BLAGG ENGINEERING, INC.
P.O. Box 87, Bloomfield, New Mexico 87413

3R-421

RECEIVED
2008 APR 30 PM 3 32

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
GCU # 229E, Unit I, Sec. 21, T28N, R12W, NMPM
San Juan County, New Mexico

NMOCD Administrative/Environmental Order #: NONE

Dear Mr. von Gonten:

BP America Production Company (**BP**) has retained Blagg Engineering, Inc. (**BEI**) to conduct environmental monitoring of groundwater at the GCU # 229E.

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

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

Respectfully submitted:
Blagg Engineering, Inc.

Nelson J. Velez
Staff Geologist

Attachment: Groundwater Report (2 copies)

cc: 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

GCU 229E 04-25-08 CVL.DOC

BP AMERICA PRODUCTION CO.

GROUNDWATER REMEDIATION REPORT

GCU # 229E
(I) SECTION 21, T28N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

RECEIVED
2008 APR 30 PM 3 32

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
GCU # 229E - Blow Pit
NE/4 SE/4, Sec. 21, T28N, R12W

Pit Closure Date: **August 2002 (blow pit)**

Well Site Plugged & Abandoned: **March 2003**

Monitor Well Installation Date: **11/1/06 (MW #2), 1/18/07 (MW #1, MW #3), 8/30/07 (MW #4)**

Monitor Well Sampling Dates: **11/14/06, 1/30/07, 4/25/07, 7/23/07, 9/17/07, 11/15/07**

Site History:

A site blow pit closure was initiated in August 2002. A soil sample was collected at the pit center via extendahoe at approximately fourteen (14) feet below grade (see attached Field Report: Pit Closure Verification form). Laboratory results (see table below) indicated a need to establish vertical extent of hydrocarbon impacts in order to meet closure according to the New Mexico Oil Conservation Division's (**NMOCD**) guidelines referenced in Rule 50. In May 2003, Blagg Engineering, Inc. (**BEI**) attempted to investigate the vertical extent utilizing a truck mounted drill rig with solid 3 ¾ inch augers. One (1) additional soil sample was collected for laboratory analysis at a depth of 25-26 feet below grade. Upon reaching a total depth of approximately twenty nine (29) feet below grade (soils moisture content observed as saturated), a passive vent pipe was installed using two (2) inch PVC piping. The piping was hand driven into the annular after auger removal was finalized (see Bore/Test Hole Report - BH-1) and completed by infilling the annular with Colorado silica sand. In November 2006 monitor well MW #2 was installed adjacent to the passive vent pipe. Field readings and laboratory results from the pit and boring advancements are as follows;

Sample ID	Date	Time	Media Type	OVM (ppm)	TPH (ppm)	Benzene (ppm)	Total BTEX (ppm)
1 @ 14'	08/02/02	0849	soil	**875**	**1,150**	0.0777	4.970
BH-1 @ 18--19'	05/02/03	0833	soil	**383**	N/A	N/A	N/A
BH-1 @ 25--26'	05/02/03	0905	soil	**805**	**2,030**	0.295	6.810
BH-2 @ 25--26' (MW #2)	11/01/06	1110	soil	**262**	**2,694**	ND	0.0335
NMOCD regulatory standards				**100**	**100**	**10**	**50**

Note: OVM = Organic Vapor Meter or Photoionization Detector (PID), TPH = Total Petroleum Hydrocarbon per US EPA Method 8015B, BTEX = benzene, toluene, ethlybenzene, and total xylenes, ppm = parts per million or milligram per kilogram (mg/Kg), N/A = Not available, ND = Not detectable at reported limits (less than regulatory standards by at least a magnitude of 10), NMOCD = New Mexico Oil Conservation Division.

Groundwater impacts were identified from sampling and testing of MW #2 in November 2006. After receipt of the laboratory results, NMOCD was notified with a letter dated March 2, 2007 of the groundwater impacts (see attached letter).

Groundwater Investigation and Soil Lithology:

Additional groundwater monitor wells (MW #1 – background and MW #3 – suspected down gradient direction) were installed in January 2007 to delineate the previously identified source area, establish groundwater gradient information, and to test groundwater quality (Figure 1). After four (4) consecutive quarterly sampling events and observing a constant trend in groundwater gradient direction, an additional monitor well (MW #4) was installed in August 2007 for delineation purposes. All four (4) monitor wells were installed utilizing a conventional drill rig with eight inch hollow stem augers. Boring logs along with well completion information are contained within this report. There are no known receptors impacted by the previous discovery of impacted soil and/or groundwater.

Soil lithology at the site consists of primarily coarse grained sand, non cohesive, and firm with some gravel at varying depths and intervals.

Groundwater Monitor Well Sampling Procedures:

Monitor wells were developed by hand-bailing, using new disposable bailers after installation. Prior to sample collections, the monitor wells were 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 BTEX by US EPA Method 8021B and general water quality parameters.

Fluids generated during monitor well development and purging were managed by discarding into the separator tank pit located on the same well pad (BP's GCU #316 well site). The tank pit contents are then disposed through approved NMOCD operational procedures for removal of produced fluids.

Groundwater Quality & Flow Direction Information:

Since November 2006, monitor wells have been sampled on a quarterly basis and according to BP's NMOCD approved groundwater management plan (**GMP**). The source area monitor well MW #2 revealed total xylenes in excess of the New Mexico Water Quality Control Commission (**NMWQCC**) groundwater standards during the initial sampling event only. Afterwards, MW #2 has displayed four (4) consecutive sampling events below NMWQCC groundwater standards. Monitor wells MW #1 and MW #3 have not indicated the presence of BTEX during any direct sampling and testing of those wells. Monitor well MW #4 initial sampling and testing in September 2007, indicated total xylenes (320 ppb) below NMWQCC standards (620 ppb), but exceeding 25% of the regulatory standard, therefore placing it on a quarterly sampling schedule according to BP's GMP. The subsequent sampling and testing in November 2007 revealed total xylenes well above NMWQCC groundwater standards (6,500 ppb). General water quality does not appear to show any abnormalities. A historical summary of laboratory analytical BTEX and general water quality results are included within the tables on the following pages. Field data sheets, laboratory reports, and laboratory quality assurance/quality control information are also included.

Groundwater elevations have consistently been measured with a gradient towards the north-northeast direction (Figure 2 through Figure 6).

Summary and/or Recommendations:

The well site is located in a very remote area of San Juan County near the Navajo Agricultural Product Industry (NAPI) area. The presence of total xylenes well above NMWQCC standards within MW #4 during the November 2007 sampling event indicates possible long term monitoring is potentially required. It is recommended to continue monitoring of MW #4 on a quarterly basis. No additional remedial action is suggested until further review of future BTEX analyses.

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-144
June 1, 2004

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

Pit or Below-Grade Tank Registration or Closure

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

Operator: BP AMERICA PROD. CO. Telephone: (505)-326-9200 e-mail address:
Address: 200 ENERGY COURT. FARMINGTON. NM 87410
Facility or well name: GCU #229E API #: 30-045- 23900 U/L or Qtr/Qtr I Sec 21 T 28N R 12W
County: SAN JUAN Latitude 36.64548 Longitude 108.11172 NAD: 1927 ☐ 1983 ☒ Surface Owner Federal ☐ State ☐ Private ☐ Indian ☒

Pit	**Below-grade tank**		
Type: Drilling ☐ Production ☒ Disposal ☐ BLOW Workover ☐ Emergency ☐ Lined ☐ Unlined ☒ Liner type: Synthetic ☐ Thickness _____mil Clay ☐ Pit Volume _____bbl	Volume: _____bbl Type of fluid: Construction material: Double-walled, with leak detection? Yes ☐ If not, explain why not. N/A		
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet 50 feet or more, but less than 100 feet 100 feet or more	(20 points) (10 points) (0 points)	20
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes No	(20 points) (0 points)	0
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet 200 feet or more, but less than 1000 feet 1000 feet or more	(20 points) (10 points) (0 points)	0
	Ranking Score (Total Points)		20

If this is a pit closure: (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if your are burying in place) onsite ☒ offsite ☐ If offsite, name of facility_____. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☒ If yes, show depth below ground surface 29 ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments: PIT LOCATED APPROXIMATELY 129 FT. N12E FROM WELL HEAD.
PIT EXCAVATION: WIDTH NA ft., LENGTH NA ft., DEPTH NA ft. .
PIT REMEDIATION: CLOSE AS IS: ☐, LANDFARM: ☐, COMPOST: ☐, STOCKPILE: ☐, OTHER ☒ (explain) MONITORING
Cubic yards: NA
ESTABLISH VERTICAL EXTENT. GROUNDWATER IMPACTED.

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

Date: 12/01/06

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

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

Approval:

Printed Name/Title Signature Date:

VLL 3004523900 36.64548 / 108.11112

CLIENT: BP

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

LOCATION NO: B1029
C.O.C. NO: 10079

FIELD REPORT: PIT CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: GCU WELL #: 229E TYPE: BLOW
QUAD/UNIT: I SEC: 21 TWP: 28N RNG: 12W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: 1820'S/1080'E NESE CONTRACTOR: L&L (GCU)

DATE STARTED: 8/2/02
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. _____ FT. x _____ FT. x _____ FT. DEEP. CUBIC YARDAGE: _____
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: _____
LAND USE: RANGE - NAPI LEASE: NM 078391 A FORMATION: DK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 129 FT. N12E FROM WELLHEAD.
DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'
NMOCD RANKING SCORE: 20 NMOCD TPH CLOSURE STD: 100 PPM

OVM CALIB. READ. 53.4 ppm
OVM CALIB. GAS = 100 ppm RF = 0.52
TIME: 11:00 (AM)/pm DATE: 7/30/02

SOIL AND EXCAVATION DESCRIPTION:

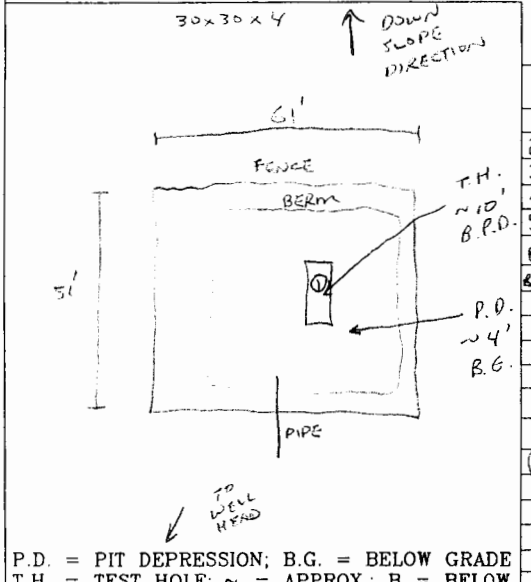
SOIL TYPE: (SAND) / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER _____
SOIL COLOR: PALE YELL. BROWN TO OLIVE-MED GRAY
COHESION (ALL OTHERS): (NON COHESIVE) / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE
CONSISTENCY (NON COHESIVE SOILS): (LOOSE) / (FIRM) / DENSE / VERY DENSE
PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC
DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD
MOISTURE: DRY / (SLIGHTLY MOIST) / MOIST / WET / SATURATED / SUPER SATURATED
DISCOLORATION/STAINING OBSERVED: (YES) / NO EXPLANATION - BETWEEN PIT SURFACE TO 12-14 BELOW GRADE
HC ODOR DETECTED: (YES) / NO EXPLANATION - TEST HOLE & OVM SAMPLE
SAMPLE TYPE: (GRAB) / COMPOSITE - # OF PTS. -
ADDITIONAL COMMENTS: VERTICAL EXTENT NEEDS TO BE ESTABLISHED.

FIELD 418.1 CALCULATIONS

SAMP. TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

SCALE
0 FT

PIT PERIMETER



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

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)	TIME
1 @ 14	875	
2 @		
3 @		
4 @		
5 @		TIME
BH1 @ 18'-19'	383	0833
BH1 @ 25'-26'	805	0905

5/2/03
OVM CALIB. 53.1 0840

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
① @ 14'	TPH (8015B)	0849
"	BTEX (8021B)	"
	TPH - FAILED	
	BTEX - PASSED	

PIT PROFILE

TRAVEL NOTES: CALLOUT: 8/1/02 - AFTER. ONSITE: 8/2/02 - MORN.

revised: 02/27/02 bei1005C.skd

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	1 @ 14'	Date Reported:	08-05-02
Laboratory Number:	23454	Date Sampled:	08-02-02
Chain of Custody No:	10079	Date Received:	08-02-02
Sample Matrix:	Soil	Date Extracted:	08-05-02
Preservative:	Cool	Date Analyzed:	08-05-02
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**366**	**0.2**
Diesel Range (C10 - C28)	**779**	**0.1**
Total Petroleum Hydrocarbons	**1,150**	**0.2**

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **GCU #229E Blow Pit Grab Sample.**

Analyst

Review

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	1 @ 14'	Date Reported:	08-05-02
Laboratory Number:	23454	Date Sampled:	08-02-02
Chain of Custody:	10079	Date Received:	08-02-02
Sample Matrix:	Soil	Date Analyzed:	08-05-02
Preservative:	Cool	Date Extracted:	08-05-02
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**77.7**	**1.8**
Toluene	**867**	**1.7**
Ethylbenzene	**948**	**1.5**
p,m-Xylene	**1,490**	**2.2**
o-Xylene	**1,590**	**1.0**
Total BTEX	**4,970**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	**99 %**
	1,4-difluorobenzene	**99 %**
	Bromochlorobenzene	**99 %**

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **GCU #229E Blow Pit Grab Sample.**

Analyst

Review

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

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

March 2, 2007

Mr. Glenn von Gonten, Hydrologist
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: BP America Production Company
Notice of Potential Groundwater Impact
GCU #229E
(I)Sec. 21 - T28N – R12W, San Juan County, NM

Dear Mr. von Gonten:

On behalf of BP America Production Company, Blagg Engineering, Inc. (BEI) has identified potential groundwater impacts at the subject location. During a pit closure investigation to determine the vertical extent of soil impacts, groundwater was encountered at a depth of approximately twenty nine (29) feet below grade. A monitor well was set and initial sampling test results indicate that groundwater exceeding New Mexico Water Quality Control Commission regulatory standards for total xylenes has been encountered. This site is located in a rural area of San Juan County with no known private or municipal water wells within 1 mile of the impact. Listed below are summary analytical test results for BTEX from a groundwater sample collected on November 14, 2006:

Parameter	Water Test Results (ug/L)
Benzene	ND
Toluene	25
Ethylbenzene	110
Total Xylenes	1,800

BP will implement it Groundwater Management Plan to complete investigation and remediation of impacts. A groundwater abatement plan will be prepared and submitted to NMOCD by April 13, 2007 for regulatory approval.

If you have questions or need additional information, please contact either myself at (505)632-1199 or Mr. Larry Schlotterback of BP at (505)326-9200.

Respectfully:
Blagg Engineering, Inc.

Jeffrey C. Blagg, P.E.
President

cc: Brandon Powell - NMOCD Aztec
Mr. Steven B, Etsitty – NNEPA Exec. Director
Larry Schlotterback - BP SJ Op. Ctr.

File: GCU229Egwrelease.wpd

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

GCU # 229E - BLOW PIT
UNIT I, SEC. 21, T28N, R12W

REVISED DATE: November 30, 2007

FILENAME: (229E4Q07.WK4) NJV

								BTEX EPA METHOD 8021B (ppb)			
SAMPLE DATE	WELL NAME or No.	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	Benzene	Toluene	Ethyl Benzene	Total Xylene
30-Jan-07	MW #1	34.11	42.00	730	1,200	7.13		ND	ND	ND	ND
14-Nov-06	MW #2	31.60	42.00	866	1,300	7.05		ND	25	110	1,800
30-Jan-07		31.63			1,200	6.96		ND	ND	7.9	200
25-Apr-07		31.76			1,200	6.92		ND	ND	1.0	140
23-Jul-07		31.78			1,200	6.87		ND	ND	4.1	130
15-Nov-07		31.73			1,500	6.97		ND	ND	5.1	170
30-Jan-07	MW #3	33.20	42.00	762	1,200	7.18		ND	ND	ND	ND
25-Apr-07		33.34			1,200	7.07		ND	ND	ND	ND
23-Jul-07		33.38			1,100	6.98		ND	ND	ND	ND
15-Nov-07		33.30			1,300	7.16		ND	ND	ND	ND
17-Sep-07	MW #4	23.58	36.88		1,300	7.06		1.2	ND	13	340
15-Nov-07		23.55			1,400	7.15		2.2	1.9	150	6,500
					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) .

GENERAL WATER QUALITY

BP AMERICA PRODUCTION COMPANY

GCU # 229E

Sample Dates : Nov. 14 , 2006 & Jan. 30 , 2007 , Sept. 17 , 2007

PARAMETERS	MW # 1 01/30/07	MW # 2 11/14/06	MW # 3 01/30/07	MW # 4 09/17/07	NMWQCC STANDARDS	Units
LAB pH	7.34	7.36	7.51	7.30	7 - 9	s. u.
LAB CONDUCTIVITY @ 25 C	1,320	1,230	1,250	**N/A**		umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	730	866	762	1,000	1,000	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	717	840	747	**N/A**		mg / L
SODIUM ABSORPTION RATIO	2.3	2.9	3.3	**N/A**		ratio
TOTAL ALKALINITY AS CaCO3	256	288	300	**N/A**		mg / L
TOTAL HARDNESS AS CaCO3	356	637	304	**N/A**		mg / L
BICARBONATE as HCO3	256	288	300	**N/A**		mg / L
CARBONATE AS CO3	< 0.1	< 0.1	< 0.1	**N/A**		mg / L
HYDROXIDE AS OH	< 0.1	< 0.1	< 0.1	**N/A**		mg / L
NITRATE NITROGEN	7.6	15.5	9.5	**23**	10	mg / L
NITRITE NITROGEN	< 0.001	0.65	< 0.001	0.32		mg / L
CHLORIDE	39.9	64.0	43.7	33	250	mg / L
FLUORIDE	0.37	0.70	0.68	0.33	1.60	mg / L
PHOSPHATE	0.7	0.2	0.4	< 0.5		mg / L
SULFATE	283	312	264	320	600	mg / L
IRON	< 0.001	< 0.01	< 0.001	< 0.1	1.0	mg / L
CALCIUM	114	118	102	**N/A**		mg / L
MAGNESIUM	17.1	21.1	12.2	**N/A**		mg / L
POTASSIUM	0.10	0.60	< 0.01	**N/A**		mg / L
SODIUM	98.3	132	132	**N/A**		mg / L
CATION / ANION DIFFERENCE	0.03%	0.40%	0.07%	**N/A**		

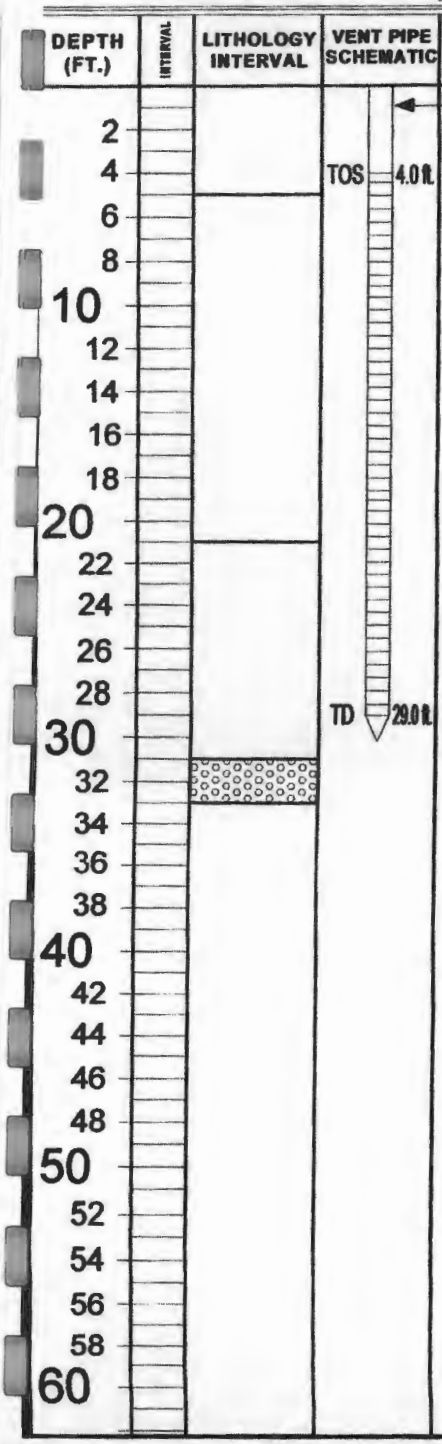
NOTE: N/A = NOT AVAILABLE .

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

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION COMPANY
LOCATION NAME:	GCU # 229E BLOW PIT - UNIT I, SEC. 21, T28N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	EARTHPROBE 200
BORING LOCATION:	135 FEET, N14E FROM WELL HEAD.

BORING #.....	BH - 1
MW #.....	NA
PAGE #.....	1
DATE STARTED	5/02/03
DATE FINISHED	5/02/03
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APROX. 1.00 FT. ABOVE GRADE.

BACKFILL MATERIAL - GRAYISH TO DARK YELLOWISH ORANGE SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 5.0 FT. BELOW GRADE).

PALE YELLOWISH BROWN TO OLIVE/MEDIUM GRAY SAND, NON COHESIVE, MOIST, STRONG HC ODOR DETECTED WITHIN CUTTINGS (5.0 - 21.0 FT. BELOW GRADE).

SAMPLE 1 @ 14 FT. - CONDUCTED DURING TEST HOLE ADVANCEMENT ON 8/2/02; TIME COLLECTED 0849, OVM = **875** ppm; TPH = **1,150** ppm; Benzene = **77.7** ppb; Total BTEX = **4,970** ppb (see Pit Closure Field Report for additional information).

BH1 @ 18-19 FT. - CONDUCTED DURING BORE HOLE ADVANCEMENT ON 5/2/03; TIME COLLECTED 0833, OVM = **383** ppm.

BH1 @ 25-26 FT. - CONDUCTED DURING BORE HOLE ADVANCEMENT ON 5/2/03; TIME COLLECTED 0905, OVM = **805** ppm; TPH = **2,030** ppm; Benzene = **295** ppb; Total BTEX = **6,810** ppb (see Pit Closure Field Report for additional information).

MEDIUM GRAY TO BLACK SAND, NON COHESIVE, MOIST TO SATURATED, STRONG HC ODOR DETECTED WITHIN CUTTINGS (21.0 - 31.0 FT. BELOW GRADE).

BLACK SAND & GRAVEL, NON COHESIVE, SATURATED, STRONG HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS, (31.0 - 33.0 FT. BELOW GRADE).

OVM CALIBRATION:
53.4 ppm; RF = 0.52
(RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 7/30/02.
Time - 1100.

OVM CALIBRATION:
53.1 ppm; RF = 0.52
(RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 5/2/03.
Time - 0840.

NOTES:
- SAND.
- SAND & GRAVEL.
- OVM - organic vapor meter or PID (photoionization detector).
- ppm - parts per million.
- ppb - parts per billion.
- TPH - total petroleum hydrocarbons (US Epa modified method 8015B).
- BTEX - benzene, toluene, ethylbenzene, & total xylenes (US Epa method 8021B).
- TOS - Top of screen.
- TD - Total depth/bottom extent.

Passive vent pipe consist of 2 inch PVC - casing from approximately 1.0 ft. above grade to 4.0 ft. below grade, 0.010 slotted screen between 4.0 to 29.0 feet below grade, sand packed annular to grade. Temporarily installed slip cap at top of casing until further inspection indicates course of action to be taken.

DRAWING: GCU229E BH1-MW2. SKF | DATE: 5/13/03 | DWN BY: NJV

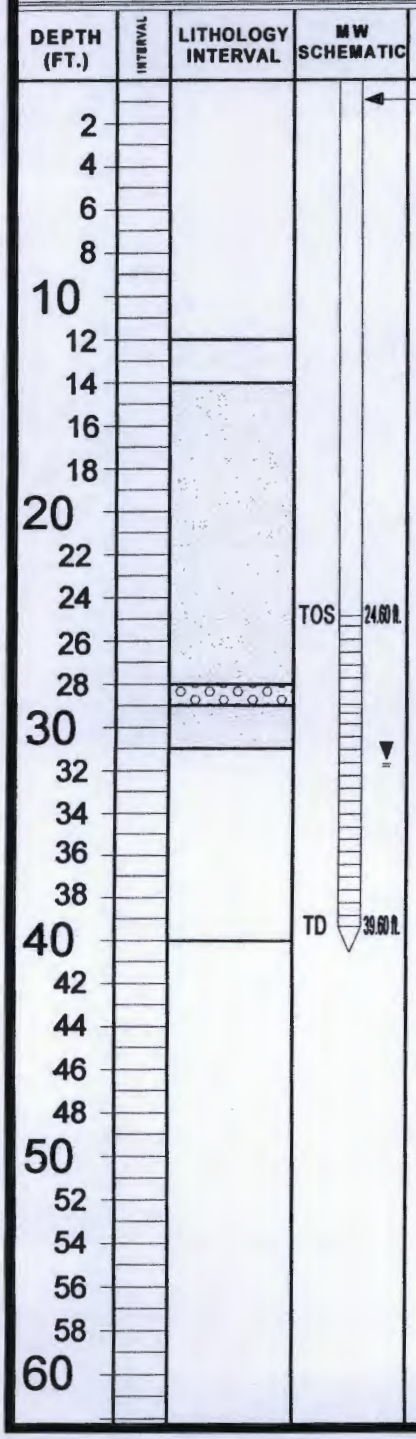
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #1

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU #229E UNIT I, SEC. 21, T28N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	88 FEET, N16W FROM PLUGGED & ABANDONED MARKER.

BORING #.....	BH - 1A
MW #.....	1
PAGE #.....	1
DATE STARTED	01/18/07
DATE FINISHED	01/18/07
OPERATOR.....	DP
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.40 FEET ABOVE GRADE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 12.0 FT. BELOW GRADE).

PALE BROWN CALICHE, NON TO SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (12.0 - 14.0 FT. BELOW GRADE).

MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (14.0 - 28.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT WITH MINOR AMOUNT OF GRAVEL (28.0 - 29.0 FT. BELOW GRADE).

SAME AS 14.0 - 28.0 FT. INTERVAL (29.0 - 31.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 31.81 FT. FROM GROUND SURFACE MEASURED ON 1/19/07.

PALE BROWN SAND, NON COHESIVE, WET TO SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (31.0 - 40.0 FT. BELOW GRADE).

NOTES:

- SAND.
- CALICHE.
- SAND AND GRAVEL.

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

Monitor well consist of 2 inch PVC piping - casing from 2.40 ft. above grade to 24.60 ft. below grade, 0.010 slotted screen between 24.60 to 39.60 ft. below grade, sand packed annular to 22.0 ft. below grade, bentonite grout between 19.0 to 22.00 ft. below grade, fill dirt between 0.0 to 19.0 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

DRAWING: GCU 229E MW1-BH1. SKF | DATE: 01/19/07 | DWN BY: NJV

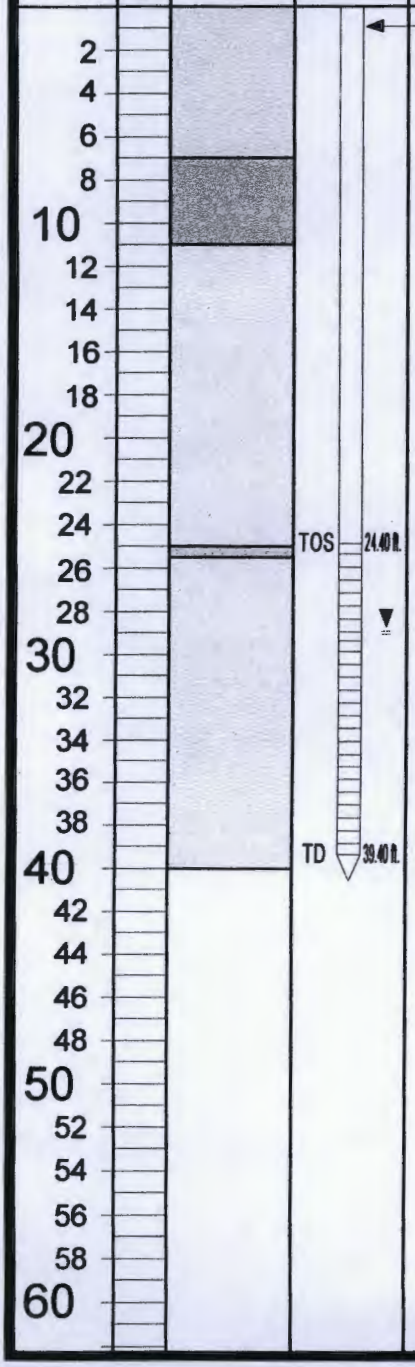
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #2

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU #229E UNIT I, SEC. 21, T28N, R12W
CONTRACTOR:	**BLAGG ENGINEERING, INC. / ENVIROTECH, INC.**
EQUIPMENT USED:	**MOBILE DRILL RIG (CME 75)**
BORING LOCATION:	132 FEET, N13E FROM PLUGGED & ABANDONED MARKER.

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



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.60 FEET ABOVE GRADE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 7.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, SLIGHT APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (7.0 - 11.0 FT. BELOW GRADE).

MEDIUM GRAY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, STRONG HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (11.0 - 25.0 FT. BELOW GRADE).

BH2 @ 25-26 FT. - CONDUCTED DURING BORE HOLE ADVANCEMENT ON 11/1/06; TIME COLLECTED 1110, OVM = **262** ppm; TPH = **2,694** ppm; Benzene = **ND** ppb; Total BTEX = **33.5** ppb; Chloride = **6.1** mg/l; Blow count = **50**.

MEDIUM GRAY TO BLACK SAND, NON COHESIVE, SLIGHTLY MOIST TO DRY, DENSE, STRONG HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (25.0 - 25.5 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 29.00 FT. FROM GROUND SURFACE MEASURED ON 11/14/06.

MEDIUM GRAY SAND, NON COHESIVE, MOIST TO WET, FIRM, STRONG HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (25.5 - 40.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SAND (IMPACTED).

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.
ppm - Parts per million (unit value).
mg/l - milligrams per liter (unit value).
OVM - Organic Vapor Meter or Photo-ionization Detector (PID).
TPH - Total Petroleum Hydrocarbons EPA Method 8015B.
BTEX - Benzene, Toluene, Ethylbenzene, & total Xylenes.

OVM CALIBRATION:
52.3 ppm; RF = 0.52
(RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 11/1/06.
Time - 1117.

Monitor well consist of 2 inch PVC piping - casing from 2.60 ft. above grade to 24.40 ft. below grade, 0.010 slotted screen between 24.40 to 39.40 ft. below grade, sand packed annular to 20.0 ft. below grade, bentonite grout between 17.0 to 20.00 ft. below grade, fill dirt between 3.0 to 17.0 ft. below grade, bentonite grout between 0.0 to 3.0 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

DRAWING: GCU 229E MW2-BH2. SKF | DATE: 01/17/07 | DWN BY: NJV

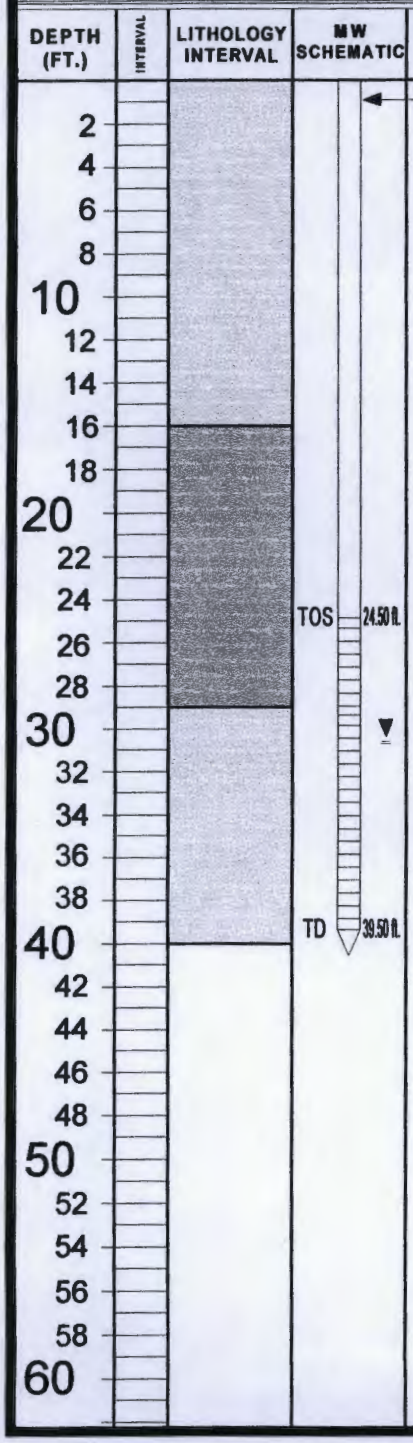
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #3

BORE / TEST HOLE REPORT

BORING #.....	BH - 3
MW #.....	3
PAGE #.....	3
DATE STARTED	01/18/07
DATE FINISHED	01/18/07
OPERATOR.....	DP
PREPARED BY	NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: GCU #229E UNIT I, SEC. 21, T28N, R12W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75)
BORING LOCATION: 143.5 FEET, N1.5E FROM PLUGGED & ABANDONED MARKER.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.50 FEET ABOVE GRADE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 16.0 FT. BELOW GRADE).

MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (16.0 - 29.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 30.70 FT. FROM GROUND SURFACE MEASURED ON 1/19/07.

PALE BROWN SAND, NON COHESIVE, WET, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (29.0 - 40.0 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 2.50 ft. above grade to 24.50 ft. below grade, 0.010 slotted screen between 24.50 to 39.50 ft. below grade, sand packed annular to 23.0 ft. below grade, bentonite grout between 20.0 to 23.00 ft. below grade, fill dirt between 0.0 to 20.0 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

DRAWING: GCU 229E MW3-BH3. SKF | DATE: 01/19/07 | DWN BY: NJV

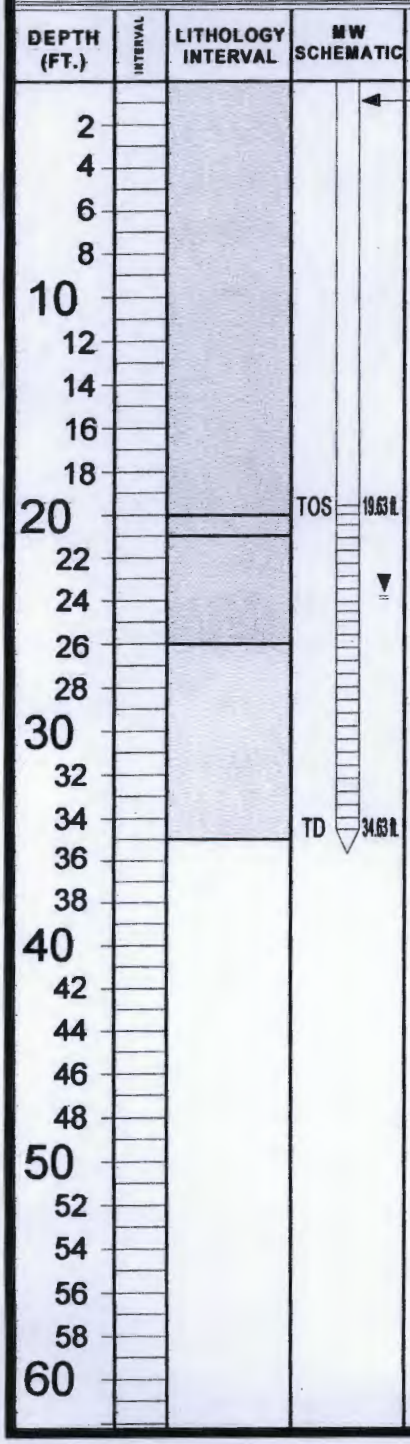
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #4

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU #229E UNIT I, SEC. 21, T28N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	207 FEET, N11E FROM PLUGGED & ABANDONED MARKER.

BORING #.....	BH - 4
MW #.....	4
PAGE #.....	4
DATE STARTED	8/30/07
DATE FINISHED	8/30/07
OPERATOR.....	DP
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.25 FEET ABOVE GRADE.

DARK YELLOWISH ORANGE TO DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 20.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT WITH MINOR AMOUNT OF GRAVEL (20.0 - 21.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT WITH NO GRAVEL (21.0 - 26.0 FT. BELOW GRADE).
DEPTH TO WATER APPROX. 21.35 FT. FROM GROUND SURFACE MEASURED ON 8/31/07.

OLIVE TO MEDIUM GRAY SAND, NON COHESIVE, MOIST TO WET, FIRM TO LOOSE, STRONG APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (26.0 - 35.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SAND (IMPACTED).

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 2.40 ft. above grade to 19.63 ft. below grade, 0.010 slotted screen between 19.63 to 34.63 ft. below grade, sand packed annular to 17.0 ft. below grade, bentonite grout between 14.0 to 17.00 ft. below grade, fill dirt between 3.0 to 14.0 ft. below grade, bentonite grout between 0.0 to 3.0 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

DRAWING: GCU 229E MW4-BH4. SKF | DATE: 08/31/07 | DWN BY: NJV

FIGURE 1

Direction to Gallegos wash.

OPEN RANGE

FENCE

MW #3

MW #2

Pit area with soil tested - August, 2002

MW #1

P & A MARKER

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.

1 INCH = 30 FT.

0 30 60 FT.

BP AMERICA PRODUCTION CO.

GCU #229E

NE/4 SE/4 SEC. 21, T28N, 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 INSTALL.

DRAWN BY: NJV

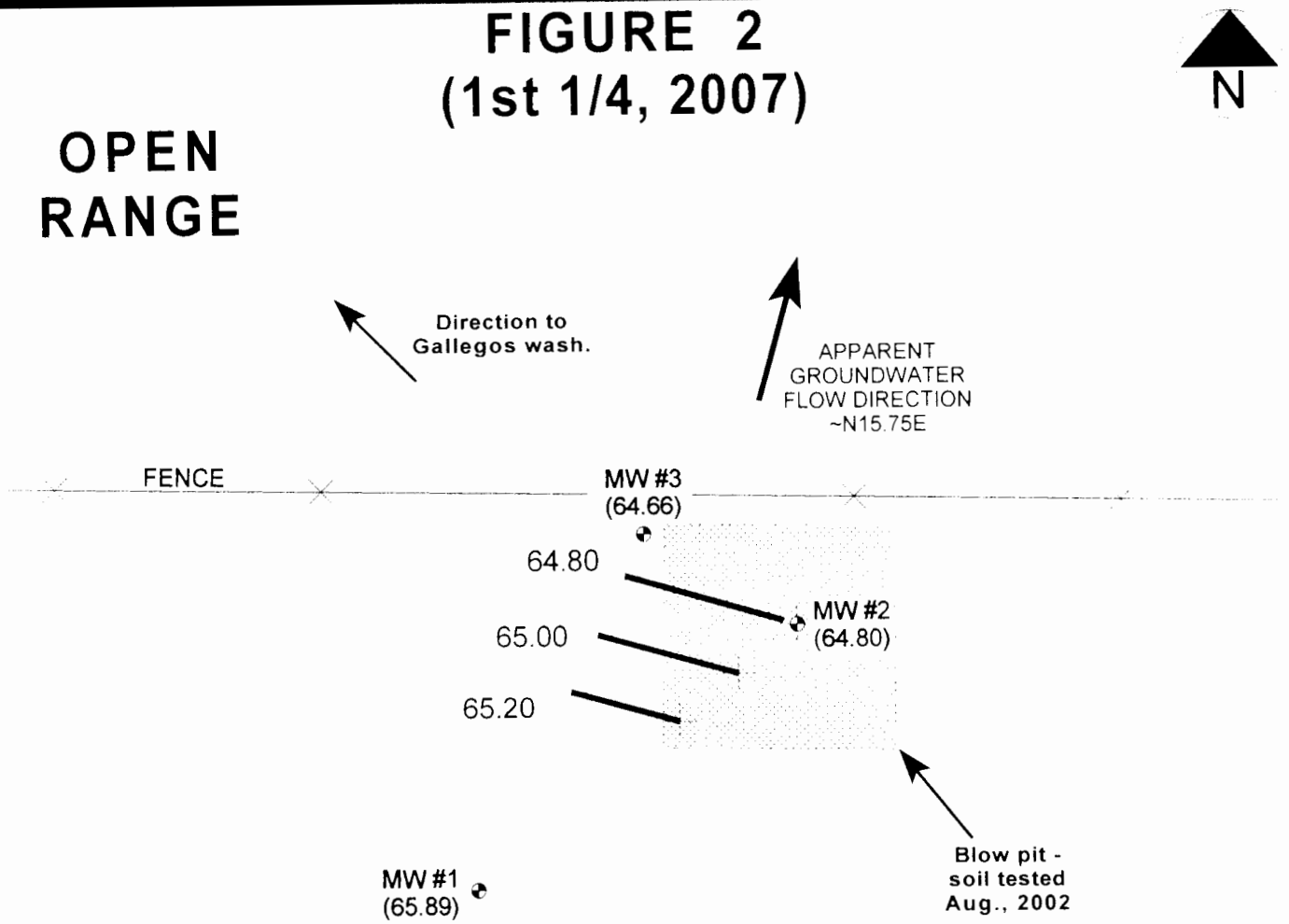
FILENAME: GCU 229E-SM.SKF

DRAFTED: 01-30-07 NJV

SITE MAP

01/07

FIGURE 2
(1st 1/4, 2007)



1 INCH = 30 FT.

0 30 60 FT.

	Top of Well Elevation
MW #1	(100.00)
MW #2	(96.43)
MW #3	(97.86)
MW #1 (65.89)	Groundwater Elevation as of 1/30/07.

P & A MARKER

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 #229E

NE/4 SE/4 SEC. 21, T28N, R12W

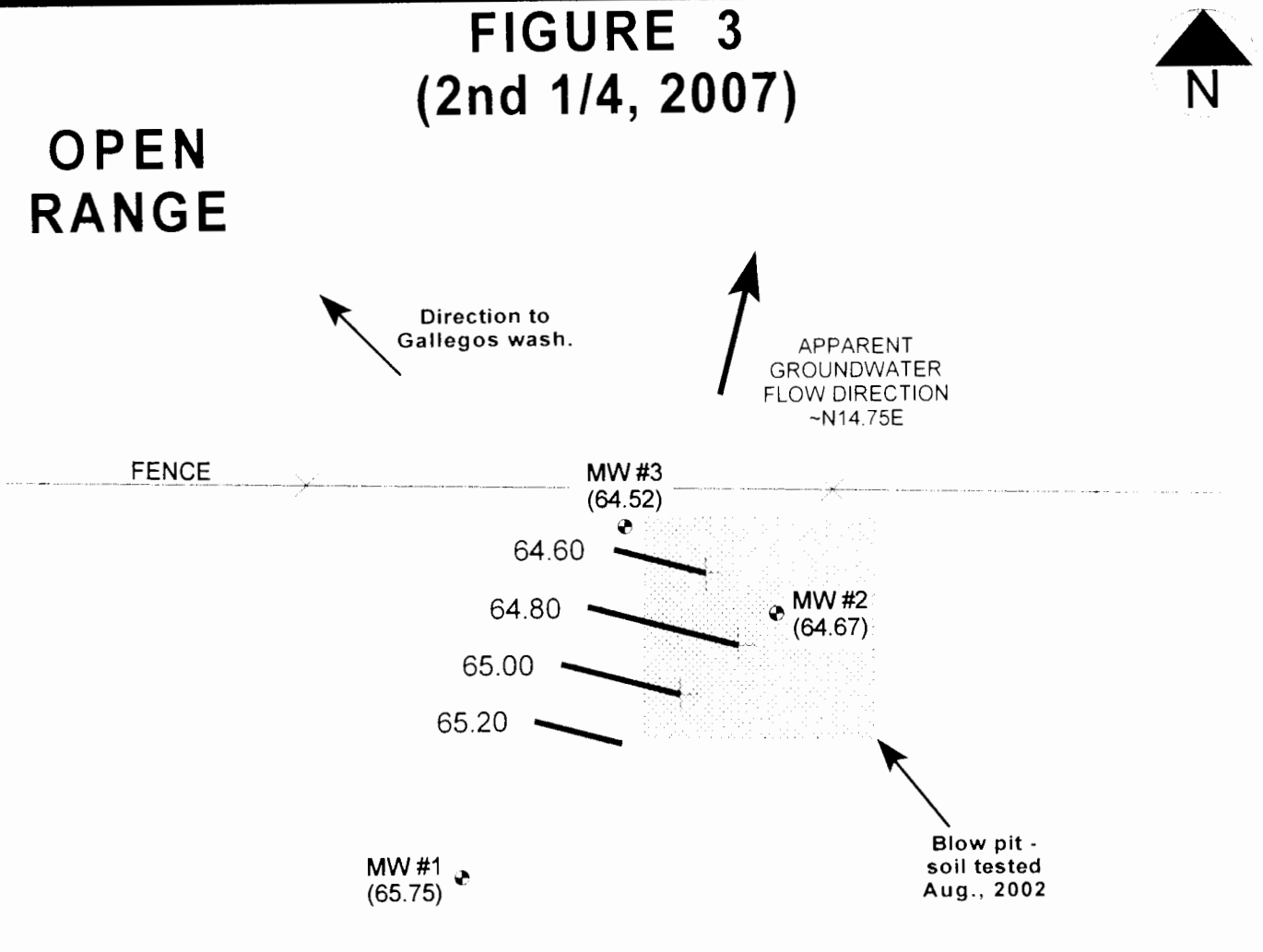
SAN JUAN COUNTY, NEW MEXICO

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: 01-30-07-GW.SKF
DRAFTED: 01-31-07 NJV

GROUNDWATER CONTOUR MAP
01/07

FIGURE 3
(2nd 1/4, 2007)



1 INCH = 30 FT.

0 30 60 FT.

	Top of Well Elevation
MW #1	(100.00)
MW #2	(96.43)
MW #3	(97.86)
MW #1 (65.75)	Groundwater Elevation as of 4/25/07.

P & A MARKER

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.

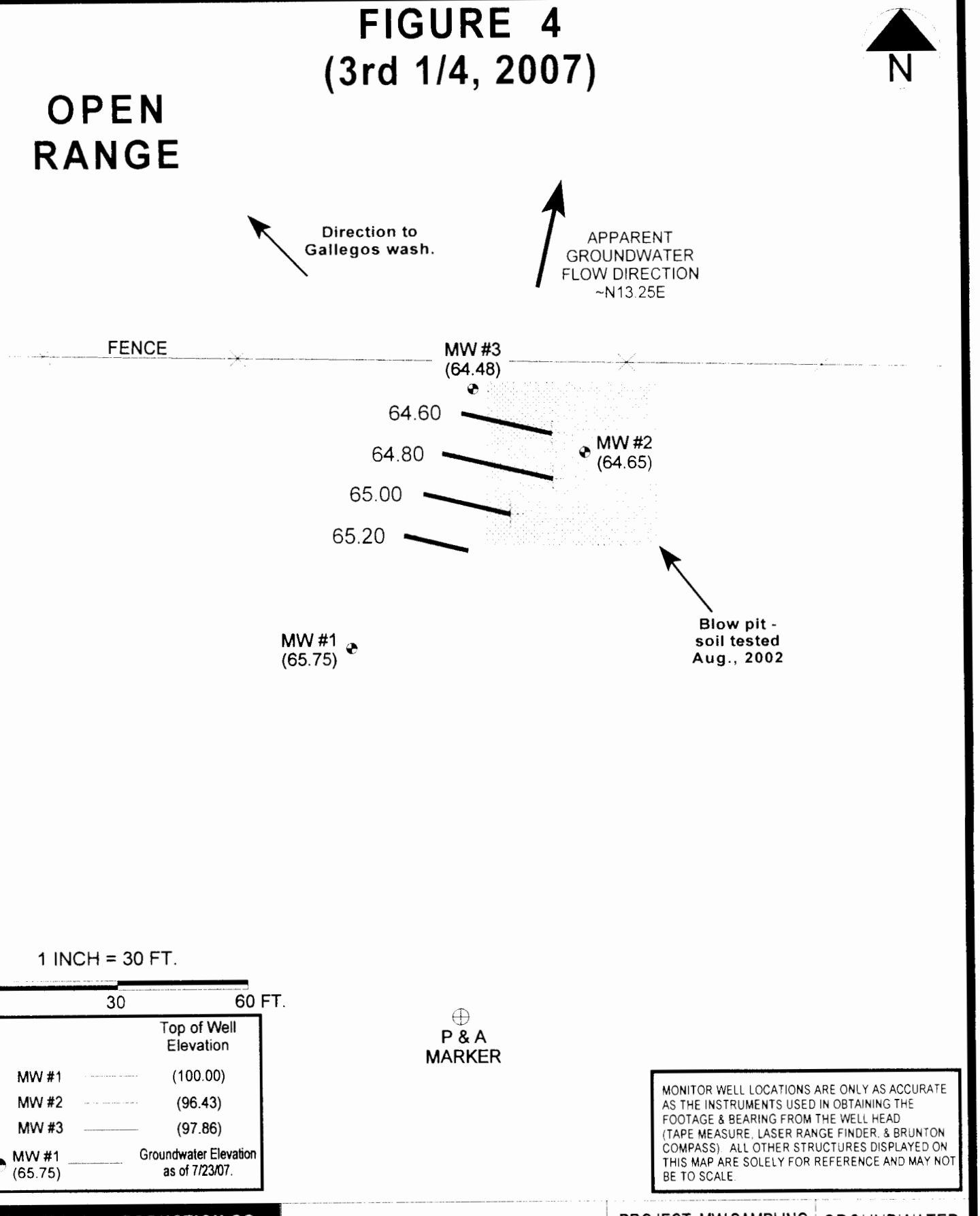
BP AMERICA PRODUCTION CO.
GCU #229E
NE/4 SE/4 SEC. 21, T28N, R12W
SAN JUAN COUNTY, NEW MEXICO

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: 04-25-07-GW.SKF
DRAFTED: 04-30-07 NJV

GROUNDWATER CONTOUR MAP
04/07

FIGURE 4
(3rd 1/4, 2007)



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

BP AMERICA PRODUCTION CO.

GCU #229E

NE/4 SE/4 SEC. 21, T28N, 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

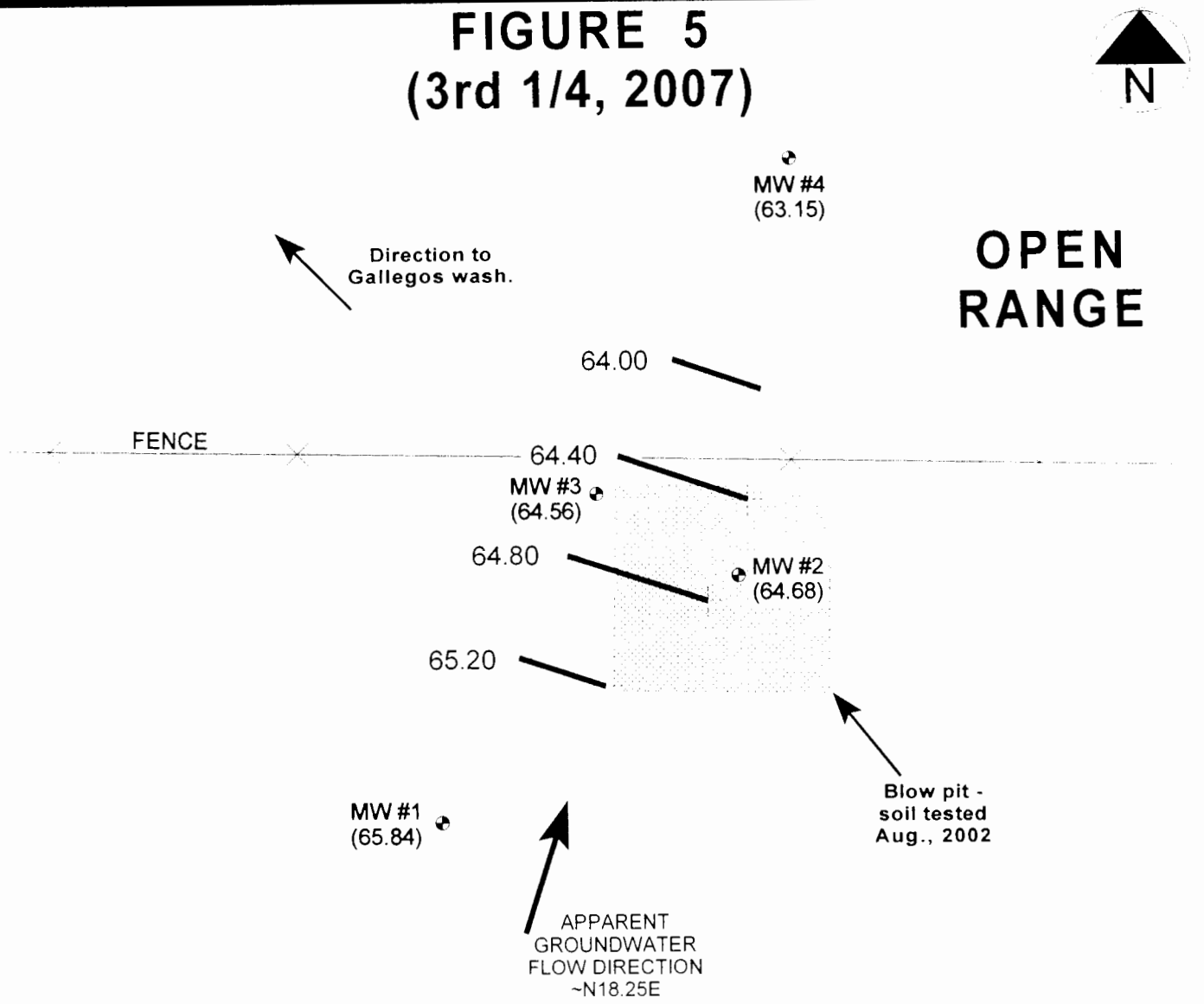
FILENAME: 07-23-07-GW.SKF

DRAFTED: 07-25-07 NJV

GROUNDWATER CONTOUR MAP

07/07

FIGURE 5
(3rd 1/4, 2007)



1 INCH = 30 FT.

0 30 60 FT.

	Top of Well Elevation
MW #1	(100.00)
MW #2	(96.43)
MW #3	(97.86)
MW #4	(86.73)
MW #1 (65.84)	Groundwater Elevation as of 9/17/07.

P & A
MARKER

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 #229E

NE/4 SE/4 SEC. 21, T28N, R12W

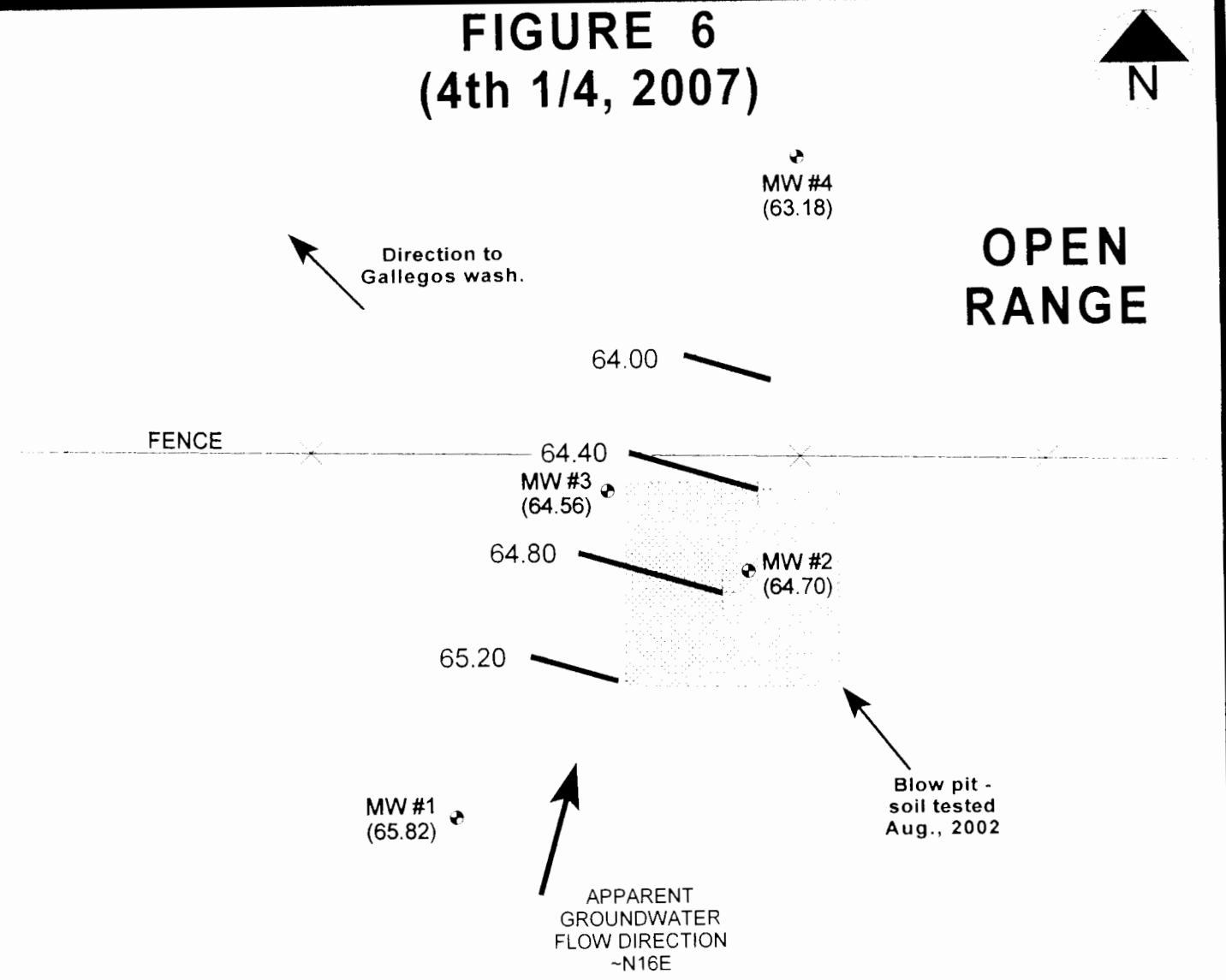
SAN JUAN COUNTY, NEW MEXICO

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: 09-17-07-GW.SKF
REVISED: 09-17-07 NJV

GROUNDWATER CONTOUR MAP
09/07

FIGURE 6
(4th 1/4, 2007)



	Top of Well Elevation
MW #1	(100.00)
MW #2	(96.43)
MW #3	(97.86)
MW #4	(86.73)
MW #1 (65.82)	Groundwater Elevation as of 11/15/07.

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 #229E

NE/4 SE/4 SEC. 21, T28N, 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: 11-15-07-GW.SKF

REVISED: 11-15-07 NJV

GROUNDWATER CONTOUR MAP

11/07

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	BH1 @ 25'-26'	Date Reported:	05-05-03
Laboratory Number:	25520	Date Sampled:	05-02-03
Chain of Custody No:	10808	Date Received:	05-02-03
Sample Matrix:	Soil	Date Extracted:	05-02-03
Preservative:	Cool	Date Analyzed:	05-05-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**1,340**	**0.2**
Diesel Range (C10 - C28)	**686**	**0.1**
Total Petroleum Hydrocarbons	**2,030**	**0.2**

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **GCU #229E Blow Pit Grab Sample.**

Analyst

Review

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	BH1 @ 25'-26'	Date Reported:	05-05-03
Laboratory Number:	25520	Date Sampled:	05-02-03
Chain of Custody:	10808	Date Received:	05-02-03
Sample Matrix:	Soil	Date Analyzed:	05-05-03
Preservative:	Cool	Date Extracted:	05-02-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**295**	**1.8**
Toluene	**1,130**	**1.7**
Ethylbenzene	**1,180**	**1.5**
p,m-Xylene	**2,650**	**2.2**
o-Xylene	**1,550**	**1.0**
Total BTEX	**6,810**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	**99 %**
	1,4-difluorobenzene	**99 %**
	Bromochlorobenzene	**99 %**

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **GCU #229E Blow Pit Grab Sample.**

Analyst

Review

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

CHAIN OF CUSTODY RECORD

10808

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG IBP	GCU # 229E	

Sampler:	Client No.
NJV	94034-010

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH (8015B)	BTEX (8021B)					Remarks
												PRESERVED COOL
												GRAB SAMPLE
BH1 @ 25'-26'	5/2/03	0905	25520	SOIL	1	✓	✓					BLOW PIT

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson VM	5/2/03	1425	Allen P. Quinn	5/2/03	1425
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

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

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	05-05-TPH QA/QC	Date Reported:	05-05-03
Laboratory Number:	25520	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	05-05-03
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	04-29-03	2.6312E-002	2.6286E-002	**0.10%**	**0 - 15%**
Diesel Range C10 - C28	04-29-03	2.5849E-002	2.5823E-002	**0.10%**	**0 - 15%**

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	**ND**	**0.2**
Diesel Range C10 - C28	**ND**	**0.1**
Total Petroleum Hydrocarbons	**ND**	**0.2**

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	**1,340**	**1,340**	**0.0%**	**0 - 30%**
Diesel Range C10 - C28	**686**	**684**	**0.3%**	**0 - 30%**

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	**1,340**	**250**	**1,580**	**99.4%**	**75 - 125%**
Diesel Range C10 - C28	**686**	**250**	**935**	**99.8%**	**75 - 125%**

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **QA/QC for samples 25520 - 25524, 25528 - 25531.**

Analyst

Review

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	05-05-BTEX QA/QC	Date Reported:	05-05-03
Laboratory Number:	25520	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	05-05-03
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc	Detect. Limit
Benzene	3.7241E-002	3.7353E-002	0.3%	ND	0.2
Toluene	4.4375E-002	4.4464E-002	0.2%	ND	0.2
Ethylbenzene	7.5434E-002	7.5661E-002	0.3%	ND	0.2
p,m-Xylene	6.7602E-002	6.7806E-002	0.3%	ND	0.2
o-Xylene	5.7973E-002	5.8089E-002	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	295	303	2.7%	0 - 30%	1.8
Toluene	1,130	1,110	1.8%	0 - 30%	1.7
Ethylbenzene	1,180	1,160	1.7%	0 - 30%	1.5
p,m-Xylene	2,650	2,720	2.6%	0 - 30%	2.2
o-Xylene	1,550	1,590	2.6%	0 - 30%	1.0

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	295	50.0	344	99.7%	39 - 150
Toluene	1,130	50.0	1,170	99.2%	46 - 148
Ethylbenzene	1,180	50.0	1,220	99.2%	32 - 160
p,m-Xylene	2,650	100	2,740	99.6%	46 - 148
o-Xylene	1,550	50.0	1,590	99.4%	46 - 148

ND - Parameter not detected at the stated detection limit.

References:
Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: **QA/QC for samples 25520 - 25524, 25528.**

Analyst

Review

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

Hall Environmental Analysis Laboratory, Inc.

Date: *14-Nov-06*

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH2 @ 25'-26'-Blow Pit
Lab Order:	0611044	**Collection Date:**	11/1/2006 11:10:00 AM
Project:	GCU #316 (#229E)	**Date Received:**	11/3/2006
Lab ID:	0611044-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	2600	100		mg/Kg	10	11/11/2006 11:22:42 AM
Surr: DNOP	171	61.7-135	S	%REC	10	11/11/2006 11:22:42 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	94	5.0		mg/Kg	1	11/6/2006 6:01:48 PM
Surr: BFB	413	84.5-129	S	%REC	1	11/6/2006 6:01:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.50		mg/Kg	10	11/6/2006 6:01:48 PM
Toluene	ND	0.50		mg/Kg	10	11/6/2006 6:01:48 PM
Ethylbenzene	2.5	0.50		mg/Kg	10	11/6/2006 6:01:48 PM
Xylenes, Total	31	1.5		mg/Kg	10	11/6/2006 6:01:48 PM
Surr: 4-Bromofluorobenzene	101	76.8-115		%REC	10	11/6/2006 6:01:48 PM
EPA METHOD 9056A: ANIONS						Analyst: **TES**
Chloride	6.1	1.5		mg/Kg	5	11/9/2006 3:57:55 PM

Qualifiers:

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

CHAIN-OF-CUSTODY RECORD

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

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

Client: BLAGG ENGR. / BP AMERICA

Project Name: GCU #316 (#229E)

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 COOL	HEAL No.
11/1/06	1110	SOIL	BH2 @ 25'-26'	1-4oz.			✓	0611044-1
			BLOW PIT					

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)	CHLORIDE				Air Bubbles or Headspace (Y or N)
✓		✓										✓				

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	
11/2/06	0700			11-3-06 0945
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks: TPH - GAS & DIESEL RANGE ONLY. (GOR) (DOR)

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #316 (#229E)
Work Order: 0611044

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW9056A									
Sample ID: MB-11706		*MBLK*			Batch ID:	**11706**	Analysis Date:	11/9/2006 11:01:58 AM	
Chloride	ND	mg/Kg	0.30						
Sample ID: LCS-11706		*LCS*			Batch ID:	**11706**	Analysis Date:	11/9/2006 11:19:22 AM	
Chloride	14.63	mg/Kg	0.30	97.6	90	110			
Method: SW8015									
Sample ID: MB-11682		*MBLK*			Batch ID:	**11682**	Analysis Date:	11/11/2006 9:03:30 AM	
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Sample ID: LCS-11682		*LCS*			Batch ID:	**11682**	Analysis Date:	11/11/2006 9:38:18 AM	
Diesel Range Organics (DRO)	46.20	mg/Kg	10	92.4	64.6	116			
Sample ID: LCSD-11682		*LCSD*			Batch ID:	**11682**	Analysis Date:	11/11/2006 10:47:55 AM	
Diesel Range Organics (DRO)	45.57	mg/Kg	10	91.1	64.6	116	1.39	17.4	
Method: SW8015									
Sample ID: MB-11658		*MBLK*			Batch ID:	**11658**	Analysis Date:	11/6/2006 4:30:08 PM	
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-11658		*LCS*			Batch ID:	**11658**	Analysis Date:	11/6/2006 5:00:54 PM	
Gasoline Range Organics (GRO)	26.30	mg/Kg	5.0	103	73.4	115			
Sample ID: LCSD-11658		*LCSD*			Batch ID:	**11658**	Analysis Date:	11/6/2006 5:31:30 PM	
Gasoline Range Organics (GRO)	23.70	mg/Kg	5.0	92.4	73.4	115	10.4	11.6	
Method: SW8021									
Sample ID: MB-11658		*MBLK*			Batch ID:	**11658**	Analysis Date:	11/6/2006 4:30:08 PM	
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.15						
Sample ID: LCS-11658		*LCS*			Batch ID:	**11658**	Analysis Date:	11/6/2006 5:00:54 PM	
Benzene	0.2641	mg/Kg	0.050	82.5	77.5	123			
Toluene	1.688	mg/Kg	0.050	84.4	82.3	129			
Ethylbenzene	0.3317	mg/Kg	0.050	85.1	79.6	121			
Xylenes, Total	1.877	mg/Kg	0.15	89.4	80	130			
Sample ID: LCSD-11658		*LCSD*			Batch ID:	**11658**	Analysis Date:	11/6/2006 5:31:30 PM	
Benzene	0.2606	mg/Kg	0.050	81.4	77.5	123	1.33	27	
Toluene	1.666	mg/Kg	0.050	83.3	82.3	129	1.31	19	
Ethylbenzene	0.3267	mg/Kg	0.050	83.8	79.6	121	1.52	10	
Xylenes, Total	1.826	mg/Kg	0.15	87.0	80	130	2.73	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: 11/3/2006

Work Order Number 0611044 | Received by GLS

Checklist completed by _____ 11-3-06
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

Hall Environmental Analysis Laboratory, Inc. **Date:** *14-Nov-06*

CLIENT: Blagg Engineering
Project: GCU #316 (#229E)
Lab Order: 0611044

CASE NARRATIVE

Analytical Comments for METHOD 8015GRO_S, SAMPLE 0611044-01A: Elevated surrogate due to matrix interference.

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A & 14715

GCU # 229E - BLOW PIT
UNIT I, SEC. 21, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL
ENVIROTECH

Date : **November 14, 2006**

SAMPLER : N J V

Filename : **11-14-06.WK4**

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
MW - 2	-	-	31.60	42.00	1200	7.05	1,300	11.6	6.00
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	11/14/06	0945		

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

Comments or note well diameter if not standard 2 ".

Excellent recovery . Blackish in appearance , hydrocarbon odor detected physically . Collected samples for BTEX and major anions / cations analyses .

Top of casing MW # 2 ~ 2.60 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Nov-06*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW-2
Lab Order:	0611183	**Collection Date:**	11/14/2006 12:00:00 PM
Project:	GCU #229E (#316)	**Date Received:**	11/15/2006
Lab ID:	0611183-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	10		µg/L	10	11/20/2006 4:56:53 PM
Toluene	25	10		µg/L	10	11/20/2006 4:56:53 PM
Ethylbenzene	110	10		µg/L	10	11/20/2006 4:56:53 PM
Xylenes, Total	1800	30		µg/L	10	11/20/2006 4:56:53 PM
Surr: 4-Bromofluorobenzene	100	70.2-105		%REC	10	11/20/2006 4:56:53 PM

Qualifiers:

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	MW #2	Date Reported:	11-17-06
Laboratory Number:	39151	Date Sampled:	11-14-06
Chain of Custody:	14715	Date Received:	11-14-06
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	11-15-06
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		
pH	**7.36**	s.u.		
Conductivity @ 25° C	**1,230**	umhos/cm		
Total Dissolved Solids @ 180C	**866**	mg/L		
Total Dissolved Solids (Calc)	**840**	mg/L		
SAR	**2.9**	ratio		
Total Alkalinity as CaCO3	**288**	mg/L		
Total Hardness as CaCO3	**637**	mg/L		
Bicarbonate as HCO3	**288**	mg/L	4.72	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	**15.5**	mg/L	0.25	meq/L
Nitrite Nitrogen	**0.65**	mg/L	0.01	meq/L
Chloride	**64.0**	mg/L	1.81	meq/L
Fluoride	**0.70**	mg/L	0.04	meq/L
Phosphate	**0.2**	mg/L	0.01	meq/L
Sulfate	**312**	mg/L	6.50	meq/L
Iron	**<0.01**	mg/L	0.00	meq/L
Calcium	**118**	mg/L	5.89	meq/L
Magnesium	**21.1**	mg/L	1.74	meq/L
Potassium	**0.60**	mg/L	0.02	meq/L
Sodium	**132**	mg/L	5.74	meq/L
Cations			13.38	meq/L
Anions			13.33	meq/L
Cation/Anion Difference			**0.40%**	

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: **GCU #229E (#316) Grab Sample.**

Analyst

Review

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

CHAIN-OF-CUSTODY RECORD

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

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

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

Project Name: GCU # 229E (#316)
Project #:
Project Manager: NV
Sampler: NV
Sample Temperature: 1°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
								0611183
11/14/06	1200	WATER	MW # 2	2-40ml	✓			1

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

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

Remarks:

14715

CHAIN OF CUSTODY RECORD

Client / Project Name: BLAGG / BP

Project Location: GCU #229E (#316)

Sampler: NV

Client No.: 94034-010

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	MAJOR ANIONS/ CATIONS						Remarks
												PRESERVED COOL
												GRAB SAMPLE
MW #2	11/14/06	1200	39151	WATER	1	✓						

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

ENVIROTECH INC.

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

Sample Receipt

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

san juan reproduction 578-129

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #229E (#316) **Work Order:** 0611183

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

Qualifiers:

- E Value above quantitation range
- 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, Inc.

Sample Receipt Checklist

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

Work Order Number 0611183 | Received by TLS

Checklist completed by _____ Signature _____ Nov 15, 06 Date

Matrix | Carrier name Courier

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

Container/Temp Blank temperature? **1°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A & 14692

GCU # 229E - BLOW PIT
UNIT I, SEC. 21, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL
ENVIROTECH

Date : January 30, 2007

SAMPLER : N J V

Filename : 01-30-07.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	100.00	65.89	34.11	42.00	1225	7.13	1,200	14.3	4.00
MW - 2	96.43	64.80	31.63	42.00	1335	6.96	1,200	13.7	5.25
MW - 3	97.86	64.66	33.20	42.00	1300	7.18	1,200	14.8	4.25
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	01/30/07	0830		

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

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

Comments or note well diameter if not standard 2 ".

Excellent recovery all MW ' s . All contained olive gray appearance . Strong hydrocarbon odor detected physically within purged water from MW # 2 . Collected BTEX from all MW ' s & major anions / cations from MW # 1 & # 3 .

Top of casing MW # 1 ~ 2.40 ft., MW # 2 ~ 2.60 ft., MW # 3 ~ 2.50 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *05-Feb-07*

CLIENT: Blagg Engineering
Project: GCU #229E (#316)
Lab Order: 0702007

Lab ID: 0702007-01
Collection Date: 1/30/2007 12:25:00 PM
Client Sample ID: MW #1
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **LMM**
Benzene	ND	1.0		µg/L	1	2/2/2007 8:29:56 PM
Toluene	ND	1.0		µg/L	1	2/2/2007 8:29:56 PM
Ethylbenzene	ND	1.0		µg/L	1	2/2/2007 8:29:56 PM
Xylenes, Total	ND	3.0		µg/L	1	2/2/2007 8:29:56 PM
Surr: 4-Bromofluorobenzene	87.0	70.2-105		%REC	1	2/2/2007 8:29:56 PM

Lab ID: 0702007-02
Collection Date: 1/30/2007 1:35:00 PM
Client Sample ID: MW #2
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **LMM**
Benzene	ND	5.0		µg/L	5	2/2/2007 9:02:36 PM
Toluene	ND	5.0		µg/L	5	2/2/2007 9:02:36 PM
Ethylbenzene	7.9	5.0		µg/L	5	2/2/2007 9:02:36 PM
Xylenes, Total	200	15		µg/L	5	2/2/2007 9:02:36 PM
Surr: 4-Bromofluorobenzene	89.1	70.2-105		%REC	5	2/2/2007 9:02:36 PM

Lab ID: 0702007-03
Collection Date: 1/30/2007 1:00:00 PM
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	2/2/2007 2:49:42 AM
Toluene	ND	1.0		µg/L	1	2/2/2007 2:49:42 AM
Ethylbenzene	ND	1.0		µg/L	1	2/2/2007 2:49:42 AM
Xylenes, Total	ND	3.0		µg/L	1	2/2/2007 2:49:42 AM
Surr: 4-Bromofluorobenzene	85.8	70.2-105		%REC	1	2/2/2007 2:49:42 AM

Qualifiers:

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	MW #1	Date Reported:	01-31-07
Laboratory Number:	39878	Date Sampled:	01-30-07
Chain of Custody:	14692	Date Received:	01-30-07
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	01-31-07
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		
pH	**7.34**	s.u.		
Conductivity @ 25° C	**1,320**	umhos/cm		
Total Dissolved Solids @ 180C	**730**	mg/L		
Total Dissolved Solids (Calc)	**717**	mg/L		
SAR	**2.3**	ratio		
Total Alkalinity as CaCO3	**256**	mg/L		
Total Hardness as CaCO3	**356**	mg/L		
Bicarbonate as HCO3	**256**	mg/L	4.20	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	**7.6**	mg/L	0.12	meq/L
Nitrite Nitrogen	**<0.001**	mg/L	0.00	meq/L
Chloride	**39.9**	mg/L	1.13	meq/L
Fluoride	**0.37**	mg/L	0.02	meq/L
Phosphate	**0.7**	mg/L	0.02	meq/L
Sulfate	**283**	mg/L	5.89	meq/L
Iron	**<0.001**	mg/L	0.00	meq/L
Calcium	**114**	mg/L	5.69	meq/L
Magnesium	**17.1**	mg/L	1.41	meq/L
Potassium	**0.10**	mg/L	0.00	meq/L
Sodium	**98.3**	mg/L	4.28	meq/L
Cations			11.37	meq/L
Anions			11.38	meq/L
Cation/Anion Difference			**0.03%**	

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: **GCU #229E (#316)**

Analyst

Review

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	MW #3	Date Reported:	01-31-07
Laboratory Number:	39879	Date Sampled:	01-30-07
Chain of Custody:	14692	Date Received:	01-30-07
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	01-31-07
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		
pH	**7.51**	s.u.		
Conductivity @ 25° C	**1,250**	umhos/cm		
Total Dissolved Solids @ 180C	**762**	mg/L		
Total Dissolved Solids (Calc)	**747**	mg/L		
SAR	**3.3**	ratio		
Total Alkalinity as CaCO3	**300**	mg/L		
Total Hardness as CaCO3	**304**	mg/L		
Bicarbonate as HCO3	**300**	mg/L	4.92	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	**9.5**	mg/L	0.15	meq/L
Nitrite Nitrogen	**<0.001**	mg/L	0.00	meq/L
Chloride	**43.7**	mg/L	1.23	meq/L
Fluoride	**0.68**	mg/L	0.04	meq/L
Phosphate	**0.4**	mg/L	0.01	meq/L
Sulfate	**264**	mg/L	5.50	meq/L
Iron	**<0.001**	mg/L	0.00	meq/L
Calcium	**102**	mg/L	5.09	meq/L
Magnesium	**12.2**	mg/L	1.00	meq/L
Potassium	**<0.01**	mg/L	0.00	meq/L
Sodium	**132**	mg/L	5.75	meq/L
Cations			11.84	meq/L
Anions			11.85	meq/L
Cation/Anion Difference			**0.07%**	

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

Comments: **GCU #229E (#316)**

Analyst

Review

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

CHAIN-OF-CUSTODY RECORD

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

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

Client: BLAGG ENGR. / BP AMERICA
Project Name: GCU # 229E (#316)
Address: P.O. BOX 87 BLFD., NM 87413
Project #: NV
Project Manager: NV
Phone #: 632-1199
Sampler: NV
Fax #:
Sample Temperature: 3°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No. 0702007	(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)
1/30/07	1225	WATER	MW #1	2-40ml	✓			1	✓																
1/30/07	1335	WATER	MW #2	2-40ml	✓			2	✓																
1/30/07	1300	WATER	MW #3	2-40 ml	✓			3	✓																

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
1/31/07	0630			2/1/07 935
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:

CHAIN OF CUSTODY RECORD

14692

Client / Project Name: BLAGG / BP

Project Location: GCU #229E (#316)

Sampler: NV

Client No.: 94034-010

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	MAJOR ANIONS/ CATIONS						Remarks
												PRESERVED COOL
												GRAB SAMPLES
MW #1	1/30/07	1225	39878	WATER	1	✓						
MW #3	1/30/07	1300	39879	WATER	1	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	1/30/07	1447	[signature]	1/30/07	1447
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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

Sample Receipt

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #229E (#316) **Work Order:** 0702007

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R22351**	Analysis Date:	2/1/2007 9:17:32 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: 5ML RB		*MBLK*			Batch ID:	**R22359**	Analysis Date:	2/2/2007 9:44:47 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R22351**	Analysis Date:	2/1/2007 11:09:24 AM	
Benzene	18.92	µg/L	1.0	94.6	85.9	113			
Toluene	19.52	µg/L	1.0	97.6	86.4	113			
Ethylbenzene	19.66	µg/L	1.0	98.3	83.5	118			
Xylenes, Total	58.64	µg/L	3.0	97.7	83.4	122			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R22359**	Analysis Date:	2/2/2007 11:15:15 AM	
Benzene	18.38	µg/L	1.0	91.9	85.9	113			
Toluene	19.10	µg/L	1.0	95.5	86.4	113			
Ethylbenzene	19.18	µg/L	1.0	95.9	83.5	118			
Xylenes, Total	57.41	µg/L	3.0	95.7	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: 2/1/2007

Work Order Number 0702007 | Received by TLS

Checklist completed by Tanya Shom (Signature) Feb 1,07 (Date)

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted ☐		Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	3°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 229E - BLOW PIT
UNIT I, SEC. 21, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

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	100.00	65.75	34.25	42.00	-	-	-	-	-
MW - 2	96.43	64.67	31.76	42.00	1150	6.92	1,200	17.7	5.00
MW - 3	97.86	64.52	33.34	42.00	1110	7.07	1,200	17.3	4.25
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	04/25/07	0855		

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

Comments or note well diameter if not standard 2".

Excellent recovery in both MW # 2 & # 3 . Both contained orange tint appearance . Strong hydrocarbon odor detected physically within purged water from MW # 2 . Collected BTEX from MW # 2 & # 3 only .

Top of casing MW # 1 ~ 2.40 ft., MW # 2 ~ 2.60 ft., MW # 3 ~ 2.50 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *01-May-07*

CLIENT: Blagg Engineering
Project: GCU #229E (#316)
Lab Order: 0704418

Lab ID: 0704418-01
Collection Date: 4/25/2007 11:50:00 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	4/30/2007 10:03:04 AM
Benzene	ND	1.0		µg/L	1	4/30/2007 10:03:04 AM
Toluene	ND	1.0		µg/L	1	4/30/2007 10:03:04 AM
Ethylbenzene	1.0	1.0		µg/L	1	4/30/2007 10:03:04 AM
Xylenes, Total	140	2.0		µg/L	1	4/30/2007 10:03:04 AM
1,2,4-Trimethylbenzene	14	1.0		µg/L	1	4/30/2007 10:03:04 AM
1,3,5-Trimethylbenzene	8.9	1.0		µg/L	1	4/30/2007 10:03:04 AM
Surr: 4-Bromofluorobenzene	90.7	70.2-105		%REC	1	4/30/2007 10:03:04 AM

Lab ID: 0704418-02
Collection Date: 4/25/2007 11:10:00 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 1:38:27 PM
Benzene	ND	1.0		µg/L	1	4/28/2007 1:38:27 PM
Toluene	ND	1.0		µg/L	1	4/28/2007 1:38:27 PM
Ethylbenzene	ND	1.0		µg/L	1	4/28/2007 1:38:27 PM
Xylenes, Total	ND	2.0		µg/L	1	4/28/2007 1:38:27 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/28/2007 1:38:27 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/28/2007 1:38:27 PM
Surr: 4-Bromofluorobenzene	87.4	70.2-105		%REC	1	4/28/2007 1:38:27 PM

Qualifiers:

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

CHAIN-OF-CUSTODY RECORD

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

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

Client: BLAGG ENER./BP AMERICA
Project Name: GCU # 229E (#316)
Address: P.O. BOX 87 BLFD., NM 87413
Project #:
Project Manager: NV
Phone #: 632-1199
Sampler: NV
Fax #:
Sample Temperature: 7°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.	BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
4/25/07	1150	WATER	MW #2	2-40 ml	✓			0704418-1	✓																
4/25/07	1110	WATER	MW #3	2-40 ml	✓			-2	✓																

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
4/25/07	1535			4/26/07 1411
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #229E (#316)
Work Order: 0704418

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: 5ML REAGENT BLA		*MBLK*			Batch ID:	**R23409**	Analysis Date:	4/30/2007 8:32:29 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 LCS		*LCS*			Batch ID:	**R23409**	Analysis Date:	4/30/2007 11:03:20 AM	
Methyl tert-butyl ether (MTBE)	18.92	µg/L	2.5	94.6	51.2	138			
Benzene	18.67	µg/L	1.0	93.3	85.9	113			
Toluene	19.56	µg/L	1.0	97.8	86.4	113			
Ethylbenzene	19.80	µg/L	1.0	99.0	83.5	118			
Xylenes, Total	59.19	µg/L	2.0	98.6	83.4	122			
1,2,4-Trimethylbenzene	18.79	µg/L	1.0	94.0	83.5	115			
1,3,5-Trimethylbenzene	18.67	µg/L	1.0	93.3	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 0704418 | Received by TLS

Checklist completed by [signature] Signature | 4-26-07 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?	7°	*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

GCU # 229E - BLOW PIT
UNIT I, SEC. 21, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : July 23, 2007

SAMPLER : N J V

Filename : 07-23-07.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	100.00	65.75	34.25	42.00	-	-	-	-	-
MW - 2	96.43	64.65	31.78	42.00	0935	6.87	1,200	21.6	5.00
MW - 3	97.86	64.48	33.38	42.00	0910	6.98	1,100	20.6	4.25
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	07/23/07	0620		

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

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in both MW # 2 & # 3 . Both contained orange tint appearance . Hydrocarbon odor detected physically within purged water from MW # 2 . Collected BTEX from MW # 2 & # 3 only .

Top of casing MW # 1 ~ 2.40 ft., MW # 2 ~ 2.60 ft., MW # 3 ~ 2.50 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *31-Jul-07*

CLIENT: Blagg Engineering
Project: GCU #229E (#316)

Lab Order: 0707303

Lab ID: 0707303-01 **Collection Date:** 7/23/2007 10:30:00 AM
Client Sample ID: MW #2 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	7/28/2007 1:45:17 AM
Toluene	ND	1.0		µg/L	1	7/28/2007 1:45:17 AM
Ethylbenzene	4.1	1.0		µg/L	1	7/28/2007 1:45:17 AM
Xylenes, Total	130	2.0		µg/L	1	7/28/2007 1:45:17 AM
Surr: 4-Bromofluorobenzene	119	70.2-105	S	%REC	1	7/28/2007 1:45:17 AM

Lab ID: 0707303-02 **Collection Date:** 7/23/2007 10:00:00 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	7/28/2007 2:15:13 AM
Toluene	ND	1.0		µg/L	1	7/28/2007 2:15:13 AM
Ethylbenzene	ND	1.0		µg/L	1	7/28/2007 2:15:13 AM
Xylenes, Total	ND	2.0		µg/L	1	7/28/2007 2:15:13 AM
Surr: 4-Bromofluorobenzene	101	70.2-105		%REC	1	7/28/2007 2:15:13 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

CHAIN-OF-CUSTODY RECORD

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

Client: BLAGG ENGR. / BP AMERICA

Project Name: GCU #229E (#316)

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

Project #:

Project Manager: NV

Phone #: 632-1199

Sampler: NV

Fax #:

Sample Temperature: 4°

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

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
7/23/07	1030	WATER	MW #2	2-40ml	✓			0707303-1
7/23/07	1000	WATER	MW #3	2-40ml	✓			2

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

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
7/23/07	1515		14:20 7/24/07
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #229E (#316) **Work Order:** 0707303

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R24556**	Analysis Date:	7/27/2007 9:15:11 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:	**R24556**	Analysis Date:	7/27/2007 1:04:28 PM	
Benzene	21.25	µg/L	1.0	106	85.9	113			
Toluene	21.71	µg/L	1.0	109	86.4	113			
Ethylbenzene	22.05	µg/L	1.0	110	83.5	118			
Xylenes, Total	67.14	µg/L	2.0	112	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: 7/24/2007

Work Order Number 0707303 | Received by ARS

Checklist completed by  7/24/07
Signature Date

Matrix | Carrier name UPS

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted ☐		Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	4°	*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

GCU # 229E - BLOW PIT
UNIT I, SEC. 21, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **September 17, 2007**

DEVELOPER : N J V

Filename : **09-17-07.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	100.00	65.84	34.16	42.00	-	-	-	-	-
MW - 2	96.43	64.68	31.75	42.00	-	-	-	-	-
MW - 3	97.86	64.56	33.30	42.00	-	-	-	-	-
MW - 4	86.73	63.15	23.58	36.88	1130	7.06	1,300	21.0	6.50
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	09/17/07	0945		

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

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 4 , murky brown in appearance . Collected samples from MW # 4 only (BTEX , anions , & iron only) .

Top of casing MW # 1 ~ 2.40 ft. , MW # 2 ~ 2.60 ft. , MW # 3 ~ 2.50 ft. , MW # 4 ~ 2.25 ft. above grade

Hall Environmental Analysis Laboratory, Inc.

Date: *02-Oct-07*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #4
Lab Order:	0709216	**Collection Date:**	9/17/2007 11:30:00 AM
Project:	GCU #229E (#316)	**Date Received:**	9/18/2007
Lab ID:	0709216-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	1.2	1.0		µg/L	1	9/27/2007 4:01:53 PM
Toluene	ND	1.0		µg/L	1	9/27/2007 4:01:53 PM
Ethylbenzene	13	1.0		µg/L	1	9/27/2007 4:01:53 PM
Xylenes, Total	340	20		µg/L	10	9/26/2007 10:18:00 PM
Surr: 4-Bromofluorobenzene	105	70.2-105		%REC	1	9/27/2007 4:01:53 PM
EPA METHOD 300.0: ANIONS						Analyst: **KS**
Fluoride	0.33	0.10		mg/L	1	9/18/2007 7:25:54 PM
Chloride	33	0.10		mg/L	1	9/18/2007 7:25:54 PM
Nitrogen, Nitrite (As N)	0.32	0.10		mg/L	1	9/18/2007 7:25:54 PM
Bromide	0.37	0.10		mg/L	1	9/18/2007 7:25:54 PM
Nitrogen, Nitrate (As N)	23	1.0		mg/L	10	9/18/2007 7:43:19 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/18/2007 7:25:54 PM
Sulfate	320	5.0		mg/L	10	9/18/2007 7:43:19 PM
FERROUS IRON						Analyst: **KS**
Ferrous Iron	ND	0.10		mg/L	1	10/1/2007
SM4500-H+B: PH						Analyst: **SMP**
pH	7.30	0.1		pH units	1	9/19/2007
SM 2540C: TDS						Analyst: **TAF**
Total Dissolved Solids	1000	200		mg/L	1	9/19/2007

Qualifiers:

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

CHAIN-OF-CUSTODY RECORD

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: 632-1199

Fax #:

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

Project Name: GCU # 229E (#316)

Project #:

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

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: HCl	HEAL No. 0709216	(BTEX) + MTBE + TMB's (8021)	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) Special	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Fe^{2+}	TDS, pH			Air Bubbles or Headspace (Y or N)
9/17/07	1130	WATER	MW #4	2 - 40ml	✓			-1	✓																
"	"	"	"	1-125ml			✓														✓				
"	"	"	"	1-~~25~~ 500 ml NV													✓					✓			

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
9/17/07	1600	[signature]	[signature] 9/18/07 14:25
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: Anion Special, TDS, pH

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #229E (#316) **Work Order:** 0709216

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									
Sample ID: MBLK		*MBLK*			Batch ID:	**R25240**	Analysis Date:	9/18/2007 10:52:04 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Bromide	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MBLK		*MBLK*			Batch ID:	**R25240**	Analysis Date:	9/18/2007 10:20:00 PM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Bromide	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS 300-07038		*LCS*			Batch ID:	**R25240**	Analysis Date:	9/18/2007 11:09:29 AM	
Fluoride	0.5374	mg/L	0.10	107	90	110			
Chloride	5.208	mg/L	0.10	104	90	110			
Nitrogen, Nitrite (As N)	0.9743	mg/L	0.10	97.4	90	110			
Bromide	2.714	mg/L	0.10	109	90	110			
Nitrogen, Nitrate (As N)	2.685	mg/L	0.10	107	90	110			
Phosphorus, Orthophosphate (As P)	5.456	mg/L	0.50	109	90	110			
Sulfate	10.78	mg/L	0.50	108	90	110			
Sample ID: LCS 300-07038		*LCS*			Batch ID:	**R25240**	Analysis Date:	9/18/2007 10:37:24 PM	
Fluoride	0.5243	mg/L	0.10	105	90	110			
Chloride	5.092	mg/L	0.10	102	90	110			
Nitrogen, Nitrite (As N)	0.9683	mg/L	0.10	96.8	90	110			
Bromide	2.687	mg/L	0.10	107	90	110			
Nitrogen, Nitrate (As N)	2.635	mg/L	0.10	105	90	110			
Phosphorus, Orthophosphate (As P)	5.610	mg/L	0.50	112	90	110			S
Sulfate	10.57	mg/L	0.50	106	90	110			

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #229E (#316)
Work Order: 0709216

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R25334**		Analysis Date:	9/26/2007 10:12:19 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 5ML RB		*MBLK*			Batch ID: **R25352**		Analysis Date:	9/27/2007 10:01:15 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: **R25334**		Analysis Date:	9/26/2007 9:15:28 PM	
Benzene	20.66	µg/L	1.0	103	85.9	113			
Toluene	20.61	µg/L	1.0	103	86.4	113			
Ethylbenzene	20.22	µg/L	1.0	101	83.5	118			
Xylenes, Total	60.06	µg/L	2.0	100	83.4	122			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: **R25352**		Analysis Date:	9/27/2007 11:06:54 PM	
Benzene	21.10	µg/L	1.0	106	85.9	113			
Toluene	21.43	µg/L	1.0	107	86.4	113			
Ethylbenzene	21.60	µg/L	1.0	108	83.5	118			
Xylenes, Total	65.13	µg/L	2.0	108	83.4	122			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID: **R25352**		Analysis Date:	9/27/2007 11:36:58 PM	
Benzene	20.59	µg/L	1.0	103	85.9	113	2.45	27	
Toluene	20.84	µg/L	1.0	104	86.4	113	2.76	19	
Ethylbenzene	20.97	µg/L	1.0	104	83.5	118	2.98	10	
Xylenes, Total	63.14	µg/L	2.0	105	83.4	122	3.10	13	
Method: E160.1									
Sample ID: MB-13875		*MBLK*			Batch ID: **13875**		Analysis Date:	9/19/2007	
Total Dissolved Solids	ND	mg/L	20						
Sample ID: LCS-13875		*LCS*			Batch ID: **13875**		Analysis Date:	9/19/2007	
Total Dissolved Solids	1020	mg/L	20	102	80	120			

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, Inc.

Sample Receipt Checklist

Client Name BLAGG

Date and Time Received: 9/18/2007

Work Order Number 0709216

Received by ARS

Checklist completed by _____ Date 9/18/07
Signature

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?	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

GCU # 229E - BLOW PIT
UNIT I, SEC. 21, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **November 15, 2007**

DEVELOPER : N J V

Filename : **11-15-07.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	100.00	65.82	34.18	42.00	-	-	-	-	-
MW - 2	96.43	64.70	31.73	42.00	1230	6.97	1,500	16.5	5.00
MW - 3	97.86	64.56	33.30	42.00	1145	7.16	1,300	16.2	4.25
MW - 4	86.73	63.18	23.55	36.88	1320	7.15	1,400	20.1	6.50
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	11/14/07	1000		

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in all MW ' s sampled . MW # 4 contained possible free phase product during development / purging process with strong hydrocarbon odor . Collected samples from MW # 2 , # 3 , & # 4 for BTEX analysis only .

Top of casing MW # 1 ~ 2.40 ft. , MW # 2 ~ 2.60 ft. , MW # 3 ~ 2.50 ft. , MW # 4 ~ 2.25 ft. above grade

Hall Environmental Analysis Laboratory, Inc.

Date: *28-Nov-07*

CLIENT: Blagg Engineering
Project: GCU #229E (#316)

Lab Order: 0711289

Lab ID: 0711289-01 **Collection Date:** 11/15/2007 12:30:00 PM
Client Sample ID: MW#2 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	11/21/2007 2:18:52 PM
Toluene	ND	1.0		µg/L	1	11/21/2007 2:18:52 PM
Ethylbenzene	5.1	1.0		µg/L	1	11/21/2007 2:18:52 PM
Xylenes, Total	170	2.0		µg/L	1	11/21/2007 2:18:52 PM
Surr: 4-Bromofluorobenzene	106	70.2-105	S	%REC	1	11/21/2007 2:18:52 PM

Lab ID: 0711289-02 **Collection Date:** 11/15/2007 11:45:00 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	11/21/2007 3:19:14 PM
Toluene	ND	1.0		µg/L	1	11/21/2007 3:19:14 PM
Ethylbenzene	ND	1.0		µg/L	1	11/21/2007 3:19:14 PM
Xylenes, Total	ND	2.0		µg/L	1	11/21/2007 3:19:14 PM
Surr: 4-Bromofluorobenzene	89.3	70.2-105		%REC	1	11/21/2007 3:19:14 PM

Lab ID: 0711289-03 **Collection Date:** 11/15/2007 1:20:00 PM
Client Sample ID: MW#4 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	2.2	1.0		µg/L	1	11/21/2007 4:22:05 PM
Toluene	1.9	1.0		µg/L	1	11/21/2007 4:22:05 PM
Ethylbenzene	150	10		µg/L	10	11/21/2007 3:51:55 PM
Xylenes, Total	6500	100		µg/L	50	11/26/2007 4:39:42 PM
Surr: 4-Bromofluorobenzene	107	70.2-105	S	%REC	10	11/21/2007 3:51:55 PM

Qualifiers:

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

CHAIN-OF-CUSTODY RECORD

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

Client: BLAGG ENGR. / BP AMERICA

Project Name: GCU #229E (#316)

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

Project #:

Project Manager: NV

Phone #: 632-1199

Sampler: NV

Fax #:

Sample Temperature: /

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

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
11/15/07 NV	1230	WATER	MW #2	2-40ml	✓			0711289 1
11/15/07 NV	1145	WATER	MW #3	2-40ml	✓			2
11/15/07 NV	1320	WATER	MW #4	2-40ml	✓			3

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

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
11/15/07 NV	1415		8:21 11/19/07
Date: NV	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #229E (#316)
Work Order: 0711289

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R26192**	Analysis Date:	11/21/2007 9:29:58 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 5ML RB-B		*MBLK*			Batch ID:	**R26220**	Analysis Date:	11/26/2007 9:16:40 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:	**R26192**	Analysis Date:	11/21/2007 5:22:13 PM	
Benzene	20.11	µg/L	1.0	101	85.9	113			
Toluene	20.53	µg/L	1.0	103	86.4	113			
Ethylbenzene	20.99	µg/L	1.0	105	83.5	118			
Xylenes, Total	67.69	µg/L	2.0	113	83.4	122			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R26220**	Analysis Date:	11/26/2007 4:09:36 PM	
Benzene	20.64	µg/L	1.0	103	85.9	113			
Toluene	22.02	µg/L	1.0	110	86.4	113			
Ethylbenzene	22.65	µg/L	1.0	113	83.5	118			
Xylenes, Total	69.20	µg/L	2.0	115	83.4	122			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID:	**R26192**	Analysis Date:	11/21/2007 5:52:17 PM	
Benzene	20.18	µg/L	1.0	101	85.9	113	0.387	27	
Toluene	20.09	µg/L	1.0	100	86.4	113	2.21	19	
Ethylbenzene	20.67	µg/L	1.0	103	83.5	118	1.55	10	
Xylenes, Total	64.06	µg/L	2.0	107	83.4	122	5.52	13	

Qualifiers:

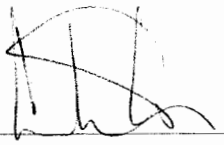
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date Received: 11/19/2007

Work Order Number 0711289 | Received by: ARS

Checklist completed by:  Signature | 11/19/07 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 _____