3R - 377

MONITORING REPORT

02/06/2007

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

February 6, 2007

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

RE: REQUEST FOR PERMANENT CLOSURE
BP America Production Company (formerly BP Amoco)
Groundwater Monitoring Report
Cooper GC # 1E, Unit J, Sec. 15, T29N, R11W, NMPM
San Juan County, New Mexico

Dear Mr. Von Gonten:

BP America Production Company (BP) has retained Blagg Engineering, Inc. (BEI) to conduct environmental monitoring and reclamation of groundwater at the Cooper GC # 1E currently operated by XTO Energy Inc. (XTO - formerly Cross Timbers Operating Company). XTO acquired the well site in January, 1998, however, BP has and is currently accepting the environmental obligation associated with the soil and groundwater contamination.

The last BEI correspondence concerning the above reference well site was a similar report with letter dated, March 27, 2006. Since then, BP has followed its NMOCD approved groundwater management plan and request permanent closure for the site.

If you have any questions concerning this document, please contact either myself or Jeffrey C. Blagg at the address or phone number listed above. Thank you for your cooperation and assistance.

Respectfully submitted:
Blagg Engineering, Inc.

Nelson J. Velez
Staff Geologist

cc: Mr. Brandon Powell, Environmental Specialist, NMOCD District III Office, Aztec, NM
Mr. Kevin Hansford, Environmental Coordinator, BP, Farmington, NM (without document)
Ms. Lisa Winn, Environmental Specialist, XTO, Farmington, NM

NJV/njv COOPER GC 1E 02-06-07.CVL.WPD

BP AMERICA PRODUCTION CO.

SUPPLEMENTAL GROUNDWATER REMEDIATION REPORT

COOPER GC #1E
(J) SECTION 15, T29N, R11W, NMPM
SAN JUAN COUNTY, NEW MEXICO

PREPARED FOR:
MR. GLENN VON GONTEN
NEW MEXICO OIL CONSERVATION DIVISION

JANUARY 2007

PREPARED BY:
BLAGG ENGINEERING, INC.

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

BP AMERICA PRODUCTION COMPANY
Cooper GC #1E
Nw/4, Se/4 Sec. 15, T29N, R11W

Historical Information:

Pit Closure Dates:	Oct. / Nov. 1993 & Aug. / Sept. 1997
Monitor Well Installation Dates:	Apr. 1996, Sept. 1996, Mar. / Apr. 1998 / May 2006
Reclamation Procedures:	Excavation (Jul. / Aug. 1997) Air Sparging (Apr 1998 to Sep 2002)
Monitor Well Sampling Dates:	9/94; 12/94; 3/95; 6/95; 9/95; 12/95; 6/96; 9/96;6/97; 4/98; 5/98; 9/98; 12/98; 2/99; 5/99; 8/99; 12/99; 2/00; 5/00; 11/00; 3/01; 5/01; 9/01; 11/01; 2/02; 5/02; 8/02; 11/02; 2/03; 5/03; 8/03; 11/03; 3/04; 5/04; 9/04; 12/04; 3/05; 6/05; 9/05; 5/06; 8/06

Groundwater Monitor Well Sampling Procedures:

Groundwater samples were collected from site monitor wells following US EPA: SW-846 protocol. After well development, samples were collected with new disposable bailers, placed into laboratory supplied containers with appropriate preservative and stored in an ice chest for express delivery to a qualified laboratory for testing. Analytical testing included benzene, toluene, ethylbenzene, and total xylenes (BTEX) by US EPA Method 8021B. Waste generated during monitor well sampling and development was disposed of utilizing the separator tank pit located on the well site.

Groundwater Quality & Flow Direction Information:

Quarterly and/or annual groundwater monitor well sampling has been ongoing to quantify gradient and water quality since October 1994. Summary of historical laboratory BTEX analytical results are included in the table on the following pages. The data indicates a linear decrease of BTEX constituents in groundwater, with all impacted areas testing at below New Mexico Water Quality Control Commission (NMWQCC) standards since March 2005.

Groundwater contour maps of relative water table elevations for recent sample events is included (Figures 2 and 3). The general groundwater flow direction has been in a south-southwest direction.

In May 2006, one (1) new monitor well [MW #4R] was installed in the area of the previously removed monitor wells MW #1 and MW #4 in order to confirm that soil and groundwater was within NMWQCC standards (these two wells, installed approximately seven (7) feet apart in the original contamination source area, were removed during extensive excavation efforts in 1997). Water quality testing of well MW #4R indicates all BTEX constituents are below laboratory detection limits. Testing of other site wells has determined a minimum of 4 quarters or 2 years with BTEX constituents at below NMWQCC standards.

Summary and Recommendations:

Hydrocarbon impacted soil and groundwater at the site has been remediated via excavation of impacted soils and operation of an air sparge system placed in the aquifer. Operation of the air sparge system has been terminated since September 2002 with natural attenuation completing the remedial process. All site wells meet NMWQCC standards for groundwater. Permanent site closure is recommended. Following approval by the New Mexico Oil Conservation Division, site monitor wells will be abandoned pursuant to the approved BP Ground Water Management Plan.

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

COOPER GC # 1E - SEPARATOR PIT
UNIT J, SEC. 15, T29N, R11W

REVISED DATE: DECEMBER 11 , 2006
FILENAME: (CO-3Q-06.WK4) NJV

								BTEX EPA METHOD 8021B (ppb)			
SAMPLE DATE	MONITOR WELL #	D.T.W. (ft)	T.D. (ft)	TDS mg/L	COND. (umhos/cm)	pH	PRODUCT (ft)	Benzene	Toluene	Ethyl Benzene	Total Xylene
03-Oct-94	MW #1	22.04	27.30		2,400	7.3		**2,032**	**940**	282	**2,595**
15-Dec-94		23.45			2,400	7.0		**2,010**	**268**	337	**1,749**
10-Mar-95		27.21			2,600	6.9		**1,860**	**31.9**	147	**326**
12-Jun-95		26.74			2,600	6.8		**1,082**	**1,300**	156	**1,678**
08-Sep-95		22.07			1,700	7.0		**661**	**786**	606	**1,748**
05-Dec-95		24.46			2,100	6.7		**8,130**	**1,250**	638	**4,035**
March 96	Remediation System Installed - Well Not Usable										
07-Jun-96	MW #2	21.16	30.00	1,110	900	7.3		ND	ND	ND	ND
09-Apr-98	MW #2R	22.67	26.00	586		6.6		2.4	9.9	2.7	16.2
07-Jun-96	MW #3	22.22	30.00	2,090	200	6.9		**2,290**	**5,410**	**1,460**	**16,010**
27-Jun-97		26.19	30.00		2,100	7.4		**14.3**	**29.6**	**97.9**	**498**
09-Apr-98	MW #3R	25.59	34.03	7,780		7.1		**43.3**	**222**	**8.3**	**134.6**
30-May-98		25.48			5,900	7.2		**110**	**81.3**	**1.5**	**24.2**
29-Sep-98		21.16			2,900	7.2		**895**	**587**	**165**	**919**
18-Dec-98		22.04			6,000	7.6		**301**	**44.2**	**49.9**	**169.6**
18-Feb-99		23.62			4,300	7.3		**329**	**125**	**94.8**	**258.5**
26-May-99		21.37			1,200	6.9		**628**	**733**	**106**	**393**
23-Aug-99		18.33			1,100	7.0		**270**	**33.7**	**85.4**	**289**
06-Dec-99		17.82			1,200	7.1		**103**	**410**	**98.5**	**1,005**
24-Feb-00		21.62			2,500	7.6		**290**	**790**	**130**	**1,420**
15-May-00		20.49			6,600	7.2		**140**	**110**	**8.3**	**640**
28-Nov-00		15.56			900	7.6		**220**	**880**	**74**	**1,010**
14-Mar-01		21.11			1,900	7.42		**680**	**2,500**	**170**	**2,470**
23-May-01		16.50			1,000	7.11		**36**	**99**	**13**	**239**
19-Sep-01		14.85			900	7.60		**50**	**120**	**62**	**612**
27-Nov-01		15.40			900	7.44		**31**	**170**	**58**	**1,080**
22-Feb-02		19.60			900	7.51		**23**	**89**	**46**	**74**
	DUP.	-			-	-		**26**	**93**	**48**	**74**
30-May-02		21.37			900	7.17		**18**	**38**	**14**	**74**
23-Aug-02		21.37			800	7.23		**16**	**40**	**36**	**700**
29-Nov-02		21.37			600	7.52		**20**	**49**	**59**	**707**
24-Feb-03		20.38			600	7.48		**15**	**13**	**45**	**659**
27-May-03		21.35			600	7.38		**6.2**	**8.3**	**31**	**440**
19-Aug-03		17.60			900	7.31		**11**	**16**	**14**	**160**
11-Nov-03		16.69			900	7.15		**12**	**9.1**	**13**	**170**
18-Mar-04		21.97			1,000	7.14		**9.6**	**1.9**	**13**	**120**
27-May-04		18.46			1,000	7.18		**4.4**	**1.9**	**3.3**	**33**
30-Sep-04		15.80			800	7.17		**14**	**1.8**	**15**	**280**
12-Dec-04		19.30			900	7.15		**19**	**2.2**	**31**	**450**
28-Mar-05		22.53			800	7.00		**8.9**	**1.4**	**17**	**190**
23-Jun-05		21.17			700	6.99		**5.4**	**ND**	**5.3**	**66**
20-Sep-05		17.70			700	6.95		**5.1**	**0.75**	**2.3**	**30**
30-May-06		14.97			800	6.79		**9.0**	**ND**	**11**	**450**
					NMWQCC GROUNDWATER STANDARDS			**10**	**750**	**750**	**620**

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

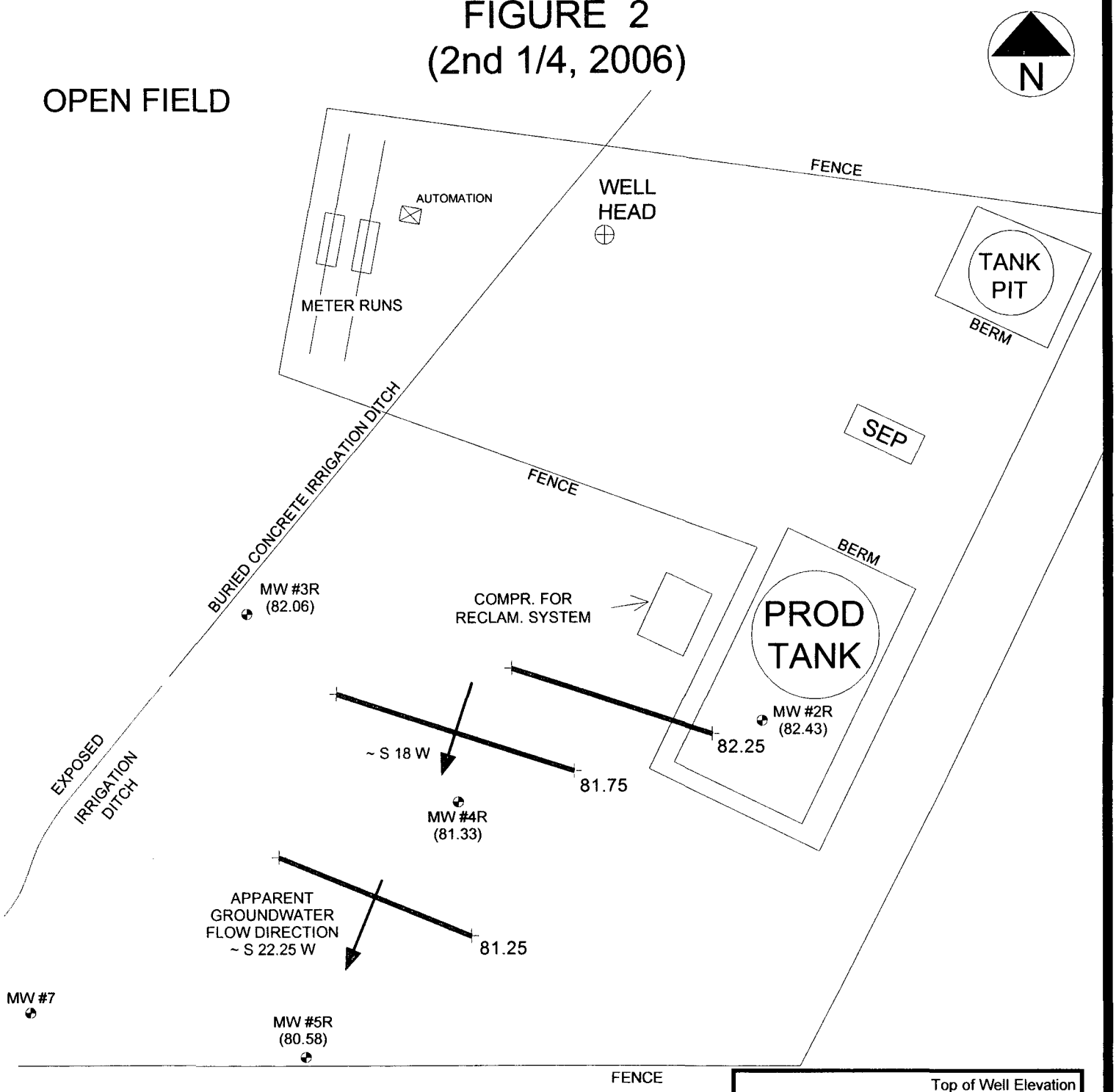
COOPER GC # 1E - SEPARATOR PIT
UNIT J, SEC. 15, T29N, R11W

REVISED DATE: DECEMBER 11 , 2006
FILENAME: (CO-3Q-06.WK4) NJV

SAMPLE DATE	MONITOR WELL #	D.T.W. (ft)	T.D. (ft)	TDS mg/L	COND. (umhos/cm)	pH	PRODUCT (ft)	BTEX EPA METHOD 8021B (ppb) Benzene	Toluene	Ethyl Benzene	Total Xylene
07-Jun-96	MW #4	24.15	30.00	323	800	6.8		**2,900**	**18,220**	**937**	**13,920**
27-Jun-97		27.73	30.00		1,200	7.3		**1,215**	**71.7**	**1,620**	**5,726**
30-May-06	MW #4R	13.63	31.72		1,800	6.78		**ND**	**ND**	**ND**	**ND**
24-Aug-06		13.81			1,200	6.79		**ND**	**ND**	**ND**	**ND**
07-Jun-96	MW #5	19.81	23.77	595	1,100	6.8		**9,940**	**24,260**	**962**	**10,250**
27-Jun-97		22.70	23.68	595	1,300	7.5		**1,720**	**635**	**72.8**	**965**
30-May-98	MW #5R	30.03	31.00		2,500	7.3		**1.1**	**1.1**	**1.0**	**2.0**
29-Sep-98		22.04			3,200	7.0		**4.7**	**2.3**	**ND**	**29.2**
18-Dec-98		22.34			4,250	7.1		**9.1**	**1.4**	**0.8**	**4.5**
18-Feb-99		23.92			2,400	6.9		**3.0**	**1.8**	**0.5**	**4.7**
26-May-99		20.37			1,200	7.4		**20.3**	**22.7**	**2.1**	**30.8**
23-Aug-99		17.93			1,600	7.0		**1.0**	**2.4**	**0.2**	**11.3**
06-Dec-99		17.05			1,800	7.0		**5.4**	**ND**	**ND**	**50.9**
24-Feb-00		21.66			1,000	7.6		**ND**	**ND**	**ND**	**ND**
15-May-00		20.30			1,200	7.2		**ND**	**ND**	**ND**	**ND**
23-Sep-96	MW #7	15.00	20.00		NA	NA		**3,500**	**2,100**	319	**2,126**
23-May-01		15.21			1,700	7.19		**ND**	**ND**	ND	**ND**
19-Sep-01		14.50			2,900	7.01		**ND**	**ND**	1	**ND**
27-Nov-01		15.11			3,000	7.20		**ND**	**ND**	ND	**ND**
30-May-02		14.91			700	7.30		**ND**	**ND**	ND	**ND**
23-Sep-96	MW #9	14.00	20.00		NA	NA		**14**	1.05	ND	ND
23-May-01		13.97			900	7.58		**ND**	ND	ND	ND
19-Sep-01		12.53			700	7.53		**ND**	ND	ND	ND
27-Nov-01		13.74			900	7.51		**ND**	ND	ND	ND
22-Feb-02		18.26			1,200	7.21		**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 .

FIGURE 2
(2nd 1/4, 2006)



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

	Top of Well Elevation
MW #2R	(94.29)
MW #3R	(97.03)
MW #4R	(94.96)
MW #5R	(94.11)

MW #2R (82.43) — Groundwater Elevation as of 05/30/06.

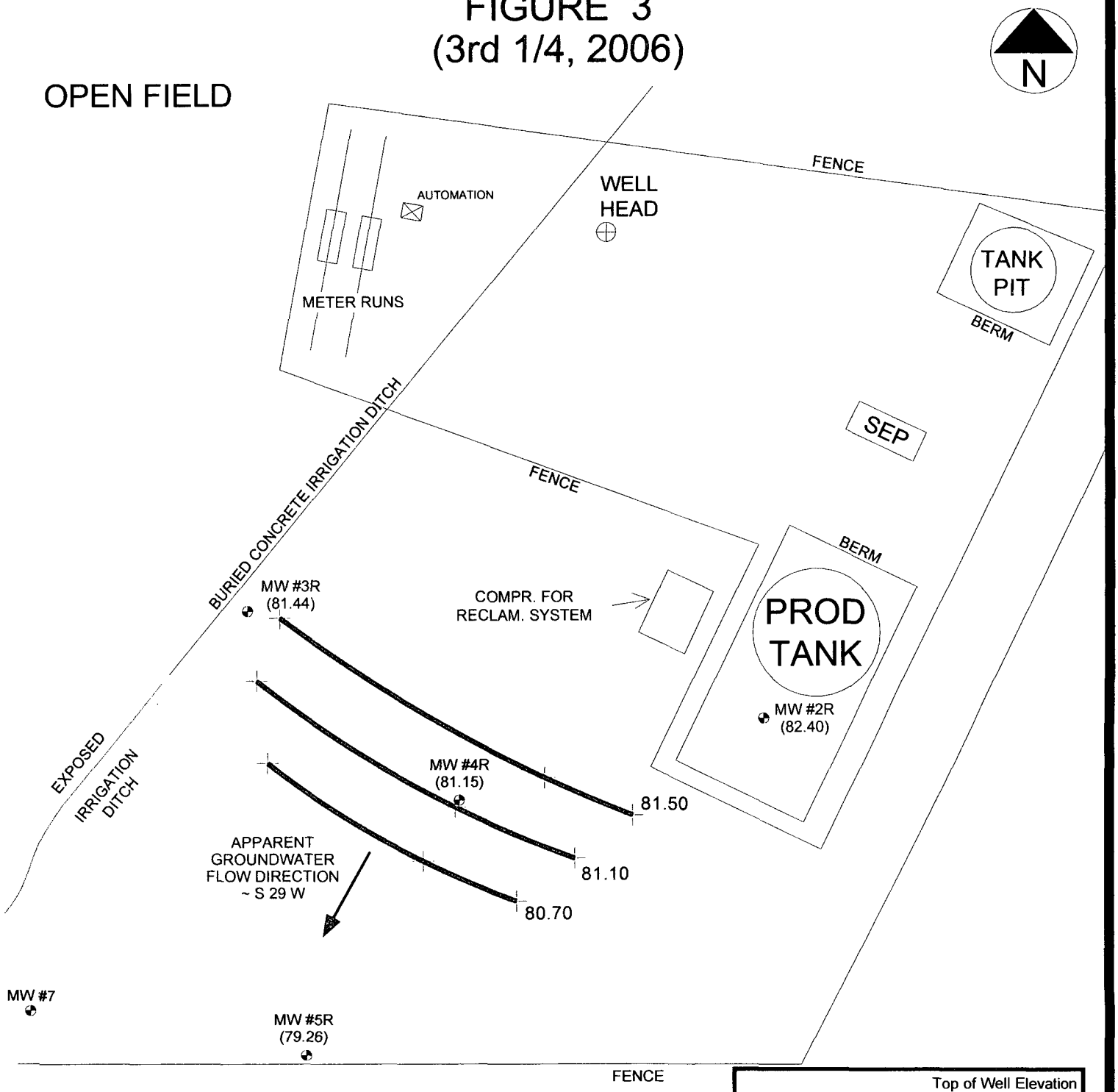
BP AMERICA PRODUCTION COMPANY
COOPER GC #1E
NW/4 SE/4 SEC. 15, T29N, R11W
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 05-30-06-GW
REVISED: 6/08/06 NJV

GROUNDWATER CONTOUR MAP
05/06

FIGURE 3
(3rd 1/4, 2006)



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

Top of Well Elevation	
MW #2R	(94.29)
MW #3R	(97.03)
MW #4R	(94.96)
MW #5R	(94.11)

MW #2R (82.40) — Groundwater Elevation as of 8/24/06.

BP AMERICA PRODUCTION COMPANY
J. COOPER CC #1E
NW/4 SE/4 SEC. 15, T29N, R11W
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (606) 632-1199

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 08-24-06-GW
REVISED: 8/24/06 NJV

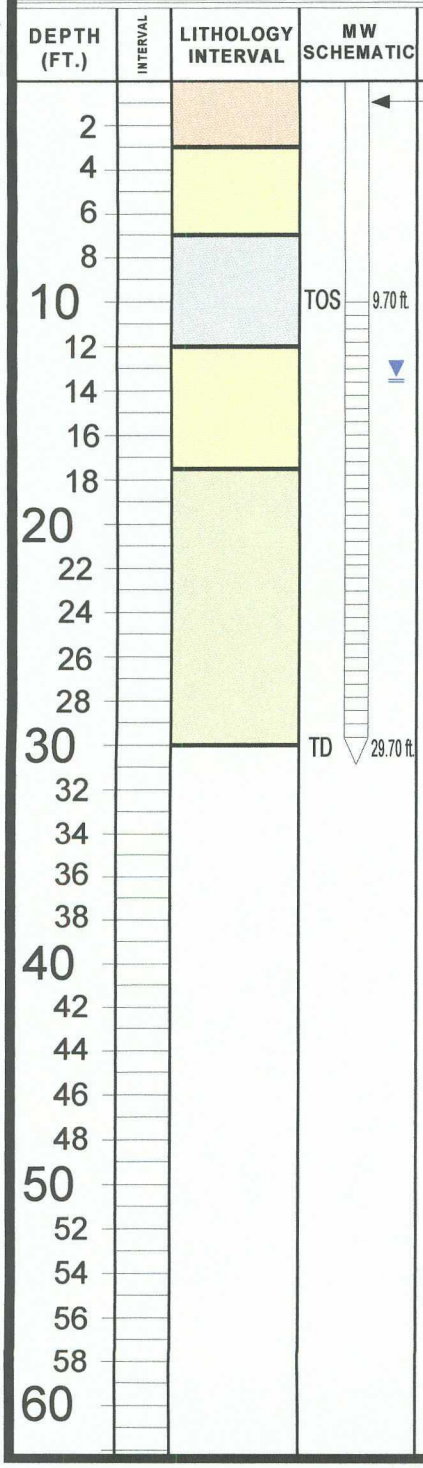
GROUNDWATER CONTOUR MAP
08/06

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

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION COMPANY
LOCATION NAME:	COOPER GC # 1E UNIT J, SEC. 15, T29N, R11W
CONTRACTOR:	BLAGG ENGINEERING, INC./ENVIROTECH
EQUIPMENT USED:	MOBILE DRILL RIG SIMILAR TO CME 75
BORING LOCATION:	124 FEET, S14.5E FROM WELL HEAD.

BORING #.....	BH - 9
MW #.....	4R
PAGE #.....	4R
DATE STARTED	05/10/06
DATE FINISHED	05/10/06
OPERATOR.....	DP
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FEET ABOVE GRADE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY IN AUGER CUTTINGS, (0.0 - 2.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT OLIVE GRAY (2.0 - 7.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT BLACK TO DARK GRAY (7.0 - 12.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 13.50 FT. BELOW GRADE, MEASURED 5/22/06.

SAME AS ABOVE EXCEPT OLIVE GRAY & MOIST (12.0 - 17.5 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT LIGHT MEDIUM GRAY & WET (17.5 - 30.0 FT. BELOW GRADE).

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 2.00 ft. above grade to 9.70 ft. below grade, 0.010 slotted screen between 9.70 to 29.70 feet below grade, sand packed annular to 8 ft. below grade, bentonite plugged between 5 to 8 ft. below grade, then finished to surface with auger cuttings.

DRAWING: COOPER GC 1E-MW4R. SKF | DATE: 05/30/06 | DWN BY: NJV

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

COOPER GC # 1E - SEPARATOR PIT
UNIT J, SEC. 15, T29N, R11W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **May 30, 2006**

SAMPLER : N J V

Filename : **05-30-06.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 - 2R	94.29	82.43	11.86	26.00	-	-	-	-	-
MW - 3R	97.03	82.06	14.97	34.03	1725	6.79	800	18.8	9.25
MW - 4R	94.96	81.33	13.63	31.72	0830	6.78	1,800	14.4	9.00
MW - 5R	94.11	80.58	13.53	31.00	-	-	-	-	-
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	05/30/06	0715		

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

Comments or note well diameter if not standard 2 ".

MW # 4R installed 5 / 10 / 06 . Resurveyed MW tops 5 / 11 / 06 . Initial development of MW # 4R on 5 / 22 / 06 . BEI reclamation system not operational @ time of sampling . Bailed MW # 3R to 29.10 ft. @ time 0917 . DTW approx. 15.33 ft. @ time 1724 . Excellent recovery in MW # 4R . Collected BTEX from MW # 3R & # 4R only .

Top of casing in MW # 4R approx. 2.00 ft. above grade.

Hall Environmental Analysis Laboratory

Date: *07-Jun-06*

CLIENT: Blagg Engineering
Project: Cooper GC #1E
Lab Order: 0605332

Lab ID: 0605332-01
Collection Date: 5/30/2006 8:30:00 AM
Client Sample ID: MW #4R
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	6/6/2006 4:12:48 AM
Toluene	ND	1.0		µg/L	1	6/6/2006 4:12:48 AM
Ethylbenzene	ND	1.0		µg/L	1	6/6/2006 4:12:48 AM
Xylenes, Total	ND	3.0		µg/L	1	6/6/2006 4:12:48 AM
Surr: 4-Bromofluorobenzene	95.3	85-115		%REC	1	6/6/2006 4:12:48 AM

Lab ID: 0605332-02
Collection Date: 5/30/2006 5:25:00 PM
Client Sample ID: MW #3R
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	9.0	1.0		µg/L	1	6/6/2006 4:41:55 AM
Toluene	ND	1.0		µg/L	1	6/6/2006 4:41:55 AM
Ethylbenzene	11	1.0		µg/L	1	6/6/2006 4:41:55 AM
Xylenes, Total	450	15		µg/L	5	6/6/2006 3:02:27 PM
Surr: 4-Bromofluorobenzene	114	85-115		%REC	5	6/6/2006 3:02:27 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

CHAIN-OF-CUSTODY RECORD

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

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

Client: BLAGG ENGR. / BP AMERICA

Project Name: COOPER GC #1E

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

Project #:

Project Manager: NV

Phone #: 632-1199

Sampler: NV

Fax #:

Sample Temperature: 5°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
NV 5/30/06	0830	WATER	MW #4R	2-40ml	✓			0605332-1
NV 5/30/06	1725	WATER	MW #3R	2-40ml	✓			-2

ANALYSIS REQUEST

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

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
5/31/06	0715	Nelson Velez	Lisa Hollis 1601
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: BILL TO BP

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Cooper GC #1E **Work Order:** 0605332

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									**Batch ID: R19502**
Sample ID: 5ML RB		*MBLK*							**Analysis Date: 6/5/2006**
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: 5ML RB		*MBLK*							**Analysis Date: 6/6/2006**
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: 6/5/2006**
Benzene	21.77	µg/L	1.0	109	85	115			
Toluene	20.17	µg/L	1.0	101	85	118			
Ethylbenzene	21.08	µg/L	1.0	105	85	116			
Xylenes, Total	64.31	µg/L	3.0	107	85	119			
Sample ID: 100NG BTEX LCS		*LCS*							**Analysis Date: 6/6/2006**
Benzene	21.30	µg/L	1.0	106	85	115			
Toluene	19.84	µg/L	1.0	99.2	85	118			
Ethylbenzene	20.14	µg/L	1.0	101	85	116			
Xylenes, Total	61.23	µg/L	3.0	102	85	119			
Sample ID: 100NG BTEX LCSD		*LCSD*							**Analysis Date: 6/7/2006**
Benzene	21.11	µg/L	1.0	106	85	115	0.896	27	
Toluene	18.76	µg/L	1.0	93.8	85	118	5.56	19	
Ethylbenzene	19.10	µg/L	1.0	95.5	85	116	5.26	10	
Xylenes, Total	58.54	µg/L	3.0	97.6	85	119	4.49	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

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 5/31/2006

Work Order Number 0605332 | Received by LMM

Checklist completed by Lisa Hallock 5/31/06
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?	5°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

COOPER GC # 1E - SEPARATOR PIT
UNIT J, SEC. 15, T29N, R11W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **August 24, 2006**

SAMPLER : N J V

Filename : **08-24-06.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 - 2R	94.29	82.40	11.89	26.00	-	-	-	-	-
MW - 3R	97.03	81.44	15.59	34.03	-	-	-	-	-
MW - 4R	94.96	81.15	13.81	31.72	1000	6.79	1,200	21.2	8.75
MW - 5R	94.11	79.26	14.85	31.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =	7.00	2,800
DATE & TIME =	08/22/06	0900

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

Comments or note well diameter if not standard 2 ".

BEI reclamation system not operational @ time of sampling .
Excellent recovery in MW # 4R . Collected BTEX sample from MW #4R only .

Top of casing in MW # 4R approx. 2.00 ft. above grade.

Hall Environmental Analysis Laboratory, Inc.

Date: *31-Aug-06*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #4R
Lab Order:	0608304	**Collection Date:**	8/24/2006 10:00:00 AM
Project:	Cooper GC #1E	**Date Received:**	8/24/2006
Lab ID:	0608304-01	**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 11:54:20 PM
Toluene	ND	1.0		µg/L	1	8/28/2006 11:54:20 PM
Ethylbenzene	ND	1.0		µg/L	1	8/28/2006 11:54:20 PM
Xylenes, Total	ND	3.0		µg/L	1	8/28/2006 11:54:20 PM
Surr: 4-Bromofluorobenzene	110	72.2-125		%REC	1	8/28/2006 11:54:20 PM

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

CHAIN-OF-CUSTODY RECORD

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

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

Client: BLAGG ENGR / BP AMERICA

Project Name: COOPER GC #1E

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

Project #:

Project Manager: NV

Phone #: 632-1199

Sampler: NV

Fax #:

Sample Temperature: 2°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
8/24/06	1000	WATER	MW #4R	2-40ml	✓			0608304 -1

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

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
8/24/06	1015		8-24-06 1600
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Cooper GC #1E
Work Order: 0608304

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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 0608304 | Received by GLS

Checklist completed by _____ (Signature) 8/24/06 (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 _____