been remediated via excavation/ natural attenuation and is presently meeting closure according to BP's NMOCD approved groundwater management plan. On-site monitor wells MW #3, MW #4, and MW #5 were sampled on a quarterly basis and appear to be following the same decreasing trend in BTEX as previously recorded from MW #2. MW #4 and MW #5 have achieved four (4) consecutive sampling events below NMWQCC's standards for BTEX. It is recommended to terminate sampling of MW #4, MW #5, and continue quarterly sampling of MW #3 until it has achieved four (4) consecutive sampling events below NMWQCC's standards for BTEX.

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

GCU # 188 - SEPARATOR PIT

UNIT J, SEC. 30, T29N, R12W

REVISED DATE: January 8, 2008

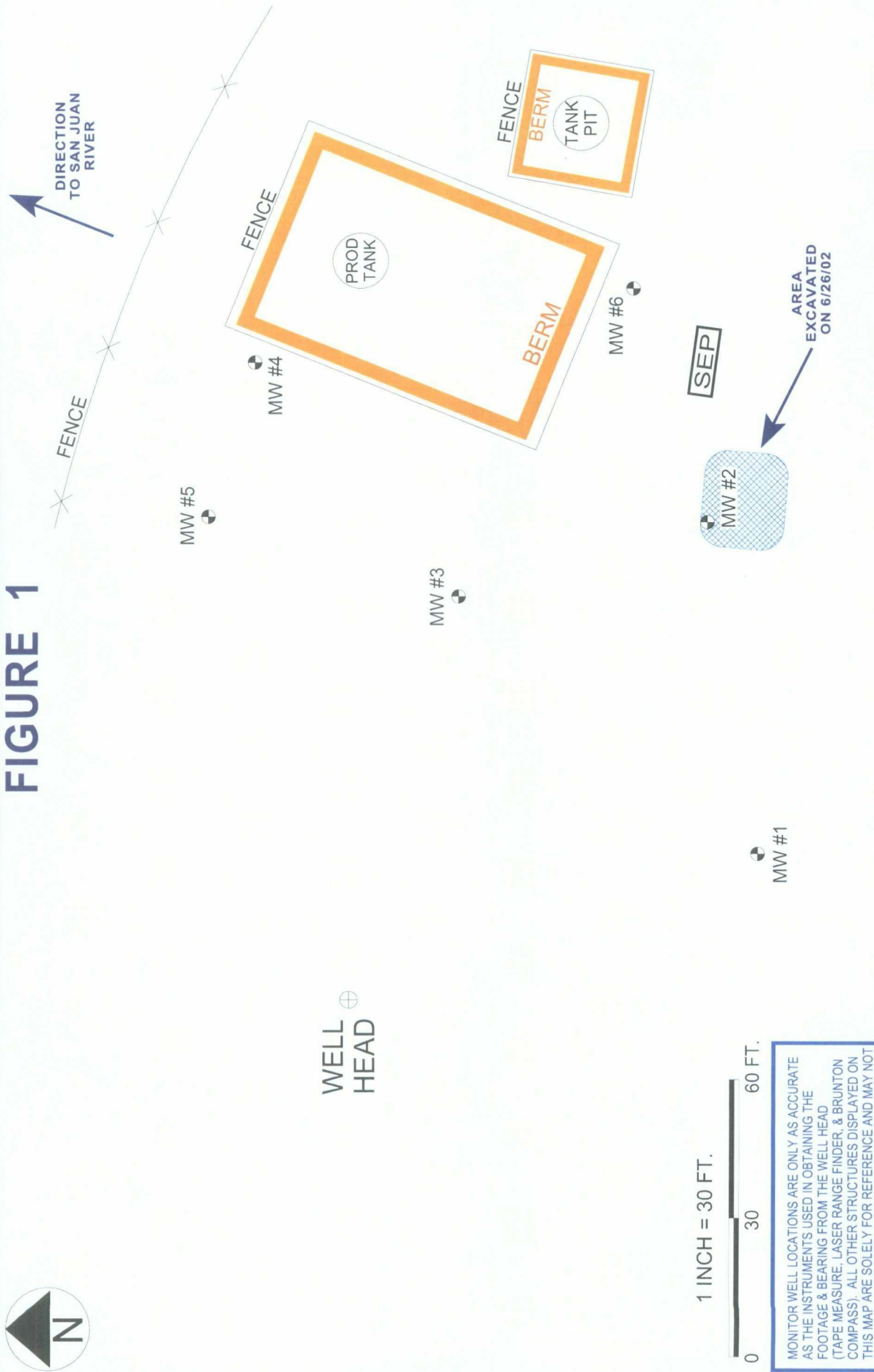
FILENAME: (188-4Q08.WK4) NJV

SAMPLE DATE	WELL NAME or No.	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	BTEX EPA METHOD 8021B (ppb)			
								Benzene	Toluene	Ethyl Benzene	Total Xylene
03-Aug-06	MW #1	18.02	22.05	2,910	2,700	6.77		ND	ND	ND	ND
14-Mar-03	MW #2	13.93	17.50	2,310	2,300	7.47		23	8.0	220	830
29-May-03		13.78			2,300	6.93		10	18	23	180
18-Aug-03		13.88			3,000	6.86		15	ND	37	220
18-Nov-03		13.45			2,700	6.86		31	ND	74	470
29-Mar-04		13.59			2,600	6.86		11	ND	24	180
23-Jun-04		13.68			2,800	6.78		12	ND	27	170
22-Dec-04		12.87			N/A	N/A		18	ND	71	520
28-Mar-05		12.86			2,300	6.79		9.3	15	42	220
23-Jun-05		12.60			2,300	6.72		6.3	12	29	120
21-Sep-05		13.31			2,300	6.65		9.0	7.7	18	190
03-Aug-06		13.45			2,300	6.68		2.4	2.9	3.6	72
03-Aug-06	MW #3	15.81	21.90	2,300	2,400	6.84		16	22	220	1,400
30-Oct-06		15.60			2,500	6.87		13	ND	190	1,000
22-Feb-07		15.12			2,400	7.01		13	12	250	1,300
08-May-07		15.23			2,400	6.83		8.1	6.6	190	860
15-Aug-07		15.45			2,700	6.77		9.9	7.1	110	460
15-Nov-07		15.14			2,500	6.91		8.0	7.0	95	700
14-Apr-08		14.79			2,400	7.04		11.5	11.5	179	873
09-Jun-08		14.89			1,800	7.02		9.8	8.4	141	704
26-Aug-08		15.43			2,600	7.04		6.7	ND	110	410
22-Dec-08		14.93			2,000	7.26		11	21.0	200	860
31-May-07	MW #4	13.65	21.85	2,230	2,200	6.91		ND	27	ND	1,300
15-Aug-07		14.08			2,200	6.78		ND	ND	260	1,100
15-Nov-07		13.82			2,500	6.80		ND	ND	30	160
14-Apr-08		13.38			2,400	6.97		ND	ND	4.3	16.0
09-Jun-08		13.45			1,700	6.96		ND	ND	3.2	10.1
26-Aug-08		14.10			2,000	7.00		9.7	ND	77.0	360
22-Dec-08		13.65			1,500	7.15		ND	ND	16.0	63.0
31-May-07	MW #5	14.25	21.28	2,260	2,200	7.00		11	32	790	4,400
15-Aug-07		14.70			2,400	6.84		11	ND	510	930
15-Nov-07		14.43			2,300	7.20		5.7	ND	510	680
14-Apr-08		13.98			2,400	7.25		ND	ND	66.9	ND
09-Jun-08		14.06			1,700	7.25		3.7	ND	156	3.8
26-Aug-08		14.72			2,000	7.32		2.6	ND	33	ND
22-Dec-08		14.25			1,400	7.55		ND	ND	3.8	7.0
31-May-07	MW #6	14.37	21.90	1,930	1,400	6.93		ND	ND	ND	ND
NMWQCC GROUNDWATER STANDARDS								10	750	750	620

- NOTES :
- 1) RESULTS IN BOLD RED TYPE INDICATE EXCEEDING NMWQCC STANDARDS .
 - 2) RESULTS IN BOLD BLUE TYPE INDICATE BELOW NMWQCC STANDARDS AFTER PREVIOUS RESULTS IN BOLD RED TYPE EXCEEDED .
 - 3) ND INDICATES NOT DETECTED AT THE REPORTING LIMITS (less than regulatory standards of at least a magnitude of 10) .



FIGURE 1



BP AMERICA PRODUCTION CO.

GCU #188

NW/4 SE/4 SEC. 30, T29N, R12W

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

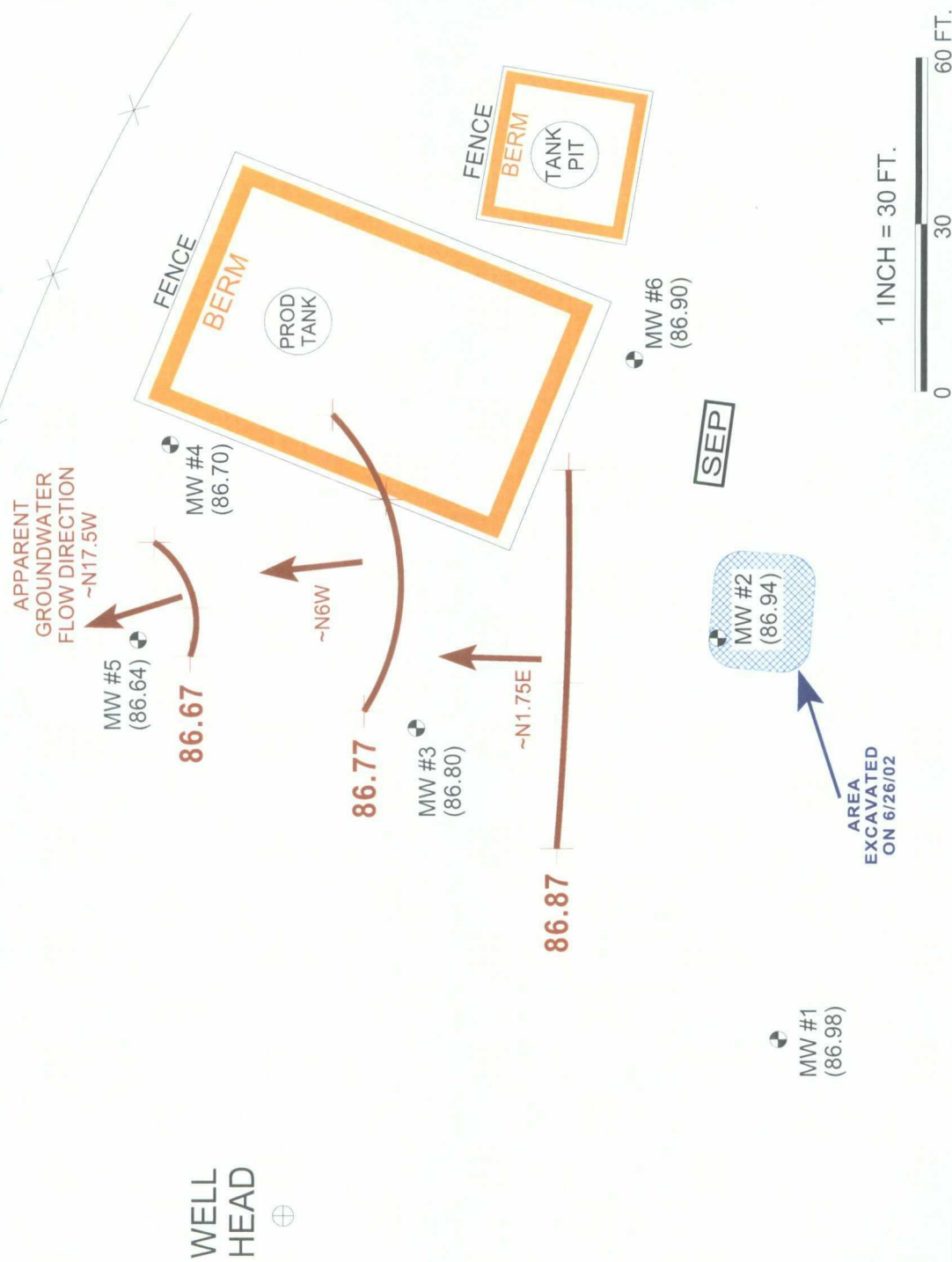
DRAWN BY: NJV

FILENAME: GCU188-SM3.SKF

REVISED: 05-24-07 NJV

SITE
MAP

05/07



	Top of Well Elevation	Groundwater Elevation as of 4/14/08.
MW #1	(104.08)	
MW #2	(99.36)	
MW #3	(101.59)	
MW #4	(100.08)	
MW #5	(100.62)	
MW #6	(101.01)	
MW #1		(86.98)

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.

GCU #188

NW/4 SE/4 SEC. 30, T29N, R12W

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: 04-14-08-GW.SKF

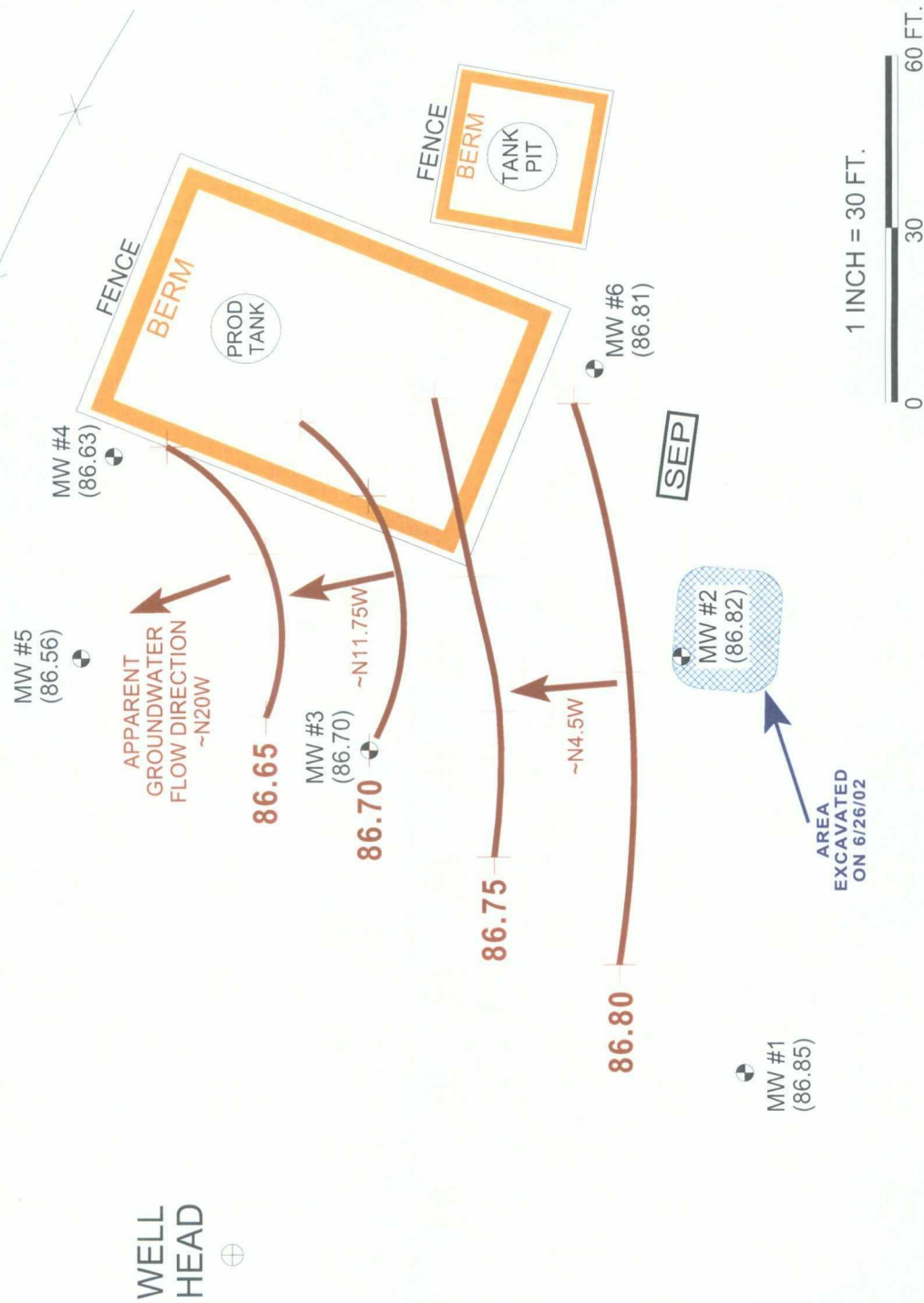
REVISÉ: 04-16-08 NJV

GROUNDWATER CONTOUR

04/08



FIGURE 3
(2nd 1/4, 2008)



Top of Well Elevation	
MW #1	(104.08)
MW #2	(99.36)
MW #3	(101.59)
MW #4	(100.08)
MW #5	(100.62)
MW #6	(101.01)
MW #1	Groundwater Elevation as of 6/9/08.

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.

GCU #188

NW/4 SE/4 SEC. 30, T29N, R12W

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: NUJ

FILENAME: 06-09-08-GW.SKF

REVISED: 06-18-08 NUJ

GROUNDWATER
CONTOUR
MAP

06/08



FIGURE 4
(3rd 1/4, 2008)

DIRECTION
TO SAN JUAN
RIVER

FENCE

MW #5
(85.90)

MW #4
(85.98)

WELL
HEAD

APPARENT
GROUNDWATER
FLOW DIRECTION
~N3.25W

86.05

86.15

MW #3
(86.16)

86.25

~N9.75E

86.35

~N9E

MW #1
(86.46)

MW #2
(86.37)

AREA
EXCAVATED
ON 6/26/02

[SEP]

MW #6
(86.27)

FENCE

BERM

PROD
TANK

FENCE

BERM

TANK
PIT

1 INCH = 30 FT.

0 30 60 FT.

	Top of Well Elevation
MW #1	(104.08)
MW #2	(99.36)
MW #3	(101.59)
MW #4	(100.08)
MW #5	(100.62)
MW #6	(101.01)
MW #1 (86.46)	Groundwater Elevation as of 8/26/08.

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.

GCU #188

NW/4 SE/4 SEC. 30, T29N, R12W

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: 08-26-08-GW.SKF

REVISED: 08-28-08 NJV

GROUNDWATER

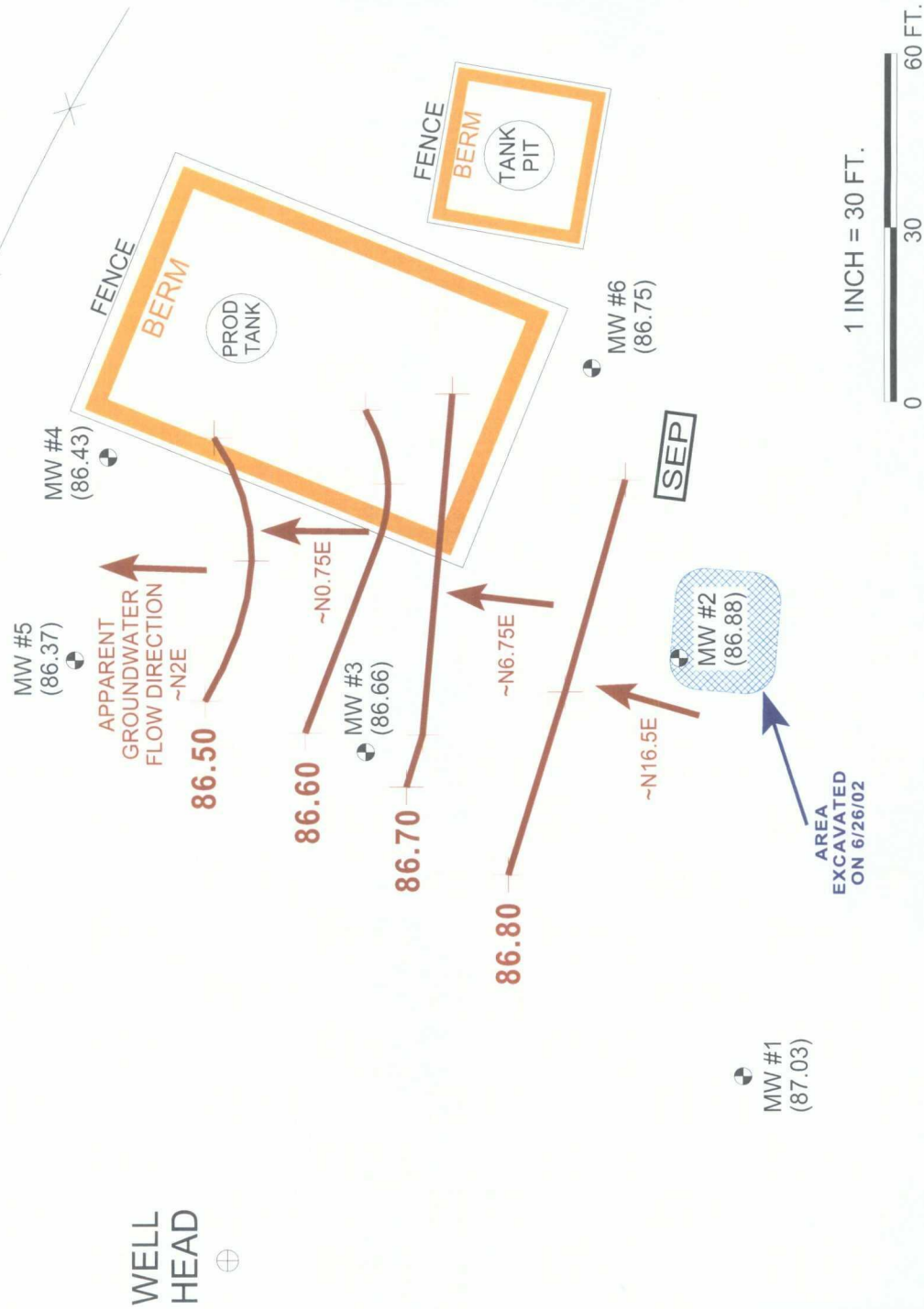
CONTOUR

MAP

08/08



FIGURE 5
(4th 1/4, 2008)



Top of Well Elevation	
MW #1	(104.08)
MW #2	(99.36)
MW #3	(101.59)
MW #4	(100.08)
MW #5	(100.62)
MW #6	(101.01)
MW #1	Groundwater Elevation as of 12/19/08.

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.

GCU #188

NW/4 SE/4 SEC. 30, T29N, R12W

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: 12-19-08-GW.SKF

REVISED: 12-31-08 NJV

GROUNDWATER CONTOUR MAP

12/08

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

CLIENT : **BP AMERICA PROD. CO.**

CHAIN-OF-CUSTODY # : **156391**

GCU # 188 - PROD. TANK PIT

LABORATORY (S) USED : **PAGE ANALYTICAL**

UNIT J, SEC. 30, T29N, R12W

Date : **April 14, 2008**

SAMPLER : **N J V**

Filename : **04-14-08.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	104.08	86.98	17.10	22.05	-	-	-	-	-
2	99.36	86.94	12.42	17.50	-	-	-	-	-
3	101.59	86.80	14.79	21.90	1005	7.04	2,400	16.2	3.50
4	100.08	86.70	13.38	21.85	1015	6.97	2,400	16.1	4.25
5	100.62	86.64	13.98	21.28	1025	7.25	2,500	16.8	2.00
6	101.01	86.90	14.11	21.90	-	-	-	-	-

INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00

2,800

DATE & TIME = 04/14/08

0800

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 #3 & #4, poor/fair in MW #5, all three murky brown/black in appearance.
Collected samples from MW #3, #4, & #5 for BTEX analysis only.

Top of casing MW #1 ~ 1.90 ft., MW #2 ~ @ grade, MW #3 ~ 2.40 ft., MW #4 ~ 2.25 ft., MW #5 ~ 2.40 ft., MW #6 ~ 2.30 ft. above grade.

ANALYTICAL RESULTS

Project: GCU #188
Pace Project No.: 6038709

Sample: MW #3		Lab ID: 6038709001		Collected: 04/14/08 10:05		Received: 04/16/08 08:30		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water		Analytical Method: EPA 8260							
Benzene	11.5	ug/L	5.0	5		04/22/08 06:39	71-43-2		
Ethylbenzene	179	ug/L	5.0	5		04/22/08 06:39	100-41-4		
Toluene	11.5	ug/L	5.0	5		04/22/08 06:39	108-88-3		
Xylene (Total)	873	ug/L	15.0	5		04/22/08 06:39	1330-20-7		
Dibromofluoromethane (S)	101	%	85-114	5		04/22/08 06:39	1868-53-7		
Toluene-d8 (S)	102	%	82-114	5		04/22/08 06:39	2037-26-5		
4-Bromofluorobenzene (S)	98	%	85-119	5		04/22/08 06:39	460-00-4		
1,2-Dichloroethane-d4 (S)	103	%	81-118	5		04/22/08 06:39	17060-07-0		
Preservation pH	1.0		1.0	5		04/22/08 06:39			

Date: 04/23/2008 04:48 PM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GCU #188
Pace Project No.: 6038709

Sample: MW #4		Lab ID: 6038709002	Collected: 04/14/08 10:15	Received: 04/16/08 08:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water		Analytical Method: EPA 8260						
Benzene	ND	ug/L	1.0	1		04/18/08 19:18	71-43-2	
Ethylbenzene	4.3	ug/L	1.0	1		04/18/08 19:18	100-41-4	
Toluene	ND	ug/L	1.0	1		04/18/08 19:18	108-88-3	
Xylene (Total)	16.0	ug/L	3.0	1		04/18/08 19:18	1330-20-7	
Dibromofluoromethane (S)	100	%	85-114	1		04/18/08 19:18	1868-53-7	
Toluene-d8 (S)	99	%	82-114	1		04/18/08 19:18	2037-26-5	
4-Bromofluorobenzene (S)	100	%	85-119	1		04/18/08 19:18	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	81-118	1		04/18/08 19:18	17060-07-0	
Preservation pH	1.0		1.0	1		04/18/08 19:18		

Date: 04/23/2008 04:48 PM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GCU #188

Pace Project No.: 6038709

Sample: MW #5		Lab ID: 6038709003	Collected: 04/14/08 10:25	Received: 04/16/08 08:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water		Analytical Method: EPA 8260						
Benzene	ND	ug/L	1.0	1		04/18/08 19:35	71-43-2	
Ethylbenzene	66.9	ug/L	1.0	1		04/18/08 19:35	100-41-4	
Toluene	ND	ug/L	1.0	1		04/18/08 19:35	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		04/18/08 19:35	1330-20-7	
Dibromofluoromethane (S)	101	%	85-114	1		04/18/08 19:35	1868-53-7	
Toluene-d8 (S)	101	%	82-114	1		04/18/08 19:35	2037-26-5	
4-Bromofluorobenzene (S)	101	%	85-119	1		04/18/08 19:35	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	81-118	1		04/18/08 19:35	17060-07-0	
Preservation pH	1.0		1.0	1		04/18/08 19:35		

Date: 04/23/2008 04:48 PM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: GCU #188
Pace Project No.: 6038709

Sample: TRIP BLANK		Lab ID: 6038709004	Collected: 04/14/08 00:00	Received: 04/16/08 08:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water		Analytical Method: EPA 8260						
Benzene	ND	ug/L	1.0	1		04/18/08 19:52	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		04/18/08 19:52	100-41-4	
Toluene	ND	ug/L	1.0	1		04/18/08 19:52	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		04/18/08 19:52	1330-20-7	
Dibromofluoromethane (S)	102	%	85-114	1		04/18/08 19:52	1868-53-7	
Toluene-d8 (S)	102	%	82-114	1		04/18/08 19:52	2037-26-5	
4-Bromofluorobenzene (S)	98	%	85-119	1		04/18/08 19:52	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	81-118	1		04/18/08 19:52	17060-07-0	
Preservation pH	1.0		1.0	1		04/18/08 19:52		

Date: 04/23/2008 04:48 PM

REPORT OF LABORATORY ANALYSIS

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156391

Chain of Custody Record

Project Name:

GCU # 188

BP BU/AR Region/Enfos Segment:

San Juan OC South

State or Lead Regulatory Agency:

NMOC

Requested Due Date (mm/dd/yy):

4/25/08

On-site Time: 9:12 Temp: 63°F
Off-site Time: 10:43 Temp: 66°F
Sky Conditions: sunny
Meteorological Events:
Wind Speed: 0-5 Direction: West

Page 1 of 1

Lab Name: PRICE ANALYTICAL				BP/AR Facility No.: WK 192510				Consultant/Contractor: NELSON VEEZ													
Address: 9608 LORET BLVD.				BP/AR Facility Address:				Address: 110 N. Fourth St.													
Lafayette, LA 70503				Site Lat/Long:				Blountville, TN 37613													
Lab PM: MARY JANE WILKS				California Global ID No.:				Consultant/Contractor Project No.: 41008746													
Tele/Fax: (918) 597-3665 FAX: (918) 599-1759				Enfos Project No.:				Consultant/Contractor PM: NELSON VEEZ													
BP/AR PM Contact: MIKE WILKINS, PG				Provision or RCOP (circle one)				Tele/Fax: (505) 632-1199 FAX: (505) 632-3703													
Address: 501 WESTLAKE PARK BLVD.				Phase/WBS:				Report Type & QC Level: STANDARD													
Km. 23.1448 Houston, TX 77079				Sub Phase/Task:				E-mail EDD To: bja79-nv@yaho.com													
Tele/Fax: (281) 366-7465 FAX: (281) 366-7294				Cost Element:				Invoice to: Consultant or BP of Atlantic Richfield Co (circle one)													
Lab Bottle Order No: 15752				Matrix				Requested Analysis													
Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid	Air	Laboratory No.	No. of Containers	Preservative	BTEX/TPH	BTEX/Oxy/TPH	EPA 8260	EPA 8270	Sample Point Lat/Long and Comments							
1	MW #3	1005	4/14/08	✓				3	Unpreserved			✓									
2	MW #4	1015	4/14/08	✓				3	HCl			✓									
3	MW #5	1025	4/14/08	✓				3	HNO ₃			✓									
4									H ₂ SO ₄												
5									Methanol												
6																					
7																					
8																					
9																					
10																					
Sampler's Name: NELSON VEEZ														Accepted By / Affiliation	Date	Time					
Sampler's Company: BLACK ENGINEERING, INC.															4/16/07	1546					
Shipment Date: APRIL 15, 2008																					
Shipment Method: FED EX overnight																					
Shipment Tracking No: 4994348726																					
Special Instructions: REPORT BTEX concentrations only. SAN JUAN COUNTY, NM																					
Custody Seals In Place Yes ☒ No ☐														Temp Blank Yes ☒ No ☐				Cooler Temperature on Receipt °F/C		Trip Blank Yes ☒ No ☐	

SAMPLE SUMMARY

Project: GCU #188
Pace Project No.: 6038709

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6038709001	MW #3	Water	04/14/08 10:05	04/16/08 08:30
6038709002	MW #4	Water	04/14/08 10:15	04/16/08 08:30
6038709003	MW #5	Water	04/14/08 10:25	04/16/08 08:30
6038709004	TRIP BLANK	Water	04/14/08 00:00	04/16/08 08:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: GCU #188
Pace Project No.: 6038709

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6038709001	MW #3	EPA 8260	AJA	9
6038709002	MW #4	EPA 8260	AJA	9
6038709003	MW #5	EPA 8260	AJA	9
6038709004	TRIP BLANK	EPA 8260	AJA	9

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: GCU #188
Pace Project No.: 6038709

Method: EPA 8260
Description: 8260 MSV UST, Water
Client: BP-Blagg Engineering
Date: April 23, 2008

General Information:

4 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/14088

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/14124

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: GCU #188

Pace Project No.: 6038709

QC Batch: MSV/14088

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV UST-WATER

Associated Lab Samples: 6038709002, 6038709003, 6038709004

METHOD BLANK: 314277

Associated Lab Samples: 6038709002, 6038709003, 6038709004

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Benzene	ug/L	ND	1.0	
Ethylbenzene	ug/L	ND	1.0	
Toluene	ug/L	ND	1.0	
Xylene (Total)	ug/L	ND	3.0	
1,2-Dichloroethane-d4 (S)	%	101	81-118	
4-Bromofluorobenzene (S)	%	99	85-119	
Dibromofluoromethane (S)	%	97	85-114	
Toluene-d8 (S)	%	98	82-114	

LABORATORY CONTROL SAMPLE: 314278

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	10	9.1	91	87-117	
Ethylbenzene	ug/L	10	9.3	93	84-123	
Toluene	ug/L	10	9.2	92	81-124	
Xylene (Total)	ug/L	30	28.7	96	83-125	
1,2-Dichloroethane-d4 (S)	%			99	81-118	
4-Bromofluorobenzene (S)	%			101	85-119	
Dibromofluoromethane (S)	%			100	85-114	
Toluene-d8 (S)	%			100	82-114	

QUALITY CONTROL DATA

Project: GCU #188
Pace Project No.: 6038709

QC Batch:	MSV/14124	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV UST-WATER
Associated Lab Samples:	6038709001		

METHOD BLANK: 315205

Associated Lab Samples: 6038709001

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Benzene	ug/L	ND	1.0	
Ethylbenzene	ug/L	ND	1.0	
Toluene	ug/L	ND	1.0	
Xylene (Total)	ug/L	ND	3.0	
1,2-Dichloroethane-d4 (S)	%	102	81-118	
4-Bromofluorobenzene (S)	%	98	85-119	
Dibromofluoromethane (S)	%	100	85-114	
Toluene-d8 (S)	%	100	82-114	

LABORATORY CONTROL SAMPLE: 315206

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	10	9.4	94	87-117	
Ethylbenzene	ug/L	10	9.5	95	84-123	
Toluene	ug/L	10	9.5	95	81-124	
Xylene (Total)	ug/L	30	29.4	98	83-125	
1,2-Dichloroethane-d4 (S)	%			101	81-118	
4-Bromofluorobenzene (S)	%			98	85-119	
Dibromofluoromethane (S)	%			100	85-114	
Toluene-d8 (S)	%			100	82-114	

QUALIFIERS

Project: GCU #188
Pace Project No.: 6038709

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/14088

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/14124

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GCU #188

Pace Project No.: 6038709

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6038709002	MW #4	EPA 8260	MSV/14088		
6038709003	MW #5	EPA 8260	MSV/14088		
6038709004	TRIP BLANK	EPA 8260	MSV/14088		
6038709001	MW #3	EPA 8260	MSV/14124		

Date: 04/23/2008 04:48 PM

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

CLIENT : **BP AMERICA PROD. CO.**

CHAIN-OF-CUSTODY # : **N / A**

GCU # 188 - PROD. TANK PIT

LABORATORY (S) USED : **PACE ANALYTICAL**

UNIT J, SEC. 30, T29N, R12W

Date : **June 9, 2008**

SAMPLER : **N J V**

Filename : **06-09-08.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	104.08	86.85	17.23	22.05	-	-	-	-	-
2	99.36	86.82	12.54	17.50	-	-	-	-	-
3	101.59	86.70	14.89	21.90	0915	7.02	1,800	17.2	3.50
4	100.08	86.63	13.45	21.85	0933	6.96	1,700	17.2	4.25
5	100.62	86.56	14.06	21.28	0925	7.25	1,700	16.7	1.50
6	101.01	86.81	14.20	21.90	-	-	-	-	-

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	06/09/08	0700

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 # 3 & # 4, poor / fair in MW # 5, all three murky brown / black in appearance .
Collected samples from MW # 3, # 4, & # 5 for BTEX analysis only .

Top of casing MW # 1 ~ 1.90 ft, MW # 2 ~ @ grade, MW # 3 ~ 2.40 ft, MW # 4 ~ 2.25 ft, MW # 5 ~ 2.40 ft, MW # 6 ~ 2.30 ft. above grade.

on-site	0800	temp	53 F
off-site	0955	temp	68 F
sky cond.	Sunny		
wind speed	0 - 5	direct.	NE

ANALYTICAL RESULTS

Project: GCU 188

Pace Project No.: 6041667

Sample: MW #3		Lab ID: 6041667001	Collected: 06/09/08 09:15	Received: 06/11/08 09:10	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water		Analytical Method: EPA 8260						
Benzene	9.8	ug/L	5.0	5		06/13/08 07:29	71-43-2	
Ethylbenzene	141	ug/L	5.0	5		06/13/08 07:29	100-41-4	
Toluene	8.4	ug/L	5.0	5		06/13/08 07:29	108-88-3	
Xylene (Total)	704	ug/L	15.0	5		06/13/08 07:29	1330-20-7	
Dibromofluoromethane (S)	110	%	85-114	5		06/13/08 07:29	1868-53-7	
Toluene-d8 (S)	100	%	82-114	5		06/13/08 07:29	2037-26-5	
4-Bromofluorobenzene (S)	113	%	85-119	5		06/13/08 07:29	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	81-118	5		06/13/08 07:29	17060-07-0	
Preservation pH	1.0		1.0	5		06/13/08 07:29		

ANALYTICAL RESULTS

Project: GCU 188

Pace Project No.: 6041667

Sample: MW #4		Lab ID: 6041667002	Collected: 06/09/08 09:33	Received: 06/11/08 09:10	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water		Analytical Method: EPA 8260						
Benzene	ND	ug/L	1.0	1		06/13/08 07:46	71-43-2	
Ethylbenzene	3.2	ug/L	1.0	1		06/13/08 07:46	100-41-4	
Toluene	ND	ug/L	1.0	1		06/13/08 07:46	108-88-3	
Xylene (Total)	10.1	ug/L	3.0	1		06/13/08 07:46	1330-20-7	
Dibromofluoromethane (S)	105	%	85-114	1		06/13/08 07:46	1868-53-7	
Toluene-d8 (S)	99	%	82-114	1		06/13/08 07:46	2037-26-5	
4-Bromofluorobenzene (S)	104	%	85-119	1		06/13/08 07:46	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	81-118	1		06/13/08 07:46	17060-07-0	
Preservation pH	1.0		1.0	1		06/13/08 07:46		

Date: 06/23/2008 03:11 PM

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ANALYTICAL RESULTS

Project: GCU 188
Pace Project No.: 6041667

Sample: MW #5 Lab ID: 6041667003 Collected: 06/09/08 09:25 Received: 06/11/08 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water		Analytical Method: EPA 8260						
Benzene	3.7 ug/L		1.0	1		06/14/08 04:03	71-43-2	
Ethylbenzene	156 ug/L		1.0	1		06/14/08 04:03	100-41-4	
Toluene	ND ug/L		1.0	1		06/14/08 04:03	108-88-3	
Xylene (Total)	3.8 ug/L		3.0	1		06/14/08 04:03	1330-20-7	
Dibromofluoromethane (S)	96 %		85-114	1		06/14/08 04:03	1868-53-7	
Toluene-d8 (S)	100 %		82-114	1		06/14/08 04:03	2037-26-5	
4-Bromofluorobenzene (S)	106 %		85-119	1		06/14/08 04:03	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		81-118	1		06/14/08 04:03	17060-07-0	
Preservation pH	1.0		1.0	1		06/14/08 04:03		

SAMPLE SUMMARY

Project: GCU 188

Pace Project No.: 6041667

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6041667001	MW #3	Water	06/09/08 09:15	06/11/08 09:10
6041667002	MW #4	Water	06/09/08 09:33	06/11/08 09:10
6041667003	MW #5	Water	06/09/08 09:25	06/11/08 09:10

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SAMPLE ANALYTE COUNT

Project: GCU 188
Pace Project No.: 6041667

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6041667001	MW #3	EPA 8260	GEZ	9
6041667002	MW #4	EPA 8260	GEZ	9
6041667003	MW #5	EPA 8260	JTK	9

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Atlantic Richfield Company

A BP affiliated company

Chain of Custody Record

Project Name: GCU 188

BP BU/AR Region/Enfos Segment: SIOC SOUTH

State or Lead Regulatory Agency: NMOC

Requested Due Date (mm/dd/yy): 6/20/08

On-site Time: 8:08 Temp: 53°F
Off-site Time: 9:55 Temp: 63°F
Sky Conditions: Sunny
Meteorological Events:
Wind Speed: 0-5 Direction: NE

Lab Name: Pace Analytical Services, Inc.				BP/AR Facility No.:				Consultant/Contractor: Blagg/URS									
Address: 9609 Loiret Blvd				BP/AR Facility Address:				Address: 110 N. Forth St.									
Lenexa, KS 66219				Site Lat/Long:				Bloomfield, NM 87413									
Lab PM: MJ Walls				California Global ID No.:				Consultant/Contractor Project No.:									
Tel/Fax: 913-563-1401				Enfos Project No.:				Consultant/Contractor PM: Nelson Velez									
BP/AR EMB: Mike Whelan				Provision or OOC (circle one)				Tele: (505) 632-1199 Fax: (505) 632-3903									
Address: 501 Westlake Park Blvd.				Phase/WBS:				Report Type & QC Level: STD									
Rm28, 144B Houston, TX 77079				Sub Phase/Task:				E-Mail EDD To: blagg-nj@yahoo.com									
Tele: (281) 366-7485 Fax: (281) 366-7094				Cost Element:				Invoice to: Consultant or BP of Atlantic Richfield Co. (circle one)									
Item No.	Sample Description	Time	Date	Matrix			Laboratory No.	No. of Containers	Preservative				Requested Analysis	Sample Point Lat/Long and Comments			
				Water/Liquid	Solid/Solid	Air			Unpreserved	H ₂ SO ₄	HCl	Methanol			BTEX (8260)		
1	MW # 3	0915	6/9/08	✓				3		✓				3(0694)	651		
2	MW # 4	0933	6/9/08	✓				3		✓				↓	002		
3	MW # 5	0925	6/9/08	✓				3		✓				↓	053		
4																	
5																	
6																	
7																	
8																	
9																	
10																	
Sampler's Name: NELSON VELEZ				Relinquished By / Affiliation: Nelson Velez				Date: 6/10/08 Time: 1540				Accepted By / Affiliation: [Signature]				Date: 6/11 Time: 910	
Sampler's Company: BLAGG ENTERPRISES																	
Shipment Date: JUNE 10, 2008																	
Shipment Method: FED. EX.																	
Shipment Tracking No: 4994348682																	
Special Instructions: REPORT BTEX CONSTITUENTS ONLY																SAN JUAN COUNTY, N.M.	
Custody Seals In Place: Yes / No				Temp Blank: Yes / No				Cooler Temp on Receipt: 5.2 °F/°C				Trip Blank: Yes / No				MS/MSD Sample Submitted: Yes / No	

PROJECT NARRATIVE

Project: GCU 188
Pace Project No.: 6041667

Method: EPA 8260
Description: 8260 MSV UST, Water
Client: BP-Blagg Engineering
Date: June 23, 2008

General Information:

3 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/15149

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 6041661001

R1: RPD value was outside control limits.

- MSD (Lab ID: 339183)
- Toluene

QC Batch: MSV/15178

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: GCU 188
Pace Project No.: 6041667

QC Batch: MSV/15149 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 6041667001, 6041667002

METHOD BLANK: 339180

Associated Lab Samples: 6041667001, 6041667002

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Benzene	ug/L	ND	1.0	
Ethylbenzene	ug/L	ND	1.0	
Toluene	ug/L	ND	1.0	
Xylene (Total)	ug/L	ND	3.0	
1,2-Dichloroethane-d4 (S)	%	96	81-118	
4-Bromofluorobenzene (S)	%	95	85-119	
Dibromofluoromethane (S)	%	100	85-114	
Toluene-d8 (S)	%	104	82-114	

LABORATORY CONTROL SAMPLE: 339181

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	10	8.8	88	87-117	
Ethylbenzene	ug/L	10	9.6	96	84-123	
Toluene	ug/L	10	9.2	92	81-124	
Xylene (Total)	ug/L	30	28.2	94	83-125	
1,2-Dichloroethane-d4 (S)	%			96	81-118	
4-Bromofluorobenzene (S)	%			100	85-119	
Dibromofluoromethane (S)	%			98	85-114	
Toluene-d8 (S)	%			103	82-114	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 339182 339183

Parameter	Units	6041661001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Benzene	ug/L	ND	10	10	9.5	7.9	95	79	30-162	19	22
Ethylbenzene	ug/L	ND	10	10	9.3	7.9	93	79	37-154	16	18
Toluene	ug/L	ND	10	10	9.5	7.7	95	77	49-143	21	20 R1
Xylene (Total)	ug/L	ND	30	30	28.7	24.7	96	82	32-154	15	15
1,2-Dichloroethane-d4 (S)	%						99	101	81-118		
4-Bromofluorobenzene (S)	%						96	101	85-119		
Dibromofluoromethane (S)	%						103	100	85-114		
Toluene-d8 (S)	%						103	100	82-114		
Preservation pH		1.0			1.0	1.0				0	

Date: 06/23/2008 03:11 PM

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QUALITY CONTROL DATA

Project: GCU 188

Pace Project No.: 6041667

QC Batch: MSV/15178

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV UST-WATER

Associated Lab Samples: 6041667003

METHOD BLANK: 340016

Associated Lab Samples: 6041667003

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Benzene	ug/L	ND	1.0	
Ethylbenzene	ug/L	ND	1.0	
Toluene	ug/L	ND	1.0	
Xylene (Total)	ug/L	ND	3.0	
1,2-Dichloroethane-d4 (S)	%	98	81-118	
4-Bromofluorobenzene (S)	%	108	85-119	
Dibromofluoromethane (S)	%	94	85-114	
Toluene-d8 (S)	%	100	82-114	

LABORATORY CONTROL SAMPLE: 340017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	10	11.3	113	87-117	
Ethylbenzene	ug/L	10	11.0	110	84-123	
Toluene	ug/L	10	10.8	108	81-124	
Xylene (Total)	ug/L	30	33.6	112	83-125	
1,2-Dichloroethane-d4 (S)	%			94	81-118	
4-Bromofluorobenzene (S)	%			105	85-119	
Dibromofluoromethane (S)	%			96	85-114	
Toluene-d8 (S)	%			100	82-114	

QUALIFIERS

Project: GCU 188
Pace Project No.: 6041667

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/15178

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

R1 RPD value was outside control limits.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GCU 188
Pace Project No.: 6041667

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6041667001	MW #3	EPA 8260	MSV/15149		
6041667002	MW #4	EPA 8260	MSV/15149		
6041667003	MW #5	EPA 8260	MSV/15178		

Sample Condition Upon Receipt



Client Name: BE BLAKE

Project # Ces 41467

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8643 6005 2346

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Thermometer Used T-169 / T-179

Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 5.2

Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Comments:

Optional

Proj. Due Date:

Proj. Name:

6/23

Gow 188

Date and Initials of person examining

contents: BW 6/11

S: 1010 E: 1015

Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☒ Yes ☐ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☒ No ☐ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WT</u>		
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	
exceptions: ☒ VOA, coliform, TOC, O&G, WI-DRO (water)	☒ Yes ☐ No	Initial when completed
		Lot # of added preservative
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☒ No ☐ N/A	15.
Trip Blank Present:	☒ Yes ☐ No ☐ N/A	16.
Trip Blank Custody Seals Present	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased): <u>051208</u>		

Client Notification/ Resolution:

Field Data Required?

Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: mw 6/12/08

Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

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

CLIENT : **BP AMERICA PROD. CO.**

CHAIN-OF-CUSTODY # : **N / A**

GCU # 188 - PROD. TANK PIT
UNIT J, SEC. 30, T29N, R12W

LABORATORY (S) USED : **HALL ENVIRONMENTAL**

Date : **August 26, 2008**

SAMPLER : **N J V**

Filename : **08-26-08.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	104.08	86.46	17.62	22.05	-	-	-	-	-
2	99.36	86.37	12.99	17.50	-	-	-	-	-
3	101.59	86.16	15.43	21.90	0940	7.04	2,600	20.5	3.25
4	100.08	85.98	14.10	21.85	0930	7.00	2,000	20.0	3.75
5	100.62	85.90	14.72	21.28	0915	7.32	2,000	21.2	1.50
6	101.01	86.27	14.74	21.90	-	-	-	-	-

INSTRUMENT CALIBRATIONS = 4.01/7.00/10.00 2,800
DATE & TIME = 08/25/08 0730

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 # 3 & # 4 , poor / fair in MW # 5 , all three murky brown / black in appearance .
Collected samples from MW # 3 , # 4 , & # 5 for BTEX analysis only .

Top of casing MW # 1 ~ 1.90 ft. , MW # 2 ~ @ grade , MW # 3 ~ 2.40 ft. , MW # 4 ~ 2.25 ft. , MW # 5 ~ 2.40 ft. , MW # 6 ~ 2.30 ft. above grade.

on-site	8:35	temp	71 F
off-site	9:59	temp	79 F
sky cond.	Partly cloudy		
wind speed	0-5	direct.	North

Hall Environmental Analysis Laboratory, Inc.

Date: 09-Sep-08

CLIENT: Blagg Engineering
Project: GCU #188**Lab Order:** 0808454**Lab ID:** 0808454-01**Collection Date:** 8/26/2008 9:40:00 AM**Client Sample ID:** MW #3**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	6.7	2.0		µg/L	2	9/8/2008 4:03:24 PM
Toluene	ND	2.0		µg/L	2	9/8/2008 4:03:24 PM
Ethylbenzene	110	2.0		µg/L	2	9/8/2008 4:03:24 PM
Xylenes, Total	410	4.0		µg/L	2	9/8/2008 4:03:24 PM
Surr: 4-Bromofluorobenzene	118	65.9-130		%REC	2	9/8/2008 4:03:24 PM

Lab ID: 0808454-02**Collection Date:** 8/26/2008 9:30:00 AM**Client Sample ID:** MW #4**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	9.7	2.0		µg/L	2	9/8/2008 4:36:25 PM
Toluene	ND	2.0		µg/L	2	9/8/2008 4:36:25 PM
Ethylbenzene	77	2.0		µg/L	2	9/8/2008 4:36:25 PM
Xylenes, Total	360	4.0		µg/L	2	9/8/2008 4:36:25 PM
Surr: 4-Bromofluorobenzene	115	65.9-130		%REC	2	9/8/2008 4:36:25 PM

Lab ID: 0808454-03**Collection Date:** 8/26/2008 9:15:00 AM**Client Sample ID:** MW #5**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	2.6	1.0		µg/L	1	9/8/2008 5:06:48 PM
Toluene	ND	1.0		µg/L	1	9/8/2008 5:06:48 PM
Ethylbenzene	33	1.0		µg/L	1	9/8/2008 5:06:48 PM
Xylenes, Total	ND	2.0		µg/L	1	9/8/2008 5:06:48 PM
Surr: 4-Bromofluorobenzene	254	65.9-130	S	%REC	1	9/8/2008 5:06:48 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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #188

Work Order: 0808454

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		MBLK			Batch ID: R30092	Analysis Date: 9/5/2008 9:01:25 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: R30121	Analysis Date: 9/8/2008 11:06:35 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: R30092	Analysis Date: 9/6/2008 5:56:41 PM			
Benzene	17.37	µg/L	1.0	86.9	85.9	113			
Toluene	16.25	µg/L	1.0	81.2	86.4	113			S
Ethylbenzene	17.54	µg/L	1.0	87.7	83.5	118			
Xylenes, Total	52.19	µg/L	2.0	87.0	83.4	122			
Sample ID: 100NG BTEX LCSD		LCSD			Batch ID: R30092	Analysis Date: 9/6/2008 6:27:14 PM			
Benzene	17.39	µg/L	1.0	87.0	85.9	113	0.115	27	
Toluene	16.48	µg/L	1.0	82.4	86.4	113	1.39	19	S
Ethylbenzene	17.67	µg/L	1.0	88.4	83.5	118	0.738	10	
Xylenes, Total	52.43	µg/L	2.0	87.4	83.4	122	0.455	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:

8/28/2008

Work Order Number 0808454

Received by: **AT**

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

Matrix:

Carrier name **UPS**

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☐

No ☐

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

1°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action

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

CLIENT : **BP AMERICA PROD. CO.**

CHAIN-OF-CUSTODY # : **N / A**

GCU # 188 - PROD. TANK PIT
UNIT J, SEC. 30, T29N, R12W

LABORATORY (S) USED : **HALL ENVIRONMENTAL**

Date : **December 22, 2008**

SAMPLER : **N J V**

Filename : **12-22-08.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	104.08	87.03	17.05	22.05	-	-	-	-	-
2	99.36	86.88	12.48	17.50	-	-	-	-	-
3	101.59	86.66	14.93	21.90	0945	7.26	2,000	12.6	3.50
4	100.08	86.43	13.65	21.85	0935	7.15	1,500	13.2	4.00
5	100.62	86.37	14.25	21.28	0930	7.55	1,400	14.4	1.75
6	101.01	86.75	14.26	21.90	-	-	-	-	-

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	12/19/08	1515

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 # 3 & # 4 , poor / fair in MW # 5 , all three murky brown / black in appearance .
Collected samples from MW # 3 , # 4 , & # 5 for BTEX analysis only .

Top of casing MW # 1 ~ 1.90 ft. , MW # 2 ~ @ grade , MW # 3 ~ 2.40 ft. , MW # 4 ~ 2.25 ft. , MW # 5 ~ 2.40 ft. , MW # 6 ~ 2.30 ft. above grade.

on-site	8:38	temp	31 F
off-site	10:29	temp	35 F
sky cond.	Cloudy		
wind speed	0-5	direct.	West

Hall Environmental Analysis Laboratory, Inc.

Date: 06-Jan-09

CLIENT: Blagg Engineering
Project: GCU #188**Lab Order:** 0812497**Lab ID:** 0812497-01**Collection Date:** 12/22/2008 9:45:00 AM**Client Sample ID:** MW #3**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	11	2.0		µg/L	2	1/2/2009 4:48:59 PM
Toluene	21	2.0		µg/L	2	1/2/2009 4:48:59 PM
Ethylbenzene	200	2.0		µg/L	2	1/2/2009 4:48:59 PM
Xylenes, Total	860	4.0	E	µg/L	2	1/2/2009 4:48:59 PM
Surr: 4-Bromofluorobenzene	107	65.9-130		%REC	2	1/2/2009 4:48:59 PM

Lab ID: 0812497-02**Collection Date:** 12/22/2008 9:35:00 AM**Client Sample ID:** MW #4**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	2.0		µg/L	2	1/2/2009 5:21:59 PM
Toluene	ND	2.0		µg/L	2	1/2/2009 5:21:59 PM
Ethylbenzene	16	2.0		µg/L	2	1/2/2009 5:21:59 PM
Xylenes, Total	63	4.0		µg/L	2	1/2/2009 5:21:59 PM
Surr: 4-Bromofluorobenzene	90.2	65.9-130		%REC	2	1/2/2009 5:21:59 PM

Lab ID: 0812497-03**Collection Date:** 12/22/2008 9:30:00 AM**Client Sample ID:** MW #5**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	1.0		µg/L	1	1/2/2009 6:55:43 PM
Toluene	ND	1.0		µg/L	1	1/2/2009 6:55:43 PM
Ethylbenzene	3.8	1.0		µg/L	1	1/2/2009 6:55:43 PM
Xylenes, Total	7.0	2.0		µg/L	1	1/2/2009 6:55:43 PM
Surr: 4-Bromofluorobenzene	79.7	65.9-130		%REC	1	1/2/2009 6:55:43 PM

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

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

QA / QC Package:

Std ☒ Level 4 ☐

Level 4

Other:

Client: BLACK ENGR / BP AMERICA

Project Name:

GCN #188

Address: 00 R0V 87	Project #:
--------------------	------------

BLED. NM 87413

Project Manager: Nelson Velez

Sampler: NELSON/EVE7

Sample Temperature:

3

Number/Volume	Preservative	HEAL No.
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HEAL No.

LIBRARY NO. 0812167

2-40m	✓	
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2-40ml	✓	-2
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2-40m	✓	-3
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Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	1030
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[illegible]

Date: _____

Time: _____

Relinquished By: (Signature) _____

Received By: (Signature) _____

Remarks:

Received By: (Signature) . A 1030

Received By (Signature)

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 + TMB's (80218)	<
	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)	<
	RCHA 8 Metals	<
	Anions (F^- , Cl^- , NO_3^- , PO_4^{3-} , SO_4^{2-})	<
	8081 Pesticides / PCB's (8082)	<
	8260B (VOA)	<
	827D (Semi-VOA)	<
	Air Bubbles or Headspace (Y or N)	<

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #188

Work Order: 0812497

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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Method: EPA Method 8021B: Volatiles

Sample ID: 5ML RB

MBLK

Batch ID: R31853 Analysis Date: 1/2/2009 10:11:03 AM

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

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R31853 Analysis Date: 1/2/2009 7:26:11 PM

Benzene	21.39	µg/L	1.0	107	85.9	113
Toluene	21.07	µg/L	1.0	105	86.4	113
Ethylbenzene	20.67	µg/L	1.0	103	83.5	118
Xylenes, Total	60.40	µg/L	2.0	101	83.4	122

Sample ID: 100NG BTEX LCSD

LCSD

Batch ID: R31853 Analysis Date: 1/2/2009 7:56:29 PM

Benzene	21.31	µg/L	1.0	107	85.9	113	0.375	27
Toluene	20.94	µg/L	1.0	105	86.4	113	0.581	19
Ethylbenzene	20.50	µg/L	1.0	102	83.5	118	0.836	10
Xylenes, Total	59.80	µg/L	2.0	99.7	83.4	122	0.988	13

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG**

Date Received:

12/23/2008

Work Order Number 0812497

Received by: **TLS**

Checklist completed by:

Signature

[Handwritten Signature]

Date

12/23/08

Sample ID labels checked by:

Initials

[Handwritten Initials]

Matrix:

Carrier name **UPS**

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☐

No ☐

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

1°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action