3R-420

BP AMERICA PRODUCTION CO.

GROUNDWATER REMEDIATION REPORT

GCU # 204E
(I) SECTION 34, T28N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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

APRIL 2008

PREPARED BY:
BLAGG ENGINEERING, INC.

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

BP AMERICA PRODUCTION COMPANY
GCU # 204E - Blow Pit
NE/4 SE/4, Sec. 34, T28N, R12W

Pit Closure Date: **June 2003 (blow pit)**

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

Monitor Well Sampling Dates: **11/14/06, 1/30/07, 4/25/07, 7/23/07, 10/25/07**

Site History:

A site blow pit closure was initiated in June 2003. Two (2) soil samples were collected at the pit center via backhoe at depths of approximately seven (7) and eleven (11) feet below grade respectively (see attached Field Report: Pit Closure Verification form). Split samples were collected at the seven (7) foot depth and submitted to three (3) different laboratories for comparison. 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 October 2003, Blagg Engineering, Inc. (**BEI**) attempted to investigate the vertical extent utilizing a truck mounted drill rig with solid 3 ¾ inch augers. Upon reaching a total depth of approximately thirty (30) 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	Laboratory	Date	Time	Media Type	OVM (ppm)	TPH (ppm)	Benzene (ppm)	Total BTEX (ppm)
1 @ 7'	Envirotech	06/03/03	0750	soil	**1,096**	**1,480**	0.291	6.290
1 @ 7'	Hall	06/03/03	0750	soil	**1,096**	**9,700**	3.1	**202.1**
1 @ 7'	iina ba	06/03/03	0750	soil	**1,096**	**10,370**	4.8	**304.8**
2 @ 11'	Hall	06/03/03	0800	soil	**1,005**	**8,000**	4.9	**184.9**
BH-1 @ 27--29'	Hall	10/23/03	1120	soil	N/A	ND	0.34	9.64
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). All three (3) 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. Silty sand, silty clay to clay was observed at depths greater than twelve (12) feet below grade and with varying 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 compressor tank pit located on the well pad. 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 (MW #2) revealed all BTEX constituents in excess of the New Mexico Water Quality Control Commission (**NMWQCC**) groundwater standards during three (3) of four (4) sampling events. Monitor well MW #1 has revealed all BTEX constituents well below 25% of the NMWQCC groundwater standards during the initial sampling event. Monitor well MW #3 showed the first two (2) sampling events with benzene below NMWQCC groundwater standards, but exceeding 25% of the regulatory standard, therefore placing it on a quarterly sampling schedule according to BP's GMP. The following subsequent sample events show benzene fluctuating above and below the NMWQCC groundwater standard of ten (10) parts per billion or micrograms per liter (µg/L). 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 in Appendix A.

Groundwater elevations have been measured with a gradient primarily towards the north direction (Figure 2, Figure 4, and Figure 5). Flow direction deviated to the northeast during the April 2007 sampling event (Figure 3). It is postulated that the initiation of seasonal irrigation of the nearby agricultural operation (Navajo Agricultural Product Industry or **NAPI**) was the key factor in this observable event.

Summary and/or Recommendations:

The well site is located in a very remote area of San Juan County near the NAPI area. The presence of BTEX well above NMWQCC groundwater standards within the source area (MW #2) indicates possible long term monitoring is potentially required. It is recommended to re-excavate the source area to a greater depth utilizing a trackhoe, reinstall the source area monitor well, and delineate the lateral extent with a minimum of two (2) additional monitor wells in the north and northeast directions. Continuation of quarterly monitor of MW #3 is also advised.

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 #204E API #: 30-045- 25262 U/L or Qtr/Qtr I Sec 34 T 28N R 12W
County: SAN JUAN Latitude 36.61615 Longitude 108.09146 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 14.5 ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments: PIT LOCATED APPROXIMATELY 531 FT. N3W FROM WELL HEAD.
PIT EXCAVATION: WIDTH 18 ft., LENGTH 16 ft., DEPTH 10 ft. .
PIT REMEDIATION: CLOSE AS IS: ☐, LANDFARM: ☒, COMPOST: ☐, STOCKPILE: ☐, OTHER ☐ (explain) MONITORING
Cubic yards: 100
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 Jeffrey C Blagg

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:

VNL 3004525262 36.61615 108.09146

CLIENT: BP	**BLAGG ENGINEERING, INC.** **P.O. BOX 87, BLOOMFIELD, NM 87413** **(505) 632-1199**	LOCATION NO: B1221 10880 12166 COCR NO: N/A

FIELD REPORT: PIT CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: GCU WELL #: 204E TYPE: BLOW

QUAD/UNIT: I SEC: 34 TWP: 28N RNG: 12W PM: NM CNTY: SJ ST: NM

QTR/FOOTAGE: N10'S/425'E NE/SE CONTRACTOR: FUNT (BEN)

DATE STARTED: 6/3/03

DATE FINISHED:

ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. 18 FT. x 16 FT. x 10 FT. DEEP. CUBIC YARDAGE: 100

DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARM

LAND USE: NAPI - SURF. LSE. - NAVAJO LEASE: NAVAJO FORMATION: DK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 531 FT. N3W FROM WELLHEAD.

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

NMOCD RANKING SCORE: 20 NMOCD TPH CLOSURE STD: 100 PPM

SOIL AND EXCAVATION DESCRIPTION:

OVM CALIB. READ. = 53.8 ppm
OVM CALIB. GAS = 100 ppm RF = 0.52
TIME: 8:12 am/pm DATE: 6/3/03

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

SOIL COLOR: DK. YELL ORANGE TO BLACK

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 - LT. GRAY TO BLACK (SEE PIT PROFILE)

HC ODOR DETECTED: (YES) / NO EXPLANATION - EXCAVATED SOIL & OVM SAMPLES.

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

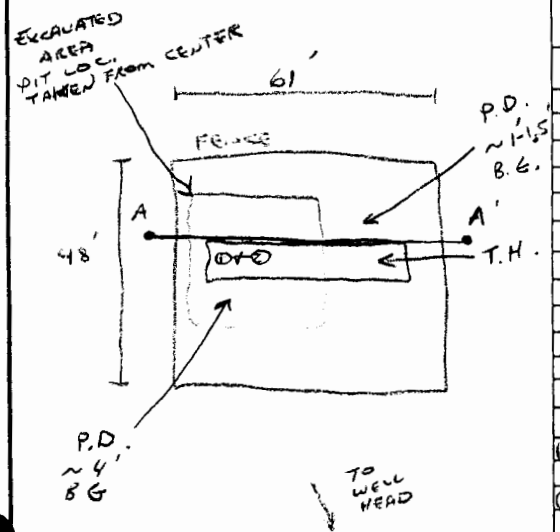
ADDITIONAL COMMENTS: VERTICAL EXTENT NEEDS TO BE ESTABLISHED.

FIELD 418.1 CALCULATIONS

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

SCALE 0 FT

PIT PERIMETER



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

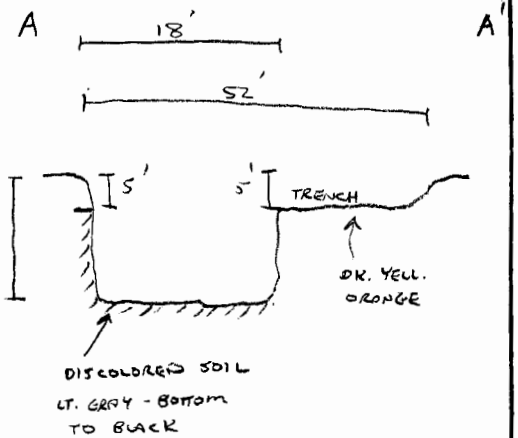
OVM READING

SAMPLE ID	FIELD HEADSPACE (ppm)
1 @ 7'	1096
2 @ 11'	1005
3 @	
4 @	
5 @	

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
① @ 7'	TPH & BTEX	0750
② @ 11'	TPH & BTEX	0800

PIT PROFILE



TRAVEL NOTES: CALLOUT: 6/2/03 - AFTER. ONSITE: 6/3/03 - MORN.

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

GCU # 204E

UNIT I, SEC. 34, T28N, R12W

REVISED DATE: November 26, 2007

FILENAME: (204E4Q07.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	18.57	27.00	584	1,100	7.33		ND	3.0	2.3	13
14-Nov-06	MW #2	16.69	27.50	924	1,400	6.80		1,000	3,900	1,100	9,700
30-Jan-07		16.97			1,200	6.89		900	1,600	1,400	12,000
25-Apr-07		16.37			1,000	6.78		790	1,200	1,100	13,000
23-Jul-07		15.16			1,000	6.82		940	630	1,800	12,000
30-Jan-07	MW #3	13.92	25.00	620	1,000	7.00		8.2	ND	71	120
25-Apr-07		11.81			900	6.91		8.3	ND	25	140
23-Jul-07		11.89			1,000	6.74		26	ND	90	270
25-Oct-07		10.37			1,100	7.00		2.4	ND	4.7	11
					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 # 204E

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

PARAMETERS	MW # 1 01/30/07	MW # 2 11/14/06	MW # 3 01/30/07	NMWQCC STANDARDS	Units
LAB pH	7.12	7.08	7.10	7 - 9	s. u.
LAB CONDUCTIVITY @ 25 C	1,110	1,310	1,090		umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	584	924	620	1,000	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	574	918	617		mg / L
SODIUM ABSORPTION RATIO	1.4	5.4	1.4		ratio
TOTAL ALKALINITY AS CaCO3	254	420	369		mg / L
TOTAL HARDNESS AS CaCO3	331	300	394		mg / L
BICARBONATE as HCO3	254	420	369		mg / L
CARBONATE AS CO3	< 0.1	< 0.1	< 0.1		mg / L
HYDROXIDE AS OH	< 0.1	< 0.1	< 0.1		mg / L
NITRATE NITROGEN	10.8	3.9	0.8	10	mg / L
NITRITE NITROGEN	0.484	0.43	0.082		mg / L
CHLORIDE	42.2	192.0	96.2	250	mg / L
FLUORIDE	0.57	1.00	0.69	1.60	mg / L
PHOSPHATE	1.2	0.6	0.8		mg / L
SULFATE	180	142	90	600	mg / L
IRON	0.006	0.672	0.001	1.0	mg / L
CALCIUM	102	84.5	108		mg / L
MAGNESIUM	18.8	21.7	30.3		mg / L
POTASSIUM	3.48	2.82	3.39		mg / L
SODIUM	60.4	214	63		mg / L
CATION / ANION DIFFERENCE	0.03%	0.11%	0.02%		

NOTES:
1) N/A INDICATES NOT AVAILABLE .
2) s. u. INDICATES STANDARD UNIT .
3) umhos / cm INDICATES MICRO OHMS PER CENTIMETER.
4) mg / L INDICATES MILLIGRAMS PER LITER.

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 #204E
(I)Sec. 34 - 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 fourteen and one half (14.5) 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 benzene, toluene, ethylbenzene and total xylenes (BTEX) 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	1,000
Toluene	3,900
Ethylbenzene	1,100
Total Xylenes	9,700

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.

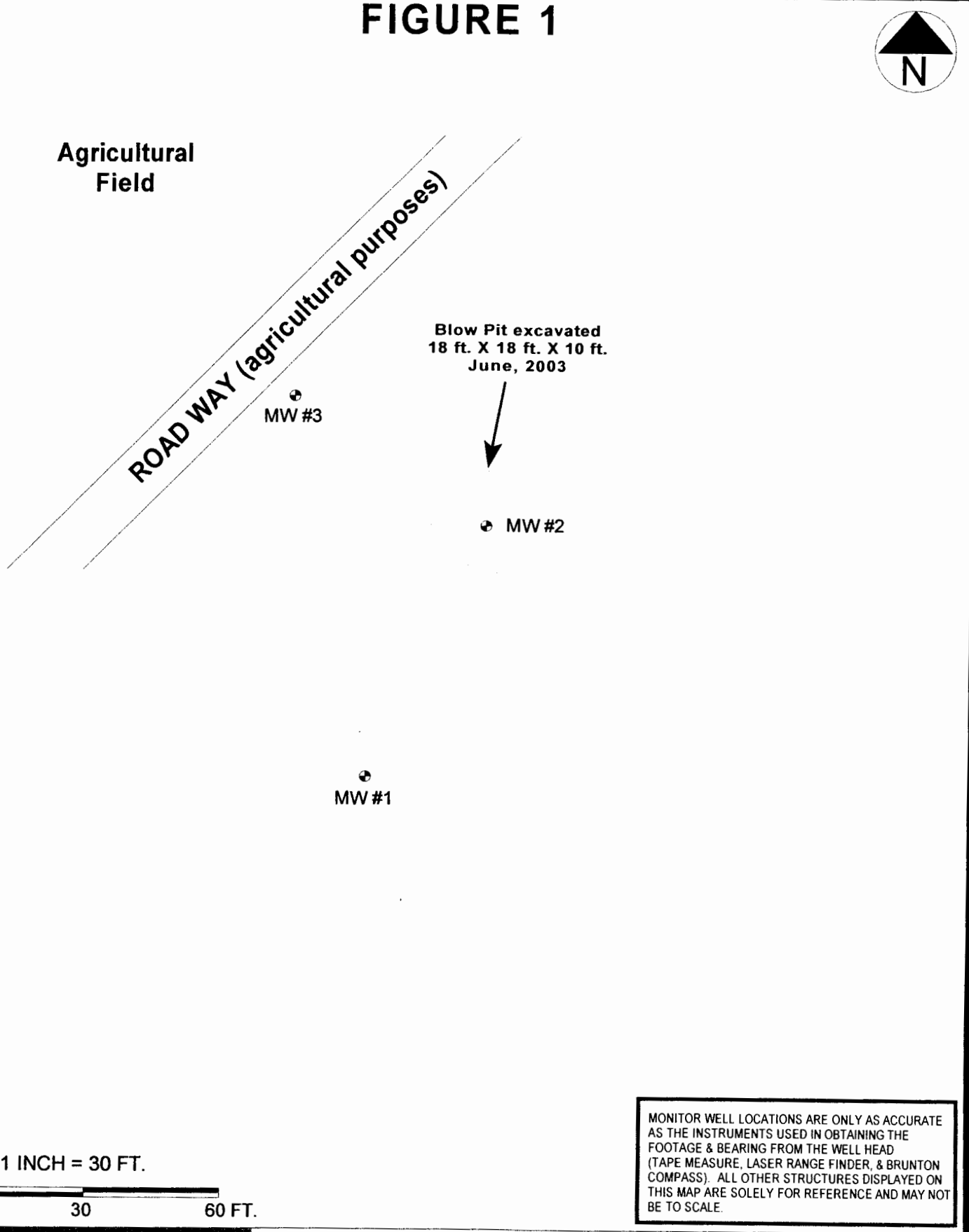
Respectfully:
Blagg Engineering, Inc.

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: GCU204Egwrelease.wpd

FIGURE 1



1 INCH = 30 FT.

0 30 60 FT.

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

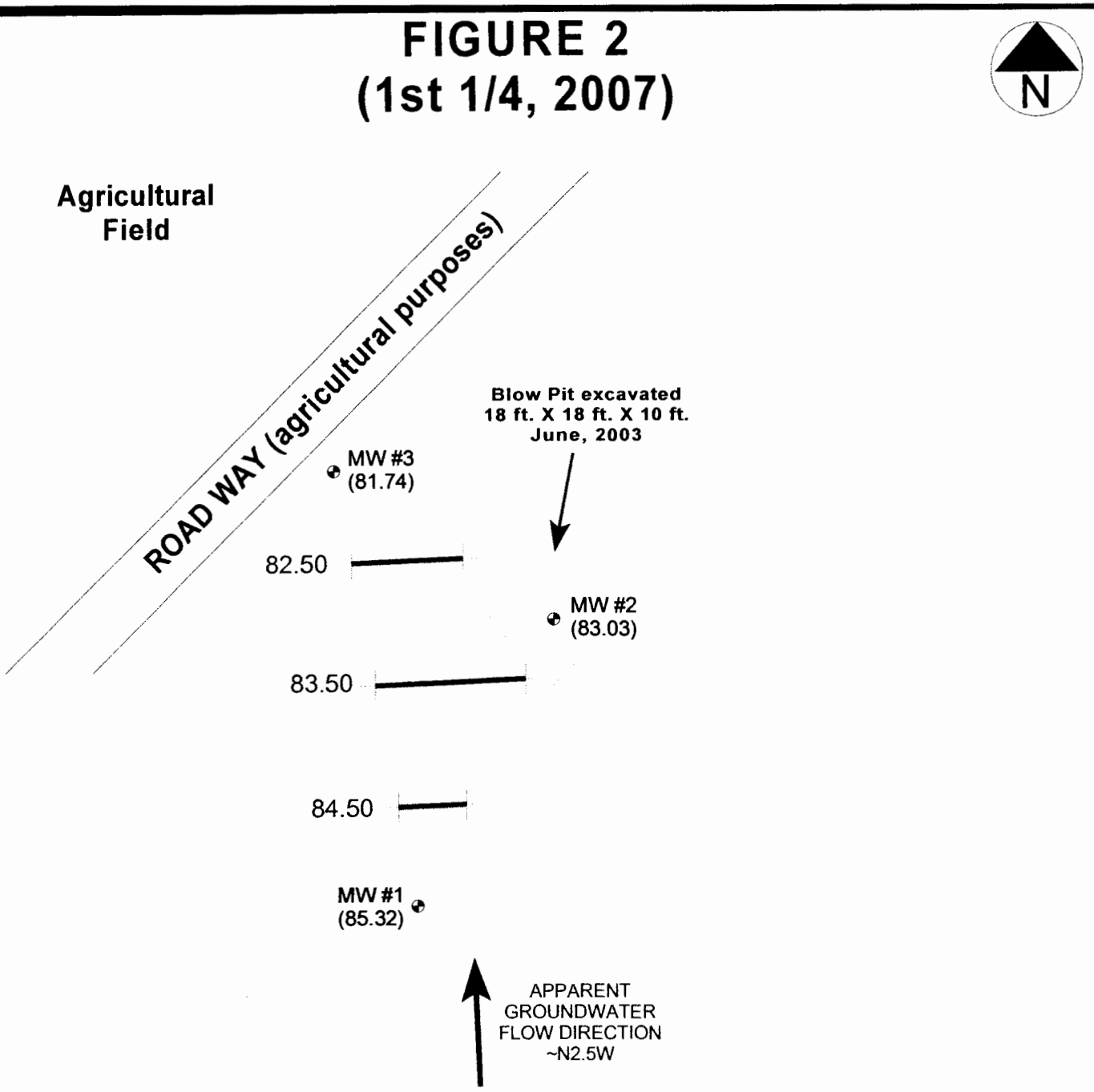
BP AMERICA PRODUCTION CO.
GCU #204E
NE/4 SE/4 SEC. 34, T28N, R12W
SAN JUAN COUNTY, NEW MEXICO

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 204E-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	(103.89)
MW #2	(100.00)
MW #3	(95.66)
MW #1 (85.32)	Groundwater Elevation as of 1/30/07.

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 #204E

NE/4 SE/4 SEC. 34, 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

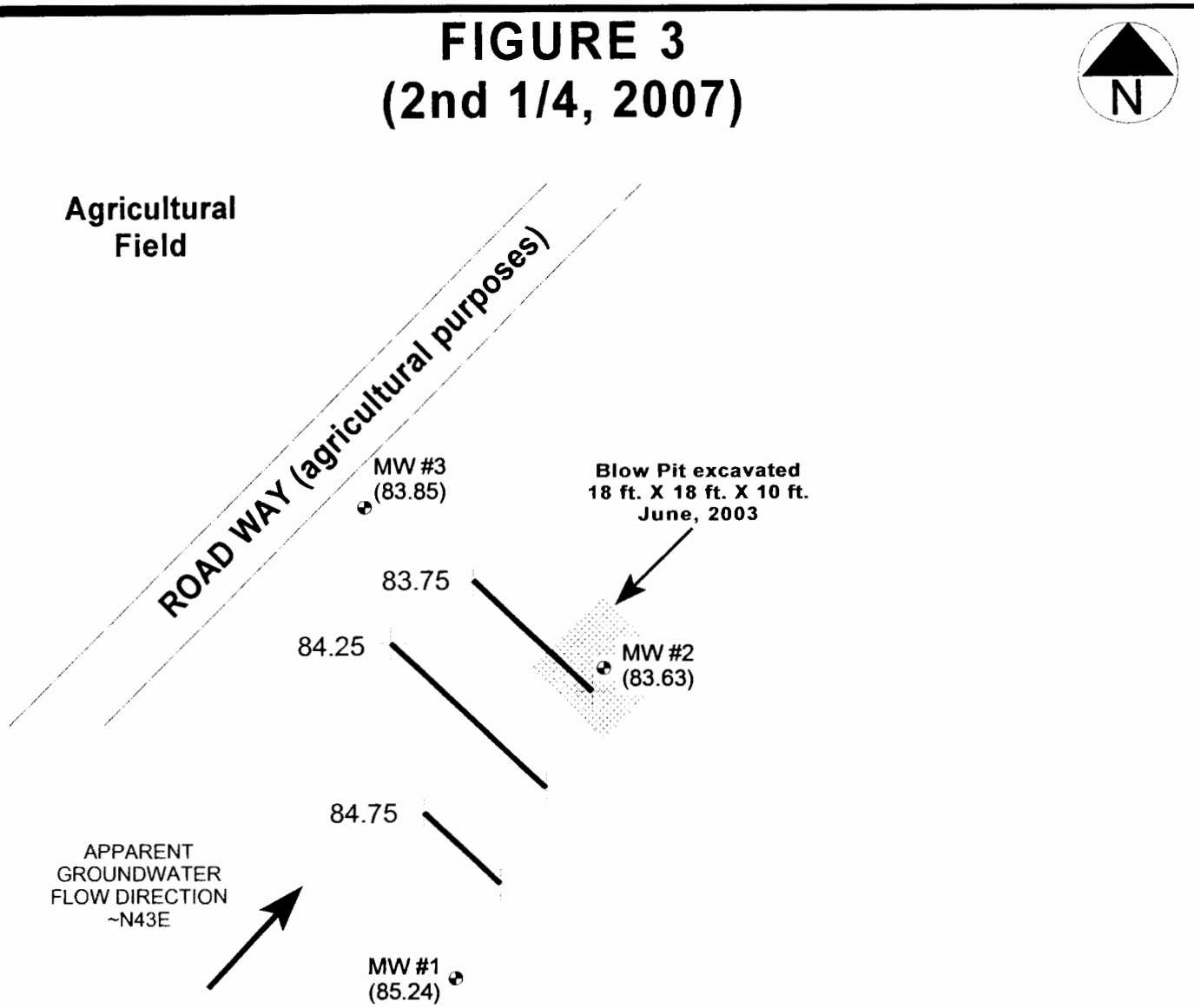
FILENAME: 01-30-07-GW.SKF

DRAFTED: 01-31-07 NJV

GROUNDWATER CONTOUR MAP

01/07

FIGURE 3
(2nd 1/4, 2007)



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1 INCH = 30 FT.

0 30 60 FT.

	Top of Well Elevation
MW #1	(103.89)
MW #2	(100.00)
MW #3	(95.66)
MW #1 (85.32)	Groundwater Elevation as of 1/30/07.

BP AMERICA PRODUCTION CO.

GCU #204E

NE/4 SE/4 SEC. 34, 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

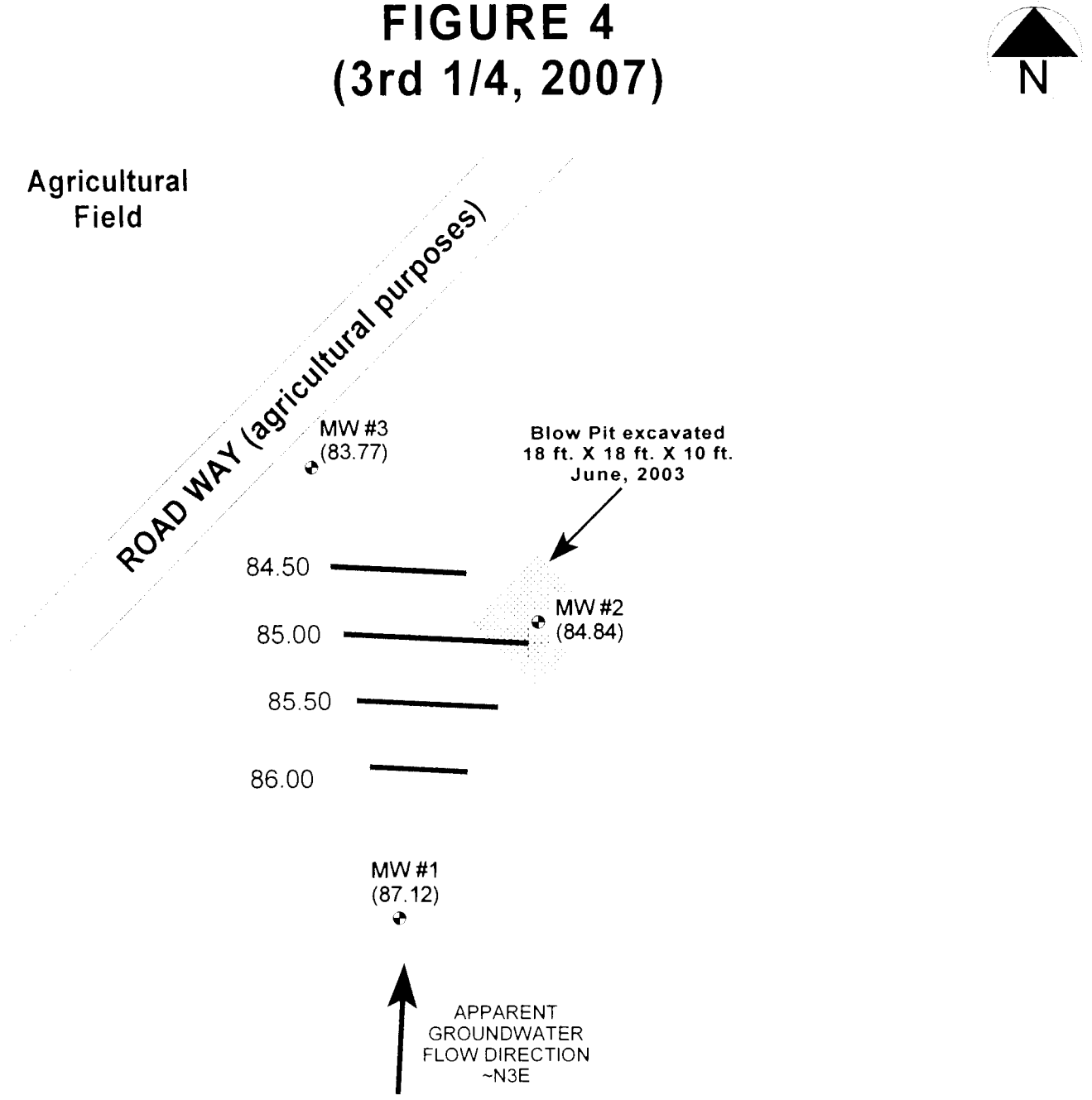
FILENAME: 04-25-07-GW.SKF

DRAFTED: 04-30-07 NJV

GROUNDWATER CONTOUR MAP

04/07

FIGURE 4
(3rd 1/4, 2007)



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1 INCH = 30 FT.

0 30 60 FT.

	Top of Well Elevation
MW #1	(103.89)
MW #2	(100.00)
MW #3	(95.66)
MW #1 (87.12)	Groundwater Elevation as of 7/23/07.

BP AMERICA PRODUCTION CO.

GCU #204E

NE/4 SE/4 SEC. 34, 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

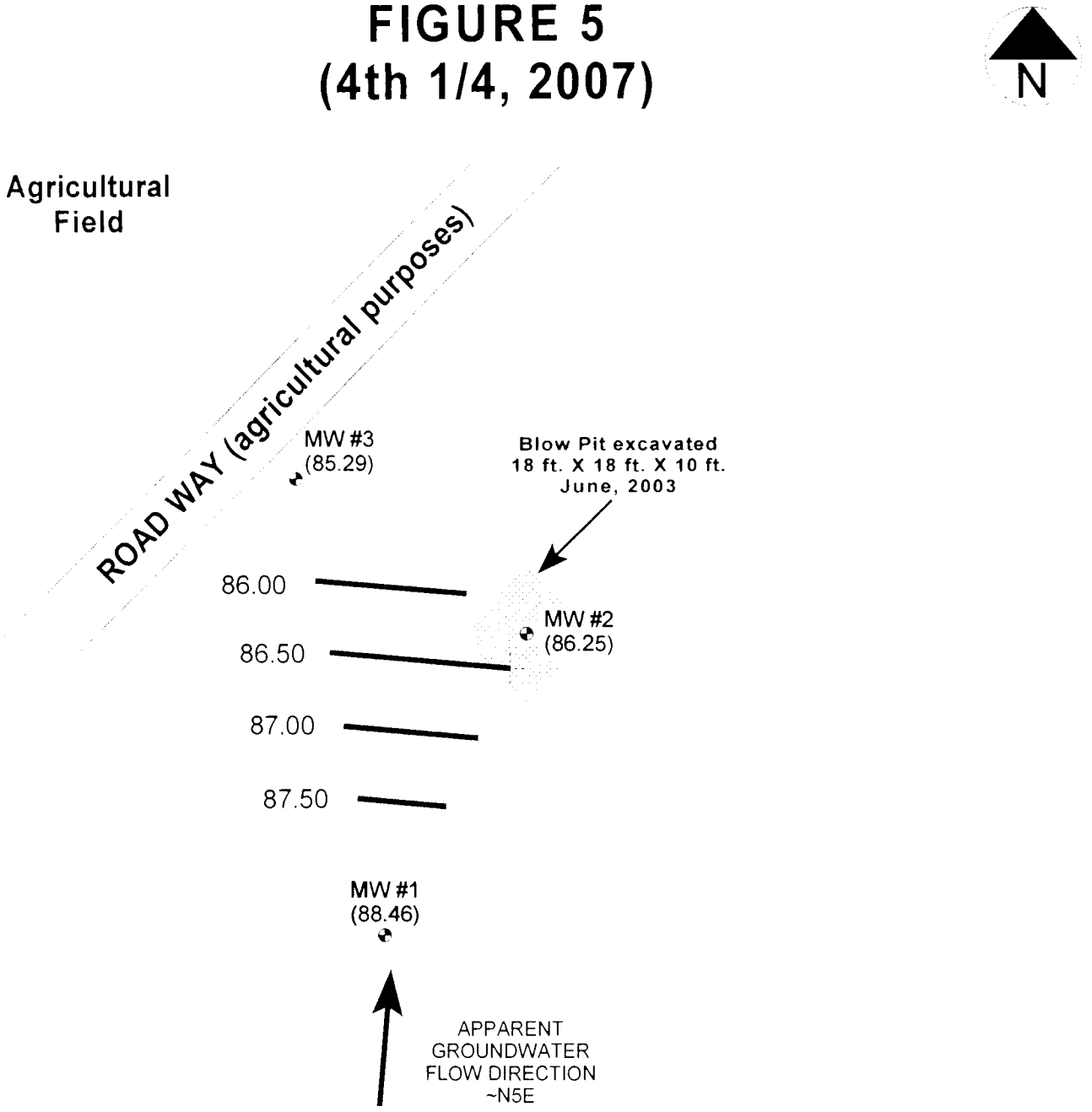
FILENAME: 07-23-07-GW.SKF

DRAFTED: 07-25-07 NJV

GROUNDWATER CONTOUR MAP

07/07

FIGURE 5
(4th 1/4, 2007)



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

1 INCH = 30 FT.

0 30 60 FT.

	Top of Well Elevation
MW #1	(103.89)
MW #2	(100.00)
MW #3	(95.66)
MW #1 (88.46)	Groundwater Elevation as of 10/25/07.

BP AMERICA PRODUCTION CO.

GCU #204E

NE/4 SE/4 SEC. 34, 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: 10-25-07-GW.SKF

DRAFTED: 10-25-07 NJV

GROUNDWATER CONTOUR MAP

10/07

BLAGG ENGINEERING, Inc.

P.O. BOX 87

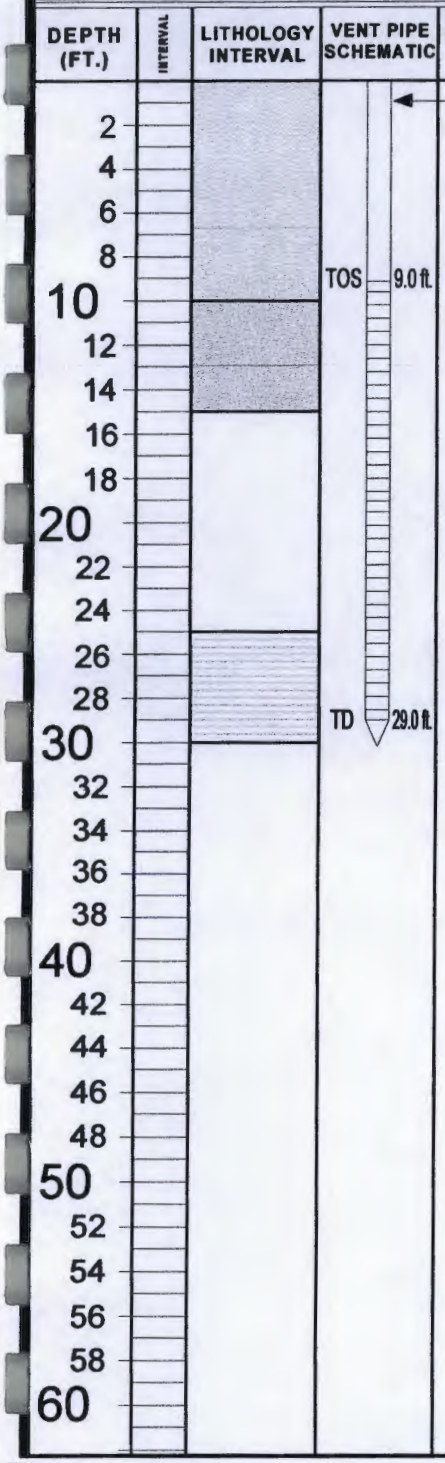
BLOOMFIELD, NM 87413

(505) 632-1199

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION COMPANY
LOCATION NAME:	GCU # 204E BLOW PIT - UNIT I, SEC. 34, T28N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	EARTHPROBE 200
BORING LOCATION:	532 FEET, N3W FROM WELL HEAD.

BORING #.....	BH - 1
MW #.....	NA
PAGE #.....	1
DATE STARTED	10/23/03
DATE FINISHED	10/23/03
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

TOP OF CASING APROX. 0.50 FT. ABOVE GRADE.

BACKFILL MATERIAL - DARK YELLOWISH ORANGE TO MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 10.0 FT. BELOW GRADE).

OLIVE GRAY SAND TO SILTY SAND, NON COHESIVE, SLIGHTY MOIST, APPARENT STRONG HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (10.0 - 15.0 FT. BELOW GRADE).

OLIVE TO LIGHT MEDIUM GRAY SILTY SAND TO SILTY CLAY, NON COHESIVE, SLIGHTLY MOIST TO WET, STRONG APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (15.0 - 25.0 FT. BELOW GRADE).

OLIVE GRAY SILTY CLAY, NON COHESIVE, SATURATED, DENSE, STRONG APPARENT HYDRO-CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS, (25.0 - 30.0 FT. BELOW GRADE). BH1 @ 27-29 FT. - CONDUCTED DURING BORE HOLE ADVANCEMENT ON 10/23/03; TIME COLLECTED 1120, TPH = **110** ppm; Benzene = **0.34** ppm; Total BTEX = **9.64** ppm.

NOTES:

- SAND (BACKFILL MATERIAL).
- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.
- SILTY CLAY.

TPH - Total Petroleum Hydrocarbons (US EPA Method 8015B).
BTEX - benzene, toluene, ethylbenzene, & total xylenes (US EPA Method 8021B).
ppm - parts per million.
TOS - Top of screen.
TD - Total depth/bottom extent.

Passive vent pipe consist of 2 inch PVC - casing from approximately 0.5 ft. above grade to 9.0 ft. below grade, 0.010 slotted screen between 9.0 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: **GCU204E BH1. SKF** | DATE: **11/13/03** | DWN BY: **NJV**

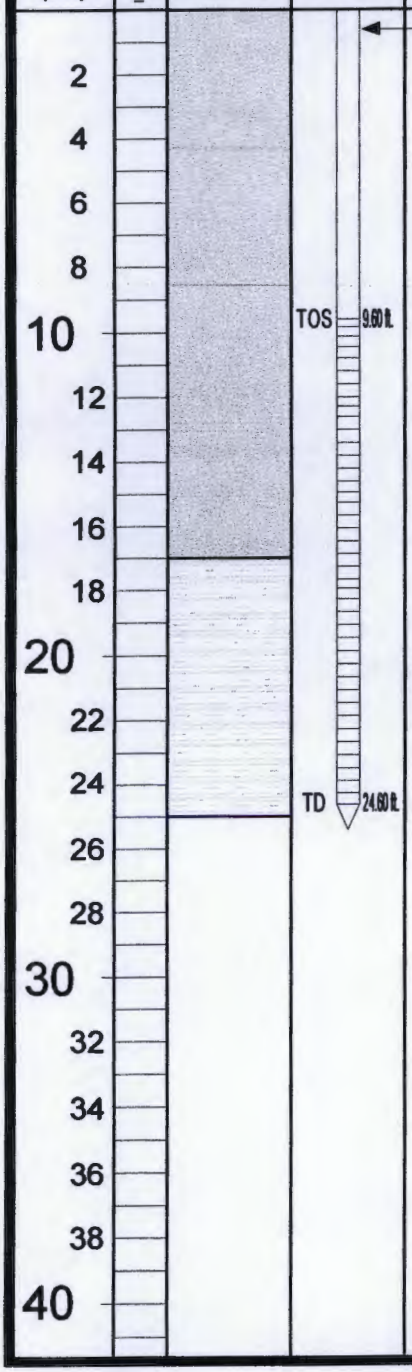
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #1

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU #204E UNIT I, SEC. 34, T28N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	61.5 FEET, S25.5W FROM MW#2.

BORING #.....	BH - 2
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 - 17.0 FT. BELOW GRADE).

GREENISH TO DARK GREENISH GRAY SILTY CLAY, COHESIVE, DRY TO SLIGHTLY MOIST, FIRM TO DENSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (17.0 - 25.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SILTY CLAY.

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 9.60 ft. below grade, 0.010 slotted screen between 9.60 to 24.60 ft. below grade, sand packed annular to 8.0 ft. below grade, bentonite grout between 5.0 to 8.0 ft. below grade, clean fill dirt between 0.0 to 5.0 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

DRAWING: GCU 204E MW1-BH2. SKF | DATE: 01/19/07 | DWN BY: NJV

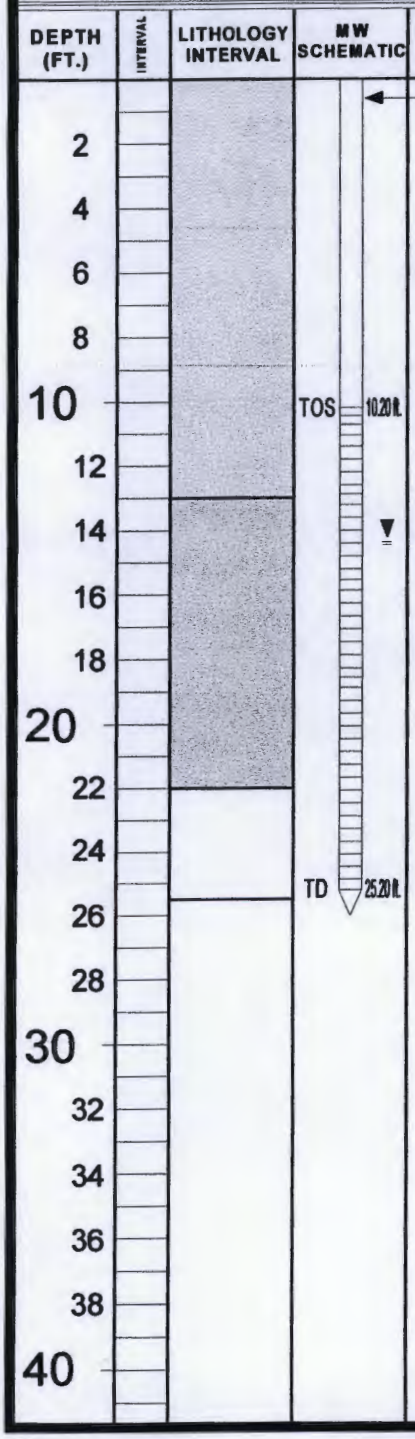
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #2

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU #204E UNIT I, SEC. 34, T28N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	531 FEET, N3W FROM WELL HEAD.

BORING #.....	BH - 1A
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. 2.30 FEET ABOVE GRADE.

DARK YELLOWISH ORANGE TO MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 13.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 14.39 FT. FROM GROUND SURFACE MEASURED ON 11/14/06.

GREENISH TO DARK GREENISH GRAY SILTY SAND TO SILTY CLAY, NON COHESIVE, SLIGHTLY MOIST TO WET, FIRM TO DENSE, STRONG HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (13.0 - 22.0 FT. BELOW GRADE).

OLIVE GRAY SILTY CLAY, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM TO DENSE, SLIGHT APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (22.0 - 25.5 FT. BELOW GRADE).

NOTES:
- SAND.
- SILTY SAND TO SILTY CLAY (IMPACTED).
- SILTY CLAY.

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 2.30 ft. above grade to 10.20 ft. below grade, 0.010 slotted screen between 10.20 to 25.20 ft. below grade, sand packed annular to 6.5 ft. below grade, bentonite grout between 3.5 to 6.5 ft. below grade, portland cement between 0.0 to 3.5 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

DRAWING: GCU 204E MW2-BH1. SKF | DATE: 11/17/06 | DWN BY: NJV

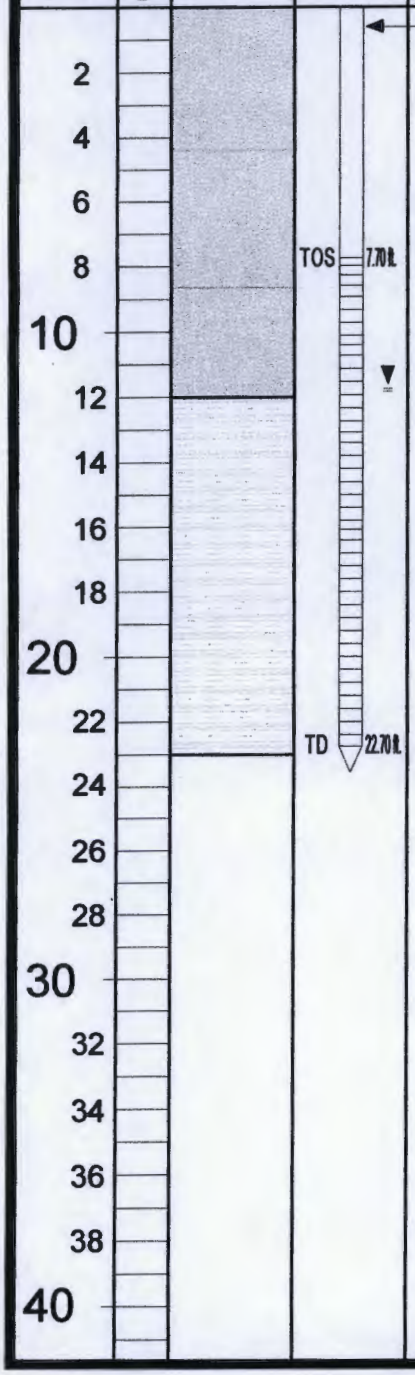
BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #3

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	GCU #204E UNIT I, SEC. 34, T28N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	51.5 FEET, N56W FROM MW#2.

BORING #.....	BH - 3
MW #.....	3
PAGE #.....	3
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. 2.30 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).

DEPTH TO WATER APPROX. 11.70 FT. FROM GROUND SURFACE MEASURED ON 11/14/06.

GREENISH TO DARK GREENISH GRAY SILTY CLAY TO CLAY, COHESIVE TO PLASTIC, DRY TO SLIGHTLY MOIST, DENSE TO STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (12.0 - 23.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SILTY CLAY TO CLAY.

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 2.30 ft. above grade to 7.70 ft. below grade, 0.010 slotted screen between 7.70 to 22.70 ft. below grade, sand packed annular to 6.0 ft. below grade, bentonite grout between 3.0 to 6.0 ft. below grade, clean fill dirt between 0.0 to 3.0 ft. below grade. Well protector encompassing above grade casing and secured with padlock.

DRAWING: GCU 204E MW3-BH3. SKF | DATE: 01/19/07 | DWN BY: NJV

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 @ 7'	Date Reported:	06-04-03
Laboratory Number:	25777	Date Sampled:	06-03-03
Chain of Custody No:	10880	Date Received:	06-03-03
Sample Matrix:	Soil	Date Extracted:	06-03-03
Preservative:	Cool	Date Analyzed:	06-04-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**723**	**0.2**
Diesel Range (C10 - C28)	**759**	**0.1**
Total Petroleum Hydrocarbons	**1,480**	**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 #204E 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 @ 7'	Date Reported:	06-04-03
Laboratory Number:	25777	Date Sampled:	06-03-03
Chain of Custody:	10880	Date Received:	06-03-03
Sample Matrix:	Soil	Date Analyzed:	06-04-03
Preservative:	Cool	Date Extracted:	06-03-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**291**	**1.8**
Toluene	**1,730**	**1.7**
Ethylbenzene	**1,520**	**1.5**
p,m-Xylene	**989**	**2.2**
o-Xylene	**1,760**	**1.0**
Total BTEX	**6,290**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	**98 %**
	1,4-difluorobenzene	**98 %**
	Bromochlorobenzene	**98 %**

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 #204E Blow Pit Grab Sample.**

Analyst

Review

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

Hall Environmental Analysis Laboratory

Date: *10-Jun-03*

CLIENT: Blagg Engineering
Client Sample ID: 1 @ 7'
Lab Order: 0306025
Collection Date: 6/3/2003 7:50:00 AM
Project: GCU #204E Blow Pit
Lab ID: 0306025-01
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **JMP**
Diesel Range Organics (DRO)	8100	100		mg/Kg	20	6/10/2003 2:48:10 PM
Motor Oil Range Organics (MRO)	1800	1000		mg/Kg	20	6/10/2003 2:48:10 PM
Surr: DNOP	86.4	60-124		%REC	20	6/10/2003 2:48:10 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	1600	250		mg/Kg	50	6/5/2003 6:18:09 PM
Surr: BFB	139	74-118	S	%REC	50	6/5/2003 6:18:09 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	3.1	1.3		mg/Kg	50	6/5/2003 6:18:09 PM
Toluene	57	1.3		mg/Kg	50	6/5/2003 6:18:09 PM
Ethylbenzene	12	1.3		mg/Kg	50	6/5/2003 6:18:09 PM
Xylenes, Total	130	1.3		mg/Kg	50	6/5/2003 6:18:09 PM
Surr: 4-Bromofluorobenzene	112	74-118		%REC	50	6/5/2003 6:18:09 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

612 E. Murray Drive
Farmington, NM 87499

Off: (505) 327-1072
FAX: (505) 327-1496

iiná bá

P.O. Box 3788
Shiprock, NM 87420

Off: (505) 368-4065

ANALYTICAL REPORT

Date: *17-Jun-03*

CLIENT:	Blagg Engineering	**Client Sample Info:**	BP - GCU #204E
Work Order:	0306008	**Client Sample ID:**	1 @ 7ft.
Project:	BP - GCU #204E Blow Pit	**Collection Date:**	6/3/2003 7:50:00 AM
Lab ID:	0306008-001A	**Matrix:**	SOIL

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015B**				Analyst: **JEM**
T/R Hydrocarbons: C10-C28	8650	250		mg/Kg	10	6/6/2003
GASOLINE RANGE ORGANICS		**SW8015B**				Analyst: **JEM**
T/R Hydrocarbons: C6-C10	1720	180		mg/Kg	1000	6/4/2003
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **DWC**
Benzene	4800	2500		µg/Kg	2500	6/12/2003
Ethylbenzene	18000	2500		µg/Kg	2500	6/12/2003
m,p-Xylene	160000	5000		µg/Kg	2500	6/12/2003
o-Xylene	37000	2500		µg/Kg	2500	6/12/2003
Toluene	85000	5000		µg/Kg	2500	6/12/2003

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted precision limits
E - Value above Upper Quantitation Limit - UQL

Hall Environmental Analysis Laboratory

Date: *10-Jun-03*

CLIENT: Blagg Engineering
Client Sample ID: 2 @ 11'
Lab Order: 0306025
Collection Date: 6/3/2003 8:00:00 AM
Project: GCU #204E Blow Pit
Lab ID: 0306025-02
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **JMP**
Diesel Range Organics (DRO)	6200	100		mg/Kg	20	6/10/2003 3:16:54 PM
Motor Oil Range Organics (MRO)	1600	1000		mg/Kg	20	6/10/2003 3:16:54 PM
Surr: DNOP	99.6	60-124		%REC	20	6/10/2003 3:16:54 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	1800	250		mg/Kg	50	6/5/2003 6:51:21 PM
Surr: BFB	149	74-118	S	%REC	50	6/5/2003 6:51:21 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	4.9	1.3		mg/Kg	50	6/5/2003 6:51:21 PM
Toluene	48	1.3		mg/Kg	50	6/5/2003 6:51:21 PM
Ethylbenzene	12	1.3		mg/Kg	50	6/5/2003 6:51:21 PM
Xylenes, Total	120	1.3		mg/Kg	50	6/5/2003 6:51:21 PM
Surr: 4-Bromofluorobenzene	110	74-118		%REC	50	6/5/2003 6:51:21 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CHAIN OF CUSTODY RECORD

10880

Client / Project Name: BLAGG/BP

Project Location: GCU #204E

Sampler: NJV

Client No.: 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
① @ 7'	6/3/03	0750	25777	SOIL	1	✓	✓					BLOW PIT

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	6/3/03	1014	[signature]	6/3/03	1014
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	✓		

1.2°C

CHAIN-OF-CUSTODY RECORD

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

Client: BLAGG ENER. / BP AMERICA	Project Name: GCU # 204E Blow Pit
Address: P.O. Box 87 BLOOMFIELD, NM 87413	Project #:
	Project Manager: NELSON VELEZ
Phone #: 505-632-1199	Sampler: NELSON VELEZ
Fax #: 505-632-3903	Samples Cold?: ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HCl	Preservative	HEAL No.
								030025
6/3/03	0750	SOIL	① @ 7'	1-4oz.				1
6/3/03	0800	SOIL	② @ 11'	1-4oz.				2

ANALYSIS REQUEST

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

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
6/3/03	0905	Nelson Velez	
			1/4/03 810
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

CHAIN OF CUSTODY RECORD

ON SITE TECHNOLOGIES, LTD.
612 E. Murray Dr. • P.O. Box 2606 • Farmington, NM 87499
LAB: (505) 325-5667 • FAX: (505) 327-1496

Date: 6/3/03

Page: 1 of 1

Purchase Order No.:	Project No.		
SEND INVOICE TO: Name	JEFF BLAGG	REPORT RESULTS TO: Name	NELSON VELEZ
Company	BLAGG ENGR. Dept.	Company	SAME
Address	P.O. BOX 87	Mailing Address	
City, State, Zip	BLOOMFIELD NM 87413	City, State, Zip	3903
		Telephone No.	632-1199
		Telefax No.	632-~~3759~~ 4115

PROJECT LOCATION: BP - GCU # 204E BLOW PIT

SAMPLER'S SIGNATURE: Nelson Velez

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	SAMPLE PRES.	Number of Containers	TPH (SW-846)	BTEX (SW-846)	LAB ID
① @ 7'	6/3/03	0750	SOIL	COOL	1	✓	✓	

Relinquished by: Nelson Velez	Date/Time 6/3/03	Received by: Heidi M	Date/Time 6/3/03 1000
Relinquished by:	Date/Time 1000	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Rush [ ] 24-48 Hours [ ] 10 Working Days [ ] By Date [ ]

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Special Instructions / Remarks: GRAB SAMPLE
17°C same day

Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client

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:	06-04-TPH QA/QC	Date Reported:	06-04-03
Laboratory Number:	25777	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-04-03
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	**723**	**720**	**0.4%**	**0 - 30%**
Diesel Range C10 - C28	**759**	**756**	**0.3%**	**0 - 30%**

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	**723**	**250**	**971**	**99.8%**	**75 - 125%**
Diesel Range C10 - C28	**759**	**250**	**1,000**	**99.2%**	**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 25777, 25779, 25792 - 25794, 25806.**

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:	06-04-BTEX QA/QC	Date Reported:	06-04-03
Laboratory Number:	25777	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-04-03
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	291	297	2.3%	0 - 30%	1.8
Toluene	1,730	1,700	1.7%	0 - 30%	1.7
Ethylbenzene	1,520	1,490	2.0%	0 - 30%	1.5
p,m-Xylene	989	1,010	2.1%	0 - 30%	2.2
o-Xylene	1,760	1,810	2.8%	0 - 30%	1.0

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	291	50.0	340	99.8%	39 - 150
Toluene	1,730	50.0	1,770	99.4%	46 - 148
Ethylbenzene	1,520	50.0	1,560	99.4%	32 - 160
p,m-Xylene	989	100	1,080	99.2%	46 - 148
o-Xylene	1,760	50.0	1,800	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 sample 25777.**

Analyst

Review

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Hall Environmental Analysis Laboratory

Date: *10-Jun-03*

CLIENT: Blagg Engineering
Work Order: 0306025
Project: GCU #204E Blow Pit

QC SUMMARY REPORT
Method Blank

Sample ID **MB-3741** Batch ID: **3741** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **6/10/2003 10:57:24 AM** Prep Date **6/9/2003**
Client ID: Run ID: **FID(17A)_030610A** SeqNo: **192638**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	5.0									
Motor Oil Range Organics (MRO)	ND	50									
Surr: DNOP	8.826	0	10	0	88.3	60	124	0			

Sample ID **MB-3717** Batch ID: **3717** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **6/5/2003 7:24:21 PM** Prep Date **6/4/2003**
Client ID: Run ID: **PIDFID_030605A** SeqNo: **191670**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	1.7	5.0	0	0	0	0	0	0			J
Surr: BFB	936	0	1000	0	93.6	74	118	0			

Sample ID **MB-3717** Batch ID: **3717** Test Code: **SW8021** Units: **mg/Kg** Analysis Date **6/5/2003 7:24:21 PM** Prep Date **6/4/2003**
Client ID: Run ID: **PIDFID_030605A** SeqNo: **191654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.025									
Toluene	ND	0.025									
Ethylbenzene	ND	0.025									
Xylenes, Total	ND	0.025									
Surr: 4-Bromofluorobenzene	1.042	0	1	0	104	74	118	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *10-Jun-03*

CLIENT: Blagg Engineering
Work Order: 0306025
Project: GCU #204E Blow Pit

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **LCS-3741** Batch ID: **3741** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **6/10/2003 11:26:41 AM** Prep Date **6/9/2003**
Client ID: Run ID: **FID(17A)_030610A** SeqNo: **192639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43.54	5.0	50	0	87.1	67.4	117	0			

Sample ID **LCSD-3741** Batch ID: **3741** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **6/10/2003 11:55:26 AM** Prep Date **6/9/2003**
Client ID: Run ID: **FID(17A)_030610A** SeqNo: **192640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51.63	5.0	50	0	103	67.4	117	43.54	17.0	17.4	

Sample ID **GRO Std 2.5ug** Batch ID: **3717** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **6/5/2003 9:02:39 PM** Prep Date
Client ID: Run ID: **PIDFID_030605A** SeqNo: **191714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23.71	5.0	25	1.7	88.0	85.8	111	0			

Sample ID **GRO Std 2.5ug** Batch ID: **3717** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **6/5/2003 9:35:06 PM** Prep Date
Client ID: Run ID: **PIDFID_030605A** SeqNo: **191718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25.3	5.0	25	1.7	94.4	85.8	111	23.71	6.49	11.6	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0306025
Project: GCU #204E Blow Pit

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID **BTEX Std 100ng** Batch ID: **3717** Test Code: **SW8021** Units: **mg/Kg** Analysis Date **6/5/2003 7:57:18 PM** Prep Date

Client ID: Run ID: **PIDFID_030605A** SeqNo: **191667**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1.08	0.025	1	0	108	77	122	0			
Toluene	1.071	0.025	1	0	107	81	115	0			
Ethylbenzene	1.071	0.025	1	0	107	84	117	0			
Xylenes, Total	3.236	0.025	3	0	108	84	116	0			

Sample ID **BTEX Std 100ng** Batch ID: **3717** Test Code: **SW8021** Units: **mg/Kg** Analysis Date **6/5/2003 8:30:01 PM** Prep Date

Client ID: Run ID: **PIDFID_030605A** SeqNo: **191669**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1.059	0.025	1	0	106	77	122	1.08	1.96	27	
Toluene	1.036	0.025	1	0	104	81	115	1.071	3.38	19	
Ethylbenzene	1.047	0.025	1	0	105	84	117	1.071	2.22	10	
Xylenes, Total	3.14	0.025	3	0	105	84	116	3.236	3.01	13	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name **BLAGG** Date and Time Receive

Work Order Number **0306025** Received by AMG

Checklist completed by A Gonzales 6/4/03
Signature Date

Matrix: Carrier name: Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑	
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑	
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? **16°** *4° C ± 2 Acceptable*

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Hall Environmental Analysis Laboratory

Date: *10-Jun-03*

CLIENT: Blagg Engineering
Project: GCU #204E Blow Pit
Lab Order: 0306025

CASE NARRATIVE

Analytical Comments for METHOD 8015GRO_S, SAMPLE 0306025-01a: Surrogate elevated due to matrix interference. Analytical Comments for METHOD 8015GRO_S, SAMPLE 0306025-02a: Surrogate elevated due to matrix interference.

iiná bá, Ltd.

Date: *17-Jun-03*

CLIENT: Blagg Engineering
Work Order: 0306008
Project: BP - GCU #204E Blow Pit

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015DR2_S

Sample ID **MB_030606**	SampType: **MBLK**	TestCode: **8015DR2_S**	Units: **mg/Kg**	Prep Date: **6/6/2003**	Run ID: **GC-2_030606A**
Client ID: **ZZZZZ**	Batch ID: **R4631**	TestNo: **SW8015B**		Analysis Date: **6/6/2003**	SeqNo: **67069**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	ND	25.0									

Sample ID **LCS_030606**	SampType: **LCS**	TestCode: **8015DR2_S**	Units: **mg/Kg**	Prep Date: **6/6/2003**	Run ID: **GC-2_030606A**
Client ID: **ZZZZZ**	Batch ID: **R4631**	TestNo: **SW8015B**		Analysis Date: **6/6/2003**	SeqNo: **67071**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	435.6	25.0	501	0	86.9	70	123	0	0		

Sample ID **0306009-001AMS**	SampType: **MS**	TestCode: **8015DR2_S**	Units: **mg/Kg**	Prep Date: **6/6/2003**	Run ID: **GC-2_030606A**
Client ID: **ZZZZZ**	Batch ID: **R4631**	TestNo: **SW8015B**		Analysis Date: **6/6/2003**	SeqNo: **67089**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	443.9	25.0	501	0	88.6	68	128	0	0		

Sample ID **0306008-001AD**	SampType: **DUP**	TestCode: **8015DR2_S**	Units: **mg/Kg**	Prep Date: **6/6/2003**	Run ID: **GC-2_030606A**
Client ID: **1 @ 7ft.**	Batch ID: **R4631**	TestNo: **SW8015B**		Analysis Date: **6/6/2003**	SeqNo: **67088**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	8807	250	0	0	0	0	0	8651	1.79	34	

Sample ID **CCV1_030606**	SampType: **CCV**	TestCode: **8015DR2_S**	Units: **mg/Kg**	Prep Date: **6/6/2003**	Run ID: **GC-2_030606A**
Client ID: **ZZZZZ**	Batch ID: **R4631**	TestNo: **SW8015B**		Analysis Date: **6/6/2003**	SeqNo: **67070**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	439.5	25.0	501	0	87.7	85	115	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0306008
Project: BP - GCU #204E Blow Pit

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015DR2_S

Sample ID	CCV2_030606	SampType:	CCV	TestCode:	8015DR2_S	Units:	mg/Kg	Prep Date:	6/6/2003	Run ID:	GC-2_030606A
Client ID:	ZZZZZ	Batch ID:	R4631	TestNo:	SW8015B			Analysis Date:	6/6/2003	SeqNo:	67090

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	467.6	25.0	501	0	93.3	85	115	0	0		

Sample ID	CCV3_030606	SampType:	CCV	TestCode:	8015DR2_S	Units:	mg/Kg	Prep Date:	6/6/2003	Run ID:	GC-2_030606A
Client ID:	ZZZZZ	Batch ID:	R4631	TestNo:	SW8015B			Analysis Date:	6/6/2003	SeqNo:	67091

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C28	486.2	25.0	501	0	97	85	115	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0306008
Project: BP - GCU #204E Blow Pit

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GRO_S

Sample ID	MB_030604	SampType:	MBLK	TestCode:	8015GRO_S	Units:	mg/Kg	Prep Date:	6/4/2003	Run ID:	GC-1B_030604A	
Client ID:	ZZZZZ	Batch ID:	R4625	TestNo:	SW8015B			Analysis Date:	6/4/2003	SeqNo:	66926	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10		0.695	4.50									J

Sample ID	LCS_030604	SampType:	LCS	TestCode:	8015GRO_S	Units:	mg/Kg	Prep Date:	6/4/2003	Run ID:	GC-1B_030604A	
Client ID:	ZZZZZ	Batch ID:	R4625	TestNo:	SW8015B			Analysis Date:	6/4/2003	SeqNo:	66928	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10		46.09	4.50	45	0.695	101	66	129	0	0		

Sample ID	0306005-001AMS	SampType:	MS	TestCode:	8015GRO_S	Units:	mg/Kg	Prep Date:	6/4/2003	Run ID:	GC-1B_030604A	
Client ID:	ZZZZZ	Batch ID:	R4625	TestNo:	SW8015B			Analysis Date:	6/4/2003	SeqNo:	66947	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10		45.92	4.50	45	0	102	69	122	0	0		

Sample ID	0306005-001AMSD	SampType:	MSD	TestCode:	8015GRO_S	Units:	mg/Kg	Prep Date:	6/4/2003	Run ID:	GC-1B_030604A	
Client ID:	ZZZZZ	Batch ID:	R4625	TestNo:	SW8015B			Analysis Date:	6/4/2003	SeqNo:	66948	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10		44.23	4.50	45	0	98.3	69	121	45.92	3.75	10	

Sample ID	CCV1_030604	SampType:	CCV	TestCode:	8015GRO_S	Units:	mg/Kg	Prep Date:	6/4/2003	Run ID:	GC-1B_030604A	
Client ID:	ZZZZZ	Batch ID:	R4625	TestNo:	SW8015B			Analysis Date:	6/4/2003	SeqNo:	66927	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10		1.815	0.180	1.8	0	101	85	115	0	0		

Sample ID	CCV2_030604	SampType:	CCV	TestCode:	8015GRO_S	Units:	mg/Kg	Prep Date:	6/4/2003	Run ID:	GC-1B_030604A	
Client ID:	ZZZZZ	Batch ID:	R4625	TestNo:	SW8015B			Analysis Date:	6/4/2003	SeqNo:	66949	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0306008
Project: BP - GCU #204E Blow Pit

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GRO_S

Sample ID	CCV2_030604	SampType:	CCV	TestCode:	8015GRO_S	Units:	mg/Kg	Prep Date:	6/4/2003	Run ID:	GC-1B_030604A
Client ID:	ZZZZZ	Batch ID:	R4625	TestNo:	SW8015B			Analysis Date:	6/4/2003	SeqNo:	66949

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	1.806	0.180	1.8	0	100	85	115	0	0		

Sample ID	CCV3_030604	SampType:	CCV	TestCode:	8015GRO_S	Units:	mg/Kg	Prep Date:	6/4/2003	Run ID:	GC-1B_030604A
Client ID:	ZZZZZ	Batch ID:	R4625	TestNo:	SW8015B			Analysis Date:	6/4/2003	SeqNo:	66950

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	1.709	0.180	1.8	0	94.9	85	115	0	0		

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0306008
Project: BP - GCU #204E Blow Pit

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_S

Sample ID MB_030602	SampType: MBLK	TestCode: BTEX_S	Units: µg/Kg	Prep Date: 6/2/2003	Run ID: GC-1_030606A
Client ID: ZZZZZ	Batch ID: R4629	TestNo: SW8021B		Analysis Date: 6/6/2003	SeqNo: 67048

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	25									
Ethylbenzene	22.16	25									J
m,p-Xylene	32.76	50									J
o-Xylene	ND	25									
Toluene	ND	50									

Sample ID MB_030605	SampType: MBLK	TestCode: BTEX_S	Units: µg/Kg	Prep Date: 6/5/2003	Run ID: GC-1_030606A
Client ID: ZZZZZ	Batch ID: R4629	TestNo: SW8021B		Analysis Date: 6/6/2003	SeqNo: 67049

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	25									
Ethylbenzene	11.68	25									J
m,p-Xylene	ND	50									
o-Xylene	ND	25									
Toluene	ND	50									

Sample ID MB_030612	SampType: MBLK	TestCode: BTEX_S	Units: µg/Kg	Prep Date: 6/12/2003	Run ID: GC-1_030612A
Client ID: ZZZZZ	Batch ID: R4638	TestNo: SW8021B		Analysis Date: 6/12/2003	SeqNo: 67182

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	25									
Ethylbenzene	10.58	25									J
m,p-Xylene	ND	50									
o-Xylene	ND	25									
Toluene	ND	50									

Sample ID LCS_030602	SampType: LCS	TestCode: BTEX_S	Units: µg/Kg	Prep Date: 6/2/2003	Run ID: GC-1_030606A
Client ID: ZZZZZ	Batch ID: R4629	TestNo: SW8021B		Analysis Date: 6/6/2003	SeqNo: 67046

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1483	25	1500	0	98.9	75	115	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Blagg Engineering
Work Order: 0306008
Project: BP - GCU #204E Blow Pit

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_S

Sample ID	LCS_030602	SampType:	LCS	TestCode:	BTEX_S	Units:	µg/Kg	Prep Date:	6/2/2003	Run ID:	GC-1_030606A
Client ID:	ZZZZZ	Batch ID:	R4629	TestNo:	SW8021B			Analysis Date:	6/6/2003	SeqNo:	67046

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	1454	25	1500	22.16	95.5	75	120	0	0		
m,p-Xylene	2931	50	3000	32.76	96.6	73	118	0	0		
o-Xylene	1453	25	1500	0	96.9	75	117	0	0		
Toluene	1439	50	1500	0	95.9	72	116	0	0		

Sample ID	LCS_030605	SampType:	LCS	TestCode:	BTEX_S	Units:	µg/Kg	Prep Date:	6/5/2003	Run ID:	GC-1_030606A
Client ID:	ZZZZZ	Batch ID:	R4629	TestNo:	SW8021B			Analysis Date:	6/6/2003	SeqNo:	67047

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1434	25	1500	0	95.6	75	115	0	0		
Ethylbenzene	1396	25	1500	11.68	92.3	75	120	0	0		
m,p-Xylene	2815	50	3000	0	93.8	73	118	0	0		
o-Xylene	1402	25	1500	0	93.5	75	117	0	0		
Toluene	1385	50	1500	0	92.3	72	116	0	0		

Sample ID	LCS_030612	SampType:	LCS	TestCode:	BTEX_S	Units:	µg/Kg	Prep Date:	6/12/2003	Run ID:	GC-1_030612A
Client ID:	ZZZZZ	Batch ID:	R4638	TestNo:	SW8021B			Analysis Date:	6/12/2003	SeqNo:	67181

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1486	25	1500	0	99.1	75	115	0	0		
Ethylbenzene	1475	25	1500	10.58	97.6	75	120	0	0		
m,p-Xylene	2962	50	3000	0	98.7	73	118	0	0		
o-Xylene	1462	25	1500	0	97.5	75	117	0	0		
Toluene	1452	50	1500	0	96.8	72	116	0	0		

Sample ID	0305039-002AMS	SampType:	MS	TestCode:	BTEX_S	Units:	µg/Kg	Prep Date:	6/2/2003	Run ID:	GC-1_030606A
Client ID:	ZZZZZ	Batch ID:	R4629	TestNo:	SW8021B			Analysis Date:	6/6/2003	SeqNo:	67050

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1406	25	1500	0	93.7	82	110	0	0		
Ethylbenzene	1333	25	1500	13.82	87.9	88	110	0	0		S

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0306008
Project: BP - GCU #204E Blow Pit

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_S

Sample ID 0305039-002AMS	SampType: MS	TestCode: BTEX_S	Units: µg/Kg	Prep Date: 6/2/2003	Run ID: GC-1_030606A
Client ID: ZZZZZ	Batch ID: R4629	TestNo: SW8021B		Analysis Date: 6/6/2003	SeqNo: 67050

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	2672	50	3000	0	89.1	85	110	0	0		
o-Xylene	1339	25	1500	0	89.3	85	110	0	0		
Toluene	1353	50	1500	0	90.2	80	110	0	0		

Sample ID 0306005-002AMS	SampType: MS	TestCode: BTEX_S	Units: µg/Kg	Prep Date: 6/5/2003	Run ID: GC-1_030606A
Client ID: ZZZZZ	Batch ID: R4629	TestNo: SW8021B		Analysis Date: 6/6/2003	SeqNo: 67051

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1435	25	1500	0	95.6	82	110	0	0		
Ethylbenzene	1380	25	1500	12.72	91.1	88	110	0	0		
m,p-Xylene	2777	50	3000	0	92.6	85	110	0	0		
o-Xylene	1388	25	1500	0	92.5	85	110	0	0		
Toluene	1392	50	1500	0	92.8	80	110	0	0		

Sample ID 0306011-001AMS	SampType: MS	TestCode: BTEX_S	Units: µg/Kg	Prep Date: 6/12/2003	Run ID: GC-1_030612A
Client ID: ZZZZZ	Batch ID: R4638	TestNo: SW8021B		Analysis Date: 6/12/2003	SeqNo: 67185

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1490	25	1500	0	99.3	82	110	0	0		
Ethylbenzene	1467	25	1500	10.39	97.1	88	110	0	0		
m,p-Xylene	2944	50	3000	0	98.1	85	110	0	0		
o-Xylene	1464	25	1500	0	97.6	85	110	0	0		
Toluene	1441	50	1500	0	96.1	80	110	0	0		

Sample ID 0305039-002AMSD	SampType: MSD	TestCode: BTEX_S	Units: µg/Kg	Prep Date: 6/2/2003	Run ID: GC-1_030606A
Client ID: ZZZZZ	Batch ID: R4629	TestNo: SW8021B		Analysis Date: 6/6/2003	SeqNo: 67052

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1539	25	1500	0	103	75	111	1406	9.04	9	R
Ethylbenzene	1497	25	1500	13.82	98.9	85	110	1333	11.6	7.4	R
m,p-Xylene	3008	50	3000	0	100	79	110	2672	11.8	8	R

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Blagg Engineering
Work Order: 0306008
Project: BP - GCU #204E Blow Pit

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_S

Sample ID 0305039-002AMSD	SampType: MSD	TestCode: BTEX_S	Units: µg/Kg	Prep Date: 6/2/2003	Run ID: GC-1_030606A
Client ID: ZZZZZ	Batch ID: R4629	TestNo: SW8021B		Analysis Date: 6/6/2003	SeqNo: 67052

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
o-Xylene	1495	25	1500	0	99.6	81	110	1339	11.0	6.8	R
Toluene	1494	50	1500	0	99.6	72	112	1353	9.93	9.1	R

Sample ID 0306005-002AMSD	SampType: MSD	TestCode: BTEX_S	Units: µg/Kg	Prep Date: 6/5/2003	Run ID: GC-1_030606A
Client ID: ZZZZZ	Batch ID: R4629	TestNo: SW8021B		Analysis Date: 6/6/2003	SeqNo: 67053

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1448	25	1500	0	96.5	75	111	1435	0.937	9	
Ethylbenzene	1393	25	1500	12.72	92	85	110	1380	0.963	7.4	
m,p-Xylene	2804	50	3000	0	93.5	79	110	2777	0.954	8	
o-Xylene	1402	25	1500	0	93.5	81	110	1388	1.00	6.8	
Toluene	1401	50	1500	0	93.4	72	112	1392	0.621	9.1	

Sample ID 0306011-001AMSD	SampType: MSD	TestCode: BTEX_S	Units: µg/Kg	Prep Date: 6/12/2003	Run ID: GC-1_030612A
Client ID: ZZZZZ	Batch ID: R4638	TestNo: SW8021B		Analysis Date: 6/12/2003	SeqNo: 67184

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1393	25	1500	0	92.9	75	111	1490	6.76	9	
Ethylbenzene	1375	25	1500	10.39	91	85	110	1467	6.47	7.4	
m,p-Xylene	2763	50	3000	0	92.1	79	110	2944	6.34	8	
o-Xylene	1378	25	1500	0	91.8	81	110	1464	6.07	6.8	
Toluene	1351	50	1500	0	90.1	72	112	1441	6.42	9.1	

Sample ID CCV1_030606	SampType: CCV	TestCode: BTEX_S	Units: µg/Kg	Prep Date:	Run ID: GC-1_030606A
Client ID: ZZZZZ	Batch ID: R4629	TestNo: SW8021B		Analysis Date: 6/6/2003	SeqNo: 67042

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	56.81	1.0	60	0	94.7	85	115	0	0		
Ethylbenzene	55.4	1.0	60	0	92.3	85	115	0	0		
m,p-Xylene	111.9	2.0	120	0	93.2	85	115	0	0		
o-Xylene	55.54	1.0	60	0	92.6	85	115	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Blagg Engineering
Work Order: 0306008
Project: BP - GCU #204E Blow Pit

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_S

Sample ID	CCV1_030606	SampType:	CCV	TestCode:	BTEX_S	Units:	µg/Kg	Prep Date:		Run ID:	GC-1_030606A
Client ID:	ZZZZZ	Batch ID:	R4629	TestNo:	SW8021B			Analysis Date:	6/6/2003	SeqNo:	67042

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Toluene	55.46	2.0	60	0	92.4	85	115	0	0		

Sample ID	CCV2_030606	SampType:	CCV	TestCode:	BTEX_S	Units:	µg/Kg	Prep Date:		Run ID:	GC-1_030606A
Client ID:	ZZZZZ	Batch ID:	R4629	TestNo:	SW8021B			Analysis Date:	6/6/2003	SeqNo:	67043

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	57.45	1.0	60	0	95.7	85	115	0	0		
Ethylbenzene	57.19	1.0	60	0	95.3	85	115	0	0		
m,p-Xylene	121.3	2.0	120	0	101	85	115	0	0		
o-Xylene	60.09	1.0	60	0	100	85	115	0	0		
Toluene	56.02	2.0	60	0	93.4	85	115	0	0		

Sample ID	CCV3_030606	SampType:	CCV	TestCode:	BTEX_S	Units:	µg/Kg	Prep Date:		Run ID:	GC-1_030606A
Client ID:	ZZZZZ	Batch ID:	R4629	TestNo:	SW8021B			Analysis Date:	6/6/2003	SeqNo:	67044

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	55.68	1.0	60	0	92.8	85	115	0	0		
Ethylbenzene	53.54	1.0	60	0	89.2	85	115	0	0		
m,p-Xylene	106.2	2.0	120	0	88.5	85	115	0	0		
o-Xylene	53.33	1.0	60	0	88.9	85	115	0	0		
Toluene	55.32	2.0	60	0	92.2	85	115	0	0		

Sample ID	CCV4_030606	SampType:	CCV	TestCode:	BTEX_S	Units:	µg/Kg	Prep Date:		Run ID:	GC-1_030606A
Client ID:	ZZZZZ	Batch ID:	R4629	TestNo:	SW8021B			Analysis Date:	6/6/2003	SeqNo:	67045

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	57.66	1.0	60	0	96.1	85	115	0	0		
Ethylbenzene	56.37	1.0	60	0	94	85	115	0	0		
m,p-Xylene	114.1	2.0	120	0	95.1	85	115	0	0		
o-Xylene	57.25	1.0	60	0	95.4	85	115	0	0		
Toluene	56.5	2.0	60	0	94.2	85	115	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Blagg Engineering
Work Order: 0306008
Project: BP - GCU #204E Blow Pit

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_S

Sample ID CCV1_030612	SampType: CCV	TestCode: BTEX_S	Units: µg/Kg	Prep Date: 6/12/2003	Run ID: GC-1_030612A
Client ID: ZZZZZ	Batch ID: R4638	TestNo: SW8021B		Analysis Date: 6/12/2003	SeqNo: 67179

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	58.92	1.0	60	0	98.2	85	115	0	0		
Ethylbenzene	58.16	1.0	60	0	96.9	85	115	0	0		
m,p-Xylene	117.1	2.0	120	0	97.6	85	115	0	0		
o-Xylene	57.88	1.0	60	0	96.5	85	115	0	0		
Toluene	57.88	2.0	60	0	96.5	85	115	0	0		

Sample ID CCV2_030612	SampType: CCV	TestCode: BTEX_S	Units: µg/Kg	Prep Date: 6/12/2003	Run ID: GC-1_030612A
Client ID: ZZZZZ	Batch ID: R4638	TestNo: SW8021B		Analysis Date: 6/12/2003	SeqNo: 67180

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	59.96	1.0	60	0	99.9	85	115	0	0		
Ethylbenzene	58.29	1.0	60	0	97.2	85	115	0	0		
m,p-Xylene	117	2.0	120	0	97.5	85	115	0	0		
o-Xylene	58.14	1.0	60	0	96.9	85	115	0	0		
Toluene	57.97	2.0	60	0	96.6	85	115	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

iiná bá. Ltd.

Date: 17-Jun-03

CLIENT: Blagg Engineering
Work Order: 0306008
Project: BP - GCU #204E Blow Pit
Test No: SW8015B **Matrix:** S

QC SUMMARY REPORT
SURROGATE RECOVERIES

Sample ID	OT	TFT
0306005-001AMS		125
0306005-001AMSD		129
0306008-001A	180 *	109
0306008-001AD	148 *	
0306009-001AMS	71.2	
CCV1_030604		124
CCV1_030606	99.0	
CCV2_030604		128
CCV2_030606	102	
CCV3_030604		85.9
CCV3_030606	100	
LCS_030604		123
LCS_030606	81.8	
MB_030604		124
MB_030606	77.1	

Acronym		Surrogate	QC Limits
OT	=	o-Terphenyl	53-125
TFT	=	Trifluorotoluene	57-133

*** Surrogate recovery outside acceptance limits**

iiná bá, Ltd.

Date: 17-Jun-03

CLIENT: Blagg Engineering
Work Order: 0306008
Project: BP - GCU #204E Blow Pit
Test No: SW8021B **Matrix:** S

QC SUMMARY REPORT
SURROGATE RECOVERIES

Sample ID	14FBZ	4BCBZ	FLBZ
0305039-002AMS	88.3	97.6	86.2
0305039-002AMSD	88.0	104	86.2
0306005-002AMS	88.3	93.1	85.9
0306005-002AMSD	87.7	94.4	85.7
0306008-001A	85.8	96.1	86.7
0306011-001AMS	87.5	104	85.3
0306011-001AMSD	90.1	92.1	87.7
CCV1_030606	87.7	95.5	86.3
CCV1_030612	88.0	95.9	87.0
CCV2_030606	88.2	104	85.5
CCV2_030612	89.3	96.4	86.5
CCV3_030606	88.2	89.2	86.2
CCV4_030606	89.1	95.7	86.4
LCS_030602	87.0	96.7	85.5
LCS_030605	88.1	95.7	86.1
LCS_030612	88.4	96.8	86.3
MB_030602	87.6	96.9	86.4
MB_030605	89.4	99.1	87.3
MB_030612	89.6	95.4	88.4

Acronym		Surrogate	QC Limits
14FBZ	=	1,4-Difluorobenzene	77-110
4BCBZ	=	4-Bromochlorobenzene	68-121
FLBZ	=	Fluorobenzene	75-110

*** Surrogate recovery outside acceptance limits**

iiná bá, Ltd.

Sample Receipt Checklist

Client Name: **BLA1002** Date and Time Received: **6/3/2003**

Work Order Number: **0306008** Received by: HNR

Checklist completed by: Heidi N 6/3/03 Reviewed by: jm 6/4/03
Signature Date Initials Date

Matrix: Carrier name: Courier

Shipping container/cooler in good condition?	Yes	No	Not Present ✔
Custody seals intact on shippping container/cooler?	Yes	No	Not Present ✔
Custody seals intact on sample bottles?	Yes	No	Not Present ✔
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	
Container/Temp Blank temperature in compliance?	Yes ✔	No	
Water - VOA vials have zero headspace?	No VOA vials submitted ✔	Yes	No
Water - pH acceptable upon receipt?	Yes N/A	No	

Adjusted? Checked by:

Any No and/or NA (not applicable) response must be detailed in the comments section below.

Client contacted: Date contacted: Person contacted:

Contacted by: Regarding:

Comments:

Corrective Action:

Hall Environmental Analysis Laboratory

Date: *30-Oct-03*

CLIENT: Blagg Engineering
Client Sample ID: BH1 @ 27'-29' Blow Pit
Lab Order: 0310191
Collection Date: 10/23/2003 11:20:00 AM
Project: GCU #204E
Lab ID: 0310191-02
Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	5.0		mg/Kg	1	10/28/2003 6:07:07 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/28/2003 6:07:07 PM
Surr: DNOP	104	60-124		%REC	1	10/28/2003 6:07:07 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	110	50		mg/Kg	10	10/29/2003 9:48:12 PM
Surr: BFB	112	74-118		%REC	10	10/29/2003 9:48:12 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	0.34	0.25		mg/Kg	10	10/29/2003 9:48:12 PM
Toluene	2.2	0.25		mg/Kg	10	10/29/2003 9:48:12 PM
Ethylbenzene	0.90	0.25		mg/Kg	10	10/29/2003 9:48:12 PM
Xylenes, Total	6.2	0.25		mg/Kg	10	10/29/2003 9:48:12 PM
Surr: 4-Bromofluorobenzene	111	74-118		%REC	10	10/29/2003 9:48:12 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

CHAIN-OF-CUSTODY RECORD

Accreditation Applied: NELAC ☐ USACE ☐ 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 / BP AMERICA

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

Phone #: (505) 632-1199

Fax #: (505) 632-3903

Project Name: GCU #204E

Project #: 120

Project Manager: NJV

Sampler: NJV

Sample Temperature: 2°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative H_gCl_2	Preservative HNO_3	HEAL No.	(BTEX) + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B MOD (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260 (VOA)	8270 (Semi-VOA)				Air Bubbles or Headspace (Y or N)
10/23/03	1205	SOIL	① @ 10' SEPARATOR PIT	1-4oz.			0310191-1			✓														
10/23/03	1120	SOIL	BH1 @ 27'-29' BLOW PIT	1-4oz			-2	✓		✓														

Date:	Time:	Relinquished By: (Signature)	Remarks:	Date:	Time:
10/23/03	9:45			10/24/03	1658

Relinquished By: (Signature)

Remarks:

Remarks:

Hall Environmental Analysis Laboratory

Date: *30-Oct-03*

CLIENT: Blagg Engineering
Work Order: 0310191
Project: GCU #204E

QC SUMMARY REPORT
Method Blank

Sample ID **MB-4547** Batch ID: **4547** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/28/2003 12:10:59 P** Prep Date **10/27/2003**
Client ID: Run ID: **FID(17A)_031028A** SeqNo: **223077**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	5.0									
Motor Oil Range Organics (MRO)	ND	50									
Surr: DNOP	9.559	0	10	0	95.6	60	124	0			

Sample ID **MB-4543** Batch ID: **4543** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/29/2003 10:18:39 P** Prep Date **10/27/2003**
Client ID: Run ID: **PIDFID_031029A** SeqNo: **223392**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	1014	0	1000	0	101	74	118	0			

Sample ID **MB-4543** Batch ID: **4543** Test Code: **SW8021** Units: **mg/Kg** Analysis Date **10/29/2003 10:18:39 P** Prep Date **10/27/2003**
Client ID: Run ID: **PIDFID_031029A** SeqNo: **223399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.025									
Toluene	ND	0.025									
Ethylbenzene	ND	0.025									
Xylenes, Total	ND	0.025									
Surr: 4-Bromofluorobenzene	1.028	0	1	0	103	74	118	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory

Date: *30-Oct-03*

CLIENT: Blagg Engineering
Work Order: 0310191
Project: GCU #204E

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID **LCS-4547** Batch ID: **4547** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/28/2003 12:40:20 P** Prep Date **10/27/2003**
Client ID: Run ID: **FID(17A)_031028A** SeqNo: **223078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46.33	5.0	50	0	92.7	67.4	117	0			

Sample ID **LCSD-4547** Batch ID: **4547** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/28/2003 1:10:10 PM** Prep Date **10/27/2003**
Client ID: Run ID: **FID(17A)_031028A** SeqNo: **223079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42.37	5.0	50	0	84.7	67.4	117	46.33	8.94	17.4	

Sample ID **GRO Std 2.5ug** Batch ID: **4543** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/29/2003 10:03:16 A** Prep Date
Client ID: Run ID: **PIDFID_031029A** SeqNo: **223397**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28.42	5.0	25	0	114	85.8	115	0			

Sample ID **GRO Std 2.5ug** Batch ID: **4543** Test Code: **SW8015** Units: **mg/Kg** Analysis Date **10/29/2003 10:49:17 P** Prep Date
Client ID: Run ID: **PIDFID_031029A** SeqNo: **223398**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26.84	5.0	25	0	107	85.8	111	28.42	5.72	11.6	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Blagg Engineering
Work Order: 0310191
Project: GCU #204E

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID **BTEX Std 100ng** Batch ID: **4543** Test Code: **SW8021** Units: **mg/Kg** Analysis Date **10/29/2003 10:33:44 A** Prep Date
Client ID: Run ID: **PIDFID_031029A** SeqNo: **223401**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.9958	0.025	1	0	99.6	77	122	0			
Toluene	1.017	0.025	1	0	102	81	115	0			
Ethylbenzene	1.01	0.025	1	0	101	84	117	0			
Xylenes, Total	3.039	0.025	3	0	101	84	116	0			

Sample ID **BTEX Std 100ng** Batch ID: **4543** Test Code: **SW8021** Units: **mg/Kg** Analysis Date **10/29/2003 11:19:52 P** Prep Date
Client ID: Run ID: **PIDFID_031029A** SeqNo: **223402**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1.004	0.025	1	0	100	77	122	0.9958	0.790	27	
Toluene	0.9837	0.025	1	0	98.4	81	115	1.017	3.35	19	
Ethylbenzene	1.005	0.025	1	0	100	84	117	1.01	0.530	10	
Xylenes, Total	3.005	0.025	3	0	100	84	116	3.039	1.12	13	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 10/24/2003

Work Order Number 0310191 | Received by AT

Checklist completed by _____ 10/24/03
Signature | Date

Matrix | Carrier name Greyhound

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

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

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A & 14714

GCU # 204E - BLOW PIT
UNIT I, SEC. 34, 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	-	-	16.69	27.50	1105	6.80	1,400	13.1	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 . Slight greenish tint in appearance , wisp of a sheen observed on purged water surface within disposal bucket . Collected samples for BTEX and major anions / cations analyses .

Top of casing MW # 2 ~ 2.30 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Nov-06*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW-2
Lab Order:	0611181	**Collection Date:**	11/14/2006 11:05:00 AM
Project:	GCU #204E	**Date Received:**	11/15/2006
Lab ID:	0611181-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	1000	40		µg/L	40	11/20/2006 12:52:12 PM
Toluene	3900	40		µg/L	40	11/20/2006 12:52:12 PM
Ethylbenzene	1100	40		µg/L	40	11/20/2006 12:52:12 PM
Xylenes, Total	9700	300		µg/L	100	11/20/2006 3:25:01 PM
Surr: 4-Bromofluorobenzene	102	70.2-105		%REC	40	11/20/2006 12:52:12 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:	39150	Date Sampled:	11-14-06
Chain of Custody:	14714	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	**7.08**	s.u.		
Conductivity @ 25° C	**1,310**	umhos/cm		
Total Dissolved Solids @ 180C	**924**	mg/L		
Total Dissolved Solids (Calc)	**918**	mg/L		
SAR	**5.4**	ratio		
Total Alkalinity as CaCO3	**420**	mg/L		
Total Hardness as CaCO3	**300**	mg/L		
Bicarbonate as HCO3	**420**	mg/L	6.88	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	**3.9**	mg/L	0.06	meq/L
Nitrite Nitrogen	**0.43**	mg/L	0.01	meq/L
Chloride	**192**	mg/L	5.42	meq/L
Fluoride	**1.00**	mg/L	0.05	meq/L
Phosphate	**0.6**	mg/L	0.02	meq/L
Sulfate	**142**	mg/L	2.96	meq/L
Iron	**0.672**	mg/L	0.02	meq/L
Calcium	**84.5**	mg/L	4.22	meq/L
Magnesium	**21.7**	mg/L	1.79	meq/L
Potassium	**2.82**	mg/L	0.07	meq/L
Sodium	**214**	mg/L	9.31	meq/L
Cations			15.38	meq/L
Anions			15.40	meq/L
Cation/Anion Difference			**0.11%**	

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 #204E 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: _____

Client: BLAGG ENGR. / BP AMERICA

Project Name: GCU # 204E

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

Project #: NV

Project Manager: NV

Phone #: 632-1199

Sampler: NV

Fax #:

Sample Temperature: 1°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
								0611181
11/14/06	1105	WATER	MW # 2	2-40ml	✓			1

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

ANALYSIS REQUEST

(BTEX) + MTBE + 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:

CHAIN OF CUSTODY RECORD

14714

Client / Project Name			Project Location		ANALYSIS / PARAMETERS							
BLAEG / BP			GCU # 204E									
Sampler: NV			Client No. 94034-010		No. of Containers	MAJOR ANIONS/ CATIONS						Remarks
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix								PRESERVED COOL GRAB SAMPLE
MW # 2	11/14/06	1105	39150	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	✓		

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #204E **Work Order:** 0611181

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

Qualifiers:

- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S [illegible] 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 0611181 | 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 & 14691

GCU # 204E - BLOW PIT
UNIT I, SEC. 34, 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	103.89	85.32	18.57	27.00	1420	7.33	1,100	12.5	4.25
MW - 2	100.00	83.03	16.97	27.50	1115	6.89	1,200	13.5	5.25
MW - 3	95.66	81.74	13.92	25.00	1035	7.00	1,000	11.9	5.50
					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 ~ 2.30 ft., MW # 3 ~ 2.30 ft. above grade.

Hall Environmental Analysis Laboratory, Inc.

Date: *05-Feb-07*

CLIENT: Blagg Engineering
Project: GCU #204E
Lab Order: 0702006

Lab ID: 0702006-01 **Collection Date:** 1/30/2007 2:20:00 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	2/1/2007 10:46:31 PM
Toluene	3.0	1.0		µg/L	1	2/1/2007 10:46:31 PM
Ethylbenzene	2.3	1.0		µg/L	1	2/1/2007 10:46:31 PM
Xylenes, Total	13	3.0		µg/L	1	2/1/2007 10:46:31 PM
Surr: 4-Bromofluorobenzene	87.1	70.2-105		%REC	1	2/1/2007 10:46:31 PM

Lab ID: 0702006-02 **Collection Date:** 1/30/2007 11:15:00 AM
Client Sample ID: MW #2 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **LMM**
Benzene	900	100		µg/L	100	2/2/2007 5:56:50 PM
Toluene	1600	100		µg/L	100	2/2/2007 5:56:50 PM
Ethylbenzene	1400	100		µg/L	100	2/2/2007 5:56:50 PM
Xylenes, Total	12000	300		µg/L	100	2/2/2007 5:56:50 PM
Surr: 4-Bromofluorobenzene	87.4	70.2-105		%REC	100	2/2/2007 5:56:50 PM

Lab ID: 0702006-03 **Collection Date:** 1/30/2007 10:35:00 AM
Client Sample ID: MW #3 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **LMM**
Benzene	8.2	1.0		µg/L	1	2/2/2007 7:59:50 PM
Toluene	ND	1.0		µg/L	1	2/2/2007 7:59:50 PM
Ethylbenzene	71	1.0		µg/L	1	2/2/2007 7:59:50 PM
Xylenes, Total	120	3.0		µg/L	1	2/2/2007 7:59:50 PM
Surr: 4-Bromofluorobenzene	91.2	70.2-105		%REC	1	2/2/2007 7:59:50 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 #1	Date Reported:	01-31-07
Laboratory Number:	39876	Date Sampled:	01-30-07
Chain of Custody:	14691	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	**7.12**	s.u.		
Conductivity @ 25° C	**1,110**	umhos/cm		
Total Dissolved Solids @ 180C	**584**	mg/L		
Total Dissolved Solids (Calc)	**574**	mg/L		
SAR	**1.4**	ratio		
Total Alkalinity as CaCO3	**254**	mg/L		
Total Hardness as CaCO3	**331**	mg/L		
Bicarbonate as HCO3	**254**	mg/L	4.16	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	**10.8**	mg/L	0.17	meq/L
Nitrite Nitrogen	**0.484**	mg/L	0.01	meq/L
Chloride	**42.2**	mg/L	1.19	meq/L
Fluoride	**0.57**	mg/L	0.03	meq/L
Phosphate	**1.2**	mg/L	0.04	meq/L
Sulfate	**180**	mg/L	3.75	meq/L
Iron	**0.006**	mg/L	0.00	meq/L
Calcium	**102**	mg/L	5.09	meq/L
Magnesium	**18.8**	mg/L	1.55	meq/L
Potassium	**3.48**	mg/L	0.09	meq/L
Sodium	**60.4**	mg/L	2.63	meq/L
Cations			9.35	meq/L
Anions			9.35	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 #204E Grab Sample**

Christine M Walters
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:	39877	Date Sampled:	01-30-07
Chain of Custody:	14691	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	**7.10**	s.u.		
Conductivity @ 25° C	**1,090**	umhos/cm		
Total Dissolved Solids @ 180C	**620**	mg/L		
Total Dissolved Solids (Calc)	**617**	mg/L		
SAR	**1.4**	ratio		
Total Alkalinity as CaCO3	**369**	mg/L		
Total Hardness as CaCO3	**394**	mg/L		
Bicarbonate as HCO3	**369**	mg/L	6.05	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.8**	mg/L	0.01	meq/L
Nitrite Nitrogen	**0.082**	mg/L	0.00	meq/L
Chloride	**96.2**	mg/L	2.71	meq/L
Fluoride	**0.69**	mg/L	0.04	meq/L
Phosphate	**0.8**	mg/L	0.03	meq/L
Sulfate	**90.0**	mg/L	1.87	meq/L
Iron	**0.001**	mg/L	0.00	meq/L
Calcium	**108**	mg/L	5.39	meq/L
Magnesium	**30.3**	mg/L	2.49	meq/L
Potassium	**3.39**	mg/L	0.09	meq/L
Sodium	**63.0**	mg/L	2.74	meq/L
Cations			10.71	meq/L
Anions			10.71	meq/L
Cation/Anion Difference			**0.02%**	

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 #204E 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
Project Name: GCU # 204E
Address: P.O. BOX 87
BLFD., NM 87413
Project #: 91
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. 0702006	(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	1420	WATER	MW #1	2-40ml	✓			1	✓																
1/30/07	1115	WATER	MW #2	2-40ml	✓			2	✓																
1/30/07	1035	WATER	MW #3	2-40ml	✓			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:

14691

CHAIN OF CUSTODY RECORD

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / BP	GCU # 204E	

Sampler:	Client No.
NV	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	1420	39876	WATER	1	✓						
MW #3	1/30/07	1035	39877	WATER	1	✓						

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	1/30/07	1447	Chuck Nash	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 #204E **Work Order:** 0702006

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 0702006-01A MSD		*MSD*			Batch ID:	**R22351**	Analysis Date:		2/1/2007 11:46:48 PM
Benzene	18.97	µg/L	1.0	94.4	85.9	113	1.54	27	
Toluene	22.24	µg/L	1.0	96.3	86.4	113	1.51	19	
Ethylbenzene	21.72	µg/L	1.0	97.3	83.5	118	1.34	10	
Xylenes, Total	70.12	µg/L	3.0	96.0	83.4	122	0.963	13	
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			
Sample ID: 0702006-01A MS		*MS*			Batch ID:	**R22351**	Analysis Date:		2/1/2007 11:16:40 PM
Benzene	18.68	µg/L	1.0	92.9	85.9	113			
Toluene	21.91	µg/L	1.0	94.6	86.4	113			
Ethylbenzene	21.43	µg/L	1.0	95.9	83.5	118			
Xylenes, Total	69.45	µg/L	3.0	94.9	83.4	122			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 2/1/2007

Work Order Number 0702006 | Received by TLS

Checklist completed by Janye Shon (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 # 204E - BLOW PIT
UNIT I, SEC. 34, 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	103.89	85.24	18.65	27.00	-	-	-	-	-
MW - 2	100.00	83.63	16.37	27.50	1430	6.78	1,000	18.0	5.50
MW - 3	95.66	83.85	11.81	25.00	1355	6.91	900	17.3	6.50
					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 olive gray 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 ~ 2.30 ft., MW # 3 ~ 2.30 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Apr-07*

CLIENT: Blagg Engineering
Project: GCU #204E

Lab Order: 0704419

Lab ID: 0704419-01 **Collection Date:** 4/25/2007 2:30:00 PM
Client Sample ID: MW #2 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	790	100		µg/L	100	4/28/2007 2:41:20 PM
Toluene	1200	100		µg/L	100	4/28/2007 2:41:20 PM
Ethylbenzene	1100	100		µg/L	100	4/28/2007 2:41:20 PM
Xylenes, Total	13000	200		µg/L	100	4/28/2007 2:41:20 PM
Surr: 4-Bromofluorobenzene	90.4	70.2-105		%REC	100	4/28/2007 2:41:20 PM

Lab ID: 0704419-02 **Collection Date:** 4/25/2007 1:55:00 PM
Client Sample ID: MW #3 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	8.3	1.0		µg/L	1	4/28/2007 3:11:28 PM
Toluene	ND	1.0		µg/L	1	4/28/2007 3:11:28 PM
Ethylbenzene	25	1.0		µg/L	1	4/28/2007 3:11:28 PM
Xylenes, Total	140	2.0		µg/L	1	4/28/2007 3:11:28 PM
Surr: 4-Bromofluorobenzene	89.2	70.2-105		%REC	1	4/28/2007 3:11:28 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 # 204E

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

Project #: NV

Project Manager: NV

Phone #: 632-1199

Sampler: NV

Fax #:

Sample Temperature: 7°

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. 0704419	(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	1430	WATER	MW #2	2-40ml	✓			-1	✓																
4/25/07	1355	WATER	MW #3	2-40ml	✓			-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 #204E **Work Order:** 0704419

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	
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:	**R23390**	Analysis Date:	4/28/2007 10:05:11 AM	
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			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID:	**R23390**	Analysis Date:	4/28/2007 10:35:06 AM	
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	

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: 4/26/2007

Work Order Number 0704419 | 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 # 204E - BLOW PIT
UNIT I, SEC. 34, 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	103.89	87.12	16.77	27.00	-	-	-	-	-
MW - 2	100.00	84.84	15.16	27.50	0700	6.82	1,000	15.6	6.00
MW - 3	95.66	83.77	11.89	25.00	0630	6.74	1,000	15.1	6.50
					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 olive gray 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 ~ 2.30 ft. , MW # 3 ~ 2.30 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *31-Jul-07*

CLIENT: Blagg Engineering
Project: GCU #204E

Lab Order: 0707297

Lab ID: 0707297-01 **Collection Date:** 7/23/2007 6:30:00 AM
Client Sample ID: MW #2 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	940	100		µg/L	100	7/28/2007 12:45:13 AM
Toluene	630	100		µg/L	100	7/28/2007 12:45:13 AM
Ethylbenzene	1800	100		µg/L	100	7/28/2007 12:45:13 AM
Xylenes, Total	12000	200		µg/L	100	7/28/2007 12:45:13 AM
Surr: 4-Bromofluorobenzene	115	70.2-105	S	%REC	100	7/28/2007 12:45:13 AM

Lab ID: 0707297-02 **Collection Date:** 7/23/2007 6:00:00 AM
Client Sample ID: MW #3 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	26	1.0		µg/L	1	7/28/2007 1:15:16 AM
Toluene	ND	1.0		µg/L	1	7/28/2007 1:15:16 AM
Ethylbenzene	90	1.0		µg/L	1	7/28/2007 1:15:16 AM
Xylenes, Total	270	20		µg/L	10	7/28/2007 6:20:18 PM
Surr: 4-Bromofluorobenzene	134	70.2-105	S	%REC	1	7/28/2007 1:15:16 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: _____

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

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

Project Name: GCU # 204E
Project #: NV
Project Manager: NV
Sampler: NV
Sample Temperature: 4°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	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)
7/23/07	0630	WATER	MW # 2	2-40ml	✓		0707297 1	✓												
7/23/07	0600	WATER	MW # 3	2-40ml	✓		2	✓												

Date: 7/23/07 Time: 1515 Relinquished By: (Signature)
Received By: (Signature) 7/24/07 1400
Date: Time: Relinquished By: (Signature)
Received By: (Signature)

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #204E **Work Order:** 0707297

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: 5ML RB-II		*MBLK*			Batch ID:	**R24557**	Analysis Date:	7/28/2007 4:45:02 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	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			
Sample ID: 100NG BTEX LCS-II		*LCS*			Batch ID:	**R24557**	Analysis Date:	7/28/2007 5:44:58 AM	
Benzene	21.66	µg/L	1.0	108	85.9	113			
Toluene	21.40	µg/L	1.0	107	86.4	113			
Ethylbenzene	21.61	µg/L	1.0	108	83.5	118			
Xylenes, Total	65.07	µg/L	2.0	108	83.4	122			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG

Date and Time Received: 7/24/2007

Work Order Number 0707297

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 # 204E - BLOW PIT
UNIT I, SEC. 34, T28N, R12W

LABORATORY (S) USED: HALL ENVIRONMENTAL

Date: 7/23/07

SAMPLER: N J V

Filename:

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	103.89	87.12	16.77	27.00	-	-	-	-	-
MW - 2	100.00	84.84	15.16	27.50	0700	6.82	1000	15.6	6.00
MW - 3	95.66	83.77	11.89	25.00	0630	6.74	1000	15.1	6.50

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 olive gray 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 ~ 2.30 ft., MW # 3 ~ 2.30 ft. above grade.

MW - 1	103.89	85.24	18.65	27.00	-	-	-	-	-
MW - 2	100.00	83.63	16.37	27.50	1430	6.78	1,000	18.0	5.50
MW - 3	95.66	83.85	11.81	25.00	1355	6.91	900	17.3	6.50

5:40 - 6:00

6:00 - 7:10

15.1 mi.

1 ↑ 1.88

2 ↑ 1.21

3 ↓ 0.08

85.50 1-3
1-2

85.00 1-3
1-2

84.50 1-3
2-3

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 204E - BLOW PIT
UNIT I, SEC. 34, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : October 25, 2007

SAMPLER : N J V

Filename : 10-25-07.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	103.89	88.46	15.43	27.00	-	-	-	-	-
MW - 2	100.00	86.25	13.75	27.50	-	-	-	-	-
MW - 3	95.66	85.29	10.37	25.00	1300	7.00	1,100	18.9	7.25
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	10/23/07	1100		

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 # 3 . Olive gray appearance . Collected sample for BTEX analysis from MW # 3 only .

Top of casing MW # 1 ~ 2.40 ft., MW # 2 ~ 2.30 ft., MW # 3 ~ 2.30 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Oct-07*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #3
Lab Order:	0710520	**Collection Date:**	10/25/2007 1:00:00 PM
Project:	GCU #204E	**Date Received:**	10/26/2007
Lab ID:	0710520-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	2.4	1.0		µg/L	1	10/29/2007 10:57:59 PM
Toluene	ND	1.0		µg/L	1	10/29/2007 10:57:59 PM
Ethylbenzene	4.7	1.0		µg/L	1	10/29/2007 10:57:59 PM
Xylenes, Total	11	2.0		µg/L	1	10/29/2007 10:57:59 PM
Surr: 4-Bromofluorobenzene	91.8	70.2-105		%REC	1	10/29/2007 10:57:59 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 ENER. / BP AMERICA

Project Name: GCU #204E

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

Project #:

Project Manager: NV

Phone #: 632-1199

Sampler: NV

Fax #:

Sample Temperature: 5°

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.O. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
10/25/07	1300	WATER	MW #3	2-40ml	✓			0710520 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)
10/25/07	1410		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
			10/25/07 1515

Remarks:

QA/QC SUMMARY REPOR

Client: Blagg Engineering
Project: GCU #204E **Work Order:** 0710520

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R25789**	Analysis Date:	10/29/2007 9:22:13 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:	**R25789**	Analysis Date:	10/29/2007 7:25:28 PM	
Benzene	21.21	µg/L	1.0	106	85.9	113			
Toluene	20.53	µg/L	1.0	102	86.4	113			
Ethylbenzene	20.10	µg/L	1.0	99.7	83.5	118			
Xylenes, Total	59.33	µg/L	2.0	98.3	83.4	122			

Qualifiers:

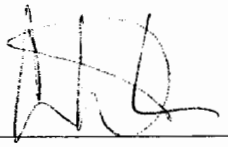
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG** Date and Time Received: **10/26/2007**

Work Order Number **0710520** Received by AT

Checklist completed b  Signature 10/26/07 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?	**5°**	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

_____

_____

_____

_____

Corrective Action _____

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_____