

**3R - 387**

# **REPORTS**

**DATE:**

**2002-2005**

*BLAGG ENGINEERING, INC.*

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

Phone: (505)632-1199 Fax: (505)632-3903

3R0387  
**RECEIVED**

**FEB 13 2006**

February 10, 2006

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

**Oil Conservation Division  
Environmental Bureau**

**Re: BP America Production Company  
Groundwater Monitoring Report  
Gallegos Canyon Unit (GCU) # 194, Unit D, Sec. 5, T27N, R12W, NM  
San Juan County, New Mexico**

2006 FEB 13 PM 1 00

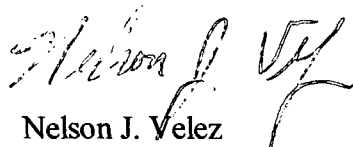
Dear Mr. Von Gonten:

BP America Production Company (BP) has retained Blagg Engineering, Inc. to conduct environmental monitoring of groundwater at the GCU # 194.

Formal correspondence to NMOCD was conducted with letter dated, May 7, 2002 (included within this report). Groundwater monitoring commenced in December, 2002. Since then, BP has followed its NMOCD approved groundwater management plan and continues to monitor the site. No permanent closure is requested at this time.

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

Respectfully submitted:  
**Blagg Engineering, Inc.**



Nelson J. Velez  
Staff Geologist

Attachment: Groundwater Report

cc: Mr. Denny Foust, Environmental Geologist, NMOCD District III Office, Aztec, NM  
Mr. Don Brooks, Environmental Coordinator, BP, Farmington, NM (without lab reports)

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BP AMERICA PRODUCTION CO.  
RECEIVED

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FEB 13 2006

Oil Conservation Division  
Environmental Bureau

GROUNDWATER REMEDIATION REPORT

2002-2005

GCU #194

(D) SECTION 5, T27N, R12W, NMPM  
SAN JUAN COUNTY, NEW MEXICO

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

DECEMBER 2005

PREPARED BY:  
BLAGG ENGINEERING, INC.

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

**BP America Production Co.  
GCU # 194 - Separator Pit  
Nw/4 Nw/4 Sec. 5, T27N, R12W**

**Pit Closure Dates:** 4/30/02 - 5/3/02 (Documentation Included)

**Monitor Well Installation Date:** 12/18/02 (MW #1, #2, #3)

**Monitor Well Sampling Dates:** 12/22/02, 2/24/03, 5/29/03, 8/18/03, 11/18/03, 3/22/04, 6/23/04, 12/22/04, 3/28/05

**Site History:**

Groundwater impacts at this site were discovered in May, 2002 during site work and equipment modifications. Monitor wells were installed to determine water quality and gradient. Groundwater at this site is approximately 7 feet below ground surface. Site monitoring has identified limited free product in one source area well. This site is located in a rural area and no domestic or municipal receptors are at risk.

**Groundwater Monitor Well Sampling Procedures:**

Groundwater samples were collected from site monitor wells (*Figure 1*) following US EPA: SW-846 protocol. Samples were collected using new disposable bailers and placed in laboratory supplied 40 ml glass vials with teflon septa caps. Analysis included benzene, toluene, ethylbenzene, and total xylenes (BTEX) per US EPA Method 8020 or 8021. Samples were preserved cool and with either mercuric chloride or hydrochloric acid and express delivered to a qualified laboratory for testing. Waste generated during monitor well sampling and development was disposed of utilizing the separator tank pit located on the well site.

**Water Quality and Gradient Information:**

Site gradient has consistently been measure to flow in a north direction, parallel to the nearby Gallegos Canyon wash. Source area well MW#3 has tested BTEX constituents in excess of NMWQCC standards and has indicated the presence of free product. Analytical results from down-gradient well MW#1 indicated non-detect on BTEX, and side-gradient well MW#2 tests BTEX at levels well below NMWQCC standards.

**Summary and/or Recommendations:**

Further site delineation is indicated. However, due to the presence of free product additional remedial efforts are indicated. Due to shallow groundwater, excavation may be the best available technology for site remediation and delineation of soil impacts. Following remedial action, additional wells to determine residual water quality and extent of impacts will be necessary.

# BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

GCU # 194 - SEPARATOR PIT  
UNIT D, SEC. 5, T27N, R12W

REVISED DATE: December 12, 2005

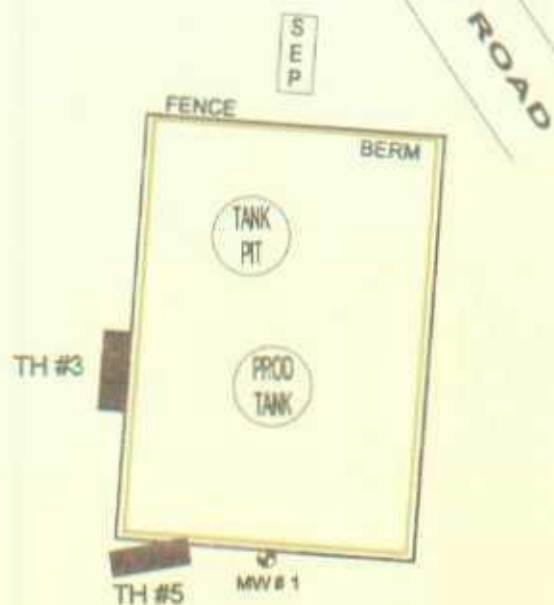
FILENAME: ( 194-1Q05 WK4 ) NJV

| SAMPLE<br>DATE               | WELL<br>NAME or No. | D.T.W.<br>(ft) | T.D.<br>(ft) | TDS<br>(mg/L) | COND.<br>umhos | pH   | PRODUCT<br>(ft) | BTEX EPA METHOD 8021B ( ppb ) |         |                  |                 |
|------------------------------|---------------------|----------------|--------------|---------------|----------------|------|-----------------|-------------------------------|---------|------------------|-----------------|
|                              |                     |                |              |               |                |      |                 | Benzene                       | Toluene | Ethyl<br>Benzene | Total<br>Xylene |
| 23-Dec-02                    | MW #1               | 8.04           | 14.50        | -             | 6,100          | 7.73 | -               | ND                            | ND      | ND               | ND              |
| 23-Dec-02                    | MW #2               | 7.84           | 14.50        | -             | 7,100          | 7.94 | -               | 6.8                           | 0.5     | 14               | 8.0             |
| 24-Feb-03                    |                     | 7.72           |              | -             | 6,900          | 8.03 | -               | 5.4                           | ND      | 9.9              | 13              |
| 29-May-03                    |                     | 7.96           |              |               | 6,100          | 7.78 |                 | 5.4                           | 1.0     | 6.7              | 11              |
| 18-Aug-03                    |                     | 8.58           |              |               | 8,700          | 7.56 |                 | 11                            | ND      | 17               | 19              |
| 18-Nov-03                    |                     | 8.20           |              |               | 7,900          | 7.66 |                 | 2.3                           | ND      | 8.4              | 5.1             |
| 22-Mar-04                    |                     | 7.80           |              |               | 6,800          | 7.59 |                 | 2.1                           | ND      | 5.8              | 7.6             |
| 23-Jun-04                    |                     | 8.43           |              |               | 8,000          | 7.49 |                 | 3.5                           | ND      | 8.5              | 5.4             |
| 22-Dec-04                    |                     | 7.93           |              |               | N/A            | N/A  |                 | ND                            | ND      | 1.9              | 2.7             |
| 28-Mar-05                    |                     | 7.67           |              |               | 6,400          | 7.58 |                 | ND                            | ND      | 1.5              | 2.1             |
| 23-Dec-02                    | MW #3               | 8.69           | 14.00        | -             | 8,800          | 7.80 | -               | 180                           | 34      | 220              | 2,130           |
| 29-May-03                    |                     | 8.81           |              |               | 7,700          | 7.40 |                 | 8.6                           | 7.6     | 8.5              | 17              |
| 18-Aug-03                    |                     | 9.46           |              |               | 9,500          | 7.25 |                 | 13                            | ND      | 2.1              | 30              |
| 18-Nov-03                    |                     | 8.97           |              |               | 7,900          | 7.37 |                 | 1,800                         | 100     | 1,300            | 13,000          |
| 22-Mar-04                    |                     |                |              |               |                |      | 0.01            |                               |         |                  |                 |
| 23-Jun-04                    |                     |                |              |               |                |      | 0.45            |                               |         |                  |                 |
| 22-Dec-04                    |                     |                |              |               |                |      | 0.40            |                               |         |                  |                 |
| 28-Mar-05                    |                     |                |              |               |                |      | 0.01            |                               |         |                  |                 |
| NMWQCC GROUNDWATER STANDARDS |                     |                |              |               |                |      |                 | 10                            | 750     | 750              | 520             |

NOTES: 1) RESULTS IN BOLD RED TYPE INDICATE EXCEEDING NMWQCC STANDARDS.

2) RESULTS IN BOLD BLUE TYPE INDICATE BELOW NMWQCC STANDARDS AFTER PROCEEDING RESULTS EXCEEDED.

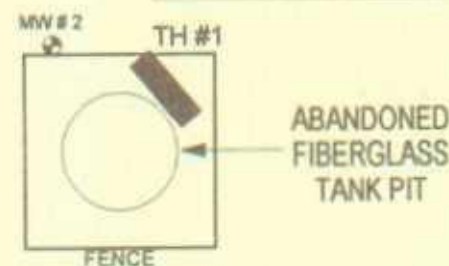
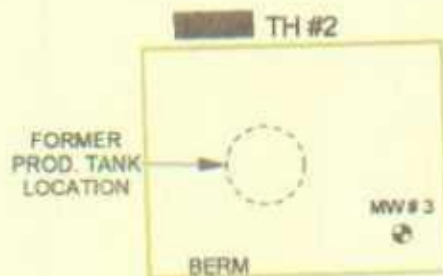
# FIGURE 1



DIRECTION  
TO GALLEGOS  
WASH →

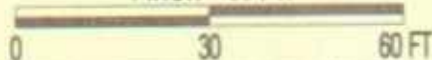
| DATE   | TIME | SAMPLE ID | SAMPLE DEPTH | OVN<br>(parts per million) |
|--------|------|-----------|--------------|----------------------------|
| 5/3/02 | 1245 | TH #2     | 4 FT.        | 820                        |
| 5/3/02 | 1250 | TH #3     | 5 FT.        | 2.3                        |
| 5/3/02 | 1330 | TH #5     | 5 FT.        | 11.8                       |

| TH #1 @ GW (5')           |                   |                                |
|---------------------------|-------------------|--------------------------------|
| DATE: 4/30/02 TIME: 11:51 |                   |                                |
| HYDROCARBON COMPOUNDS     | parts per billion | NMWWCC water quality standards |
| BENZENE                   | 15.5              | 10                             |
| TOLUENE                   | ND                | 750                            |
| ETHYLBENZENE              | 50.1              | 750                            |
| TOT. XYLENES              | 185               | 520                            |
| NAPHTHALENE               | 25.7              | 30                             |



NOTES: NMWWCC = NEW MEXICO WATER QUALITY CONTROL COMMISSION  
OVN = ORGANIC VAPOR METER

1 INCH = 30 FT.



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

BP AMERICA PRODUCTION COMPANY  
GCU # 194  
NW/4 NW/4 SEC. 5, T27N, R12W, NMPM  
SAN JUAN COUNTY, NEW MEXICO

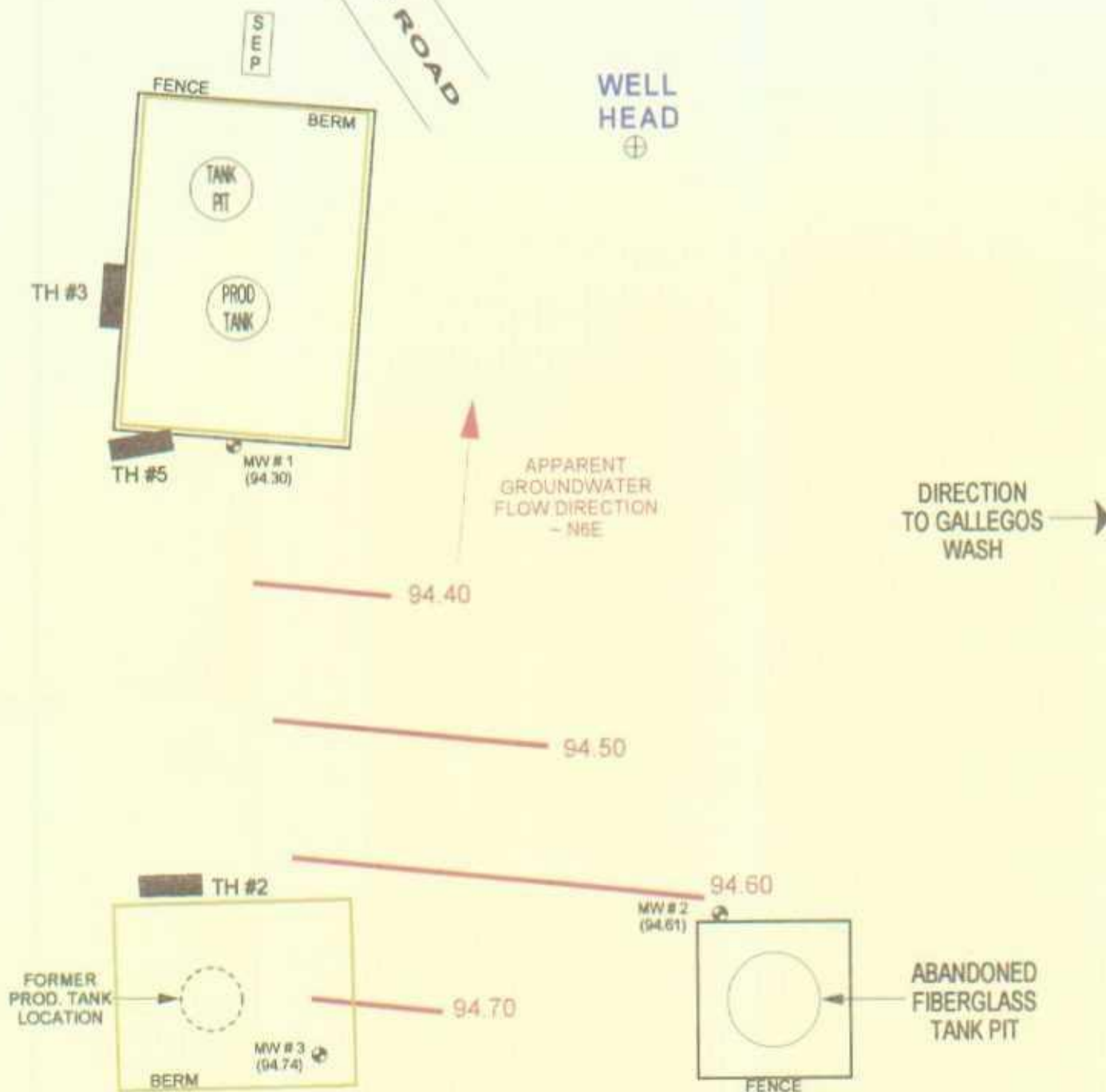
BLAGG ENGINEERING, INC.  
CONSULTING PETROLEUM/RECLAMATION SERVICES  
P.O. BOX 87  
BLOOMFIELD, NEW MEXICO 87413  
PHONE: (505) 832-1199

PROJECT: MW INSTALL  
DRAWN BY: NJV  
FILENAME: GCU194-SM.SKF

**SITE  
MAP**  
12/02

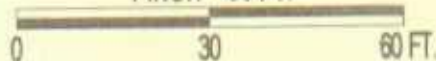


FIGURE 2  
(4th 1/4, 2002)



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

1 INCH = 30 FT.



| Top of Well Elevation |                                      |
|-----------------------|--------------------------------------|
| MW #1                 | (102.35)                             |
| MW #2                 | (102.47)                             |
| MW #3                 | (103.43)                             |
| MW #1 (94.30)         | Groundwater Elevation as of 12/22/02 |

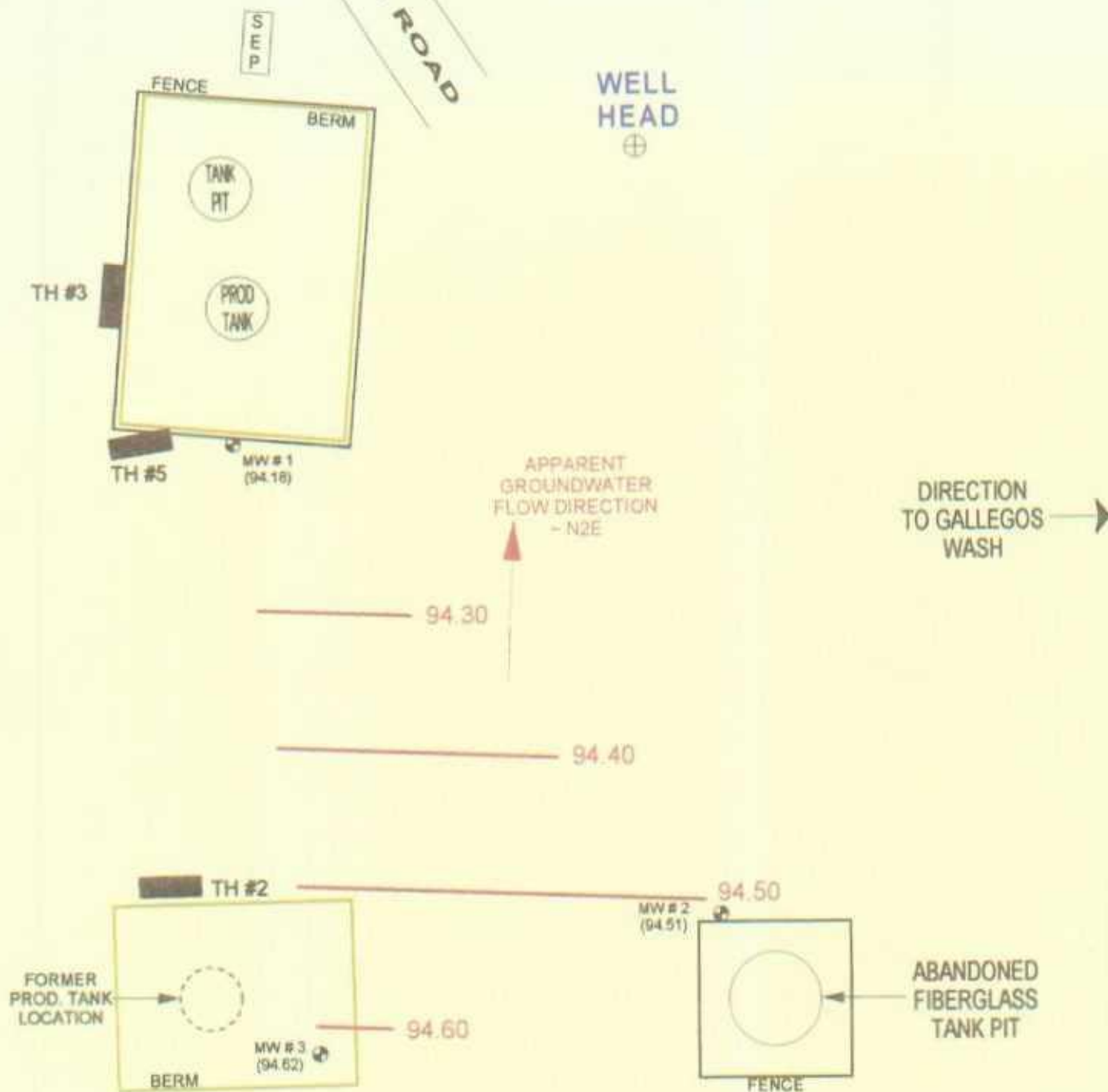
BP AMERICA PRODUCTION COMPANY  
GCU # 194  
NW/4 NW/4 SEC. 5, T27N, R12W, NMPM  
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.  
CONSULTING PETROLEUM / RECLAMATION SERVICES  
P.O. BOX 87  
BLOOMFIELD, NEW MEXICO 87413  
PHONE: (505) 833-1188

PROJECT: MW SAMPLING  
DRAWN BY: NJV  
FILENAME: 12-22-02-GW.SKF

GROUNDWATER  
CONTOUR  
MAP  
12/02

FIGURE 3  
(2nd 1/4, 2003)



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

1 INCH = 30 FT.

0 30 60 FT.

| Top of Well Elevation |                                      |
|-----------------------|--------------------------------------|
| MW #1                 | (102.35)                             |
| MW #2                 | (102.47)                             |
| MW #3                 | (103.43)                             |
| MW #1 (94.18)         | Groundwater Elevation as of 05/28/03 |

BP AMERICA PRODUCTION COMPANY  
GCU # 194  
NW1/4 NW1/4 SEC. 5, T27N, R12W, NMPM  
SAN JUAN COUNTY, NEW MEXICO

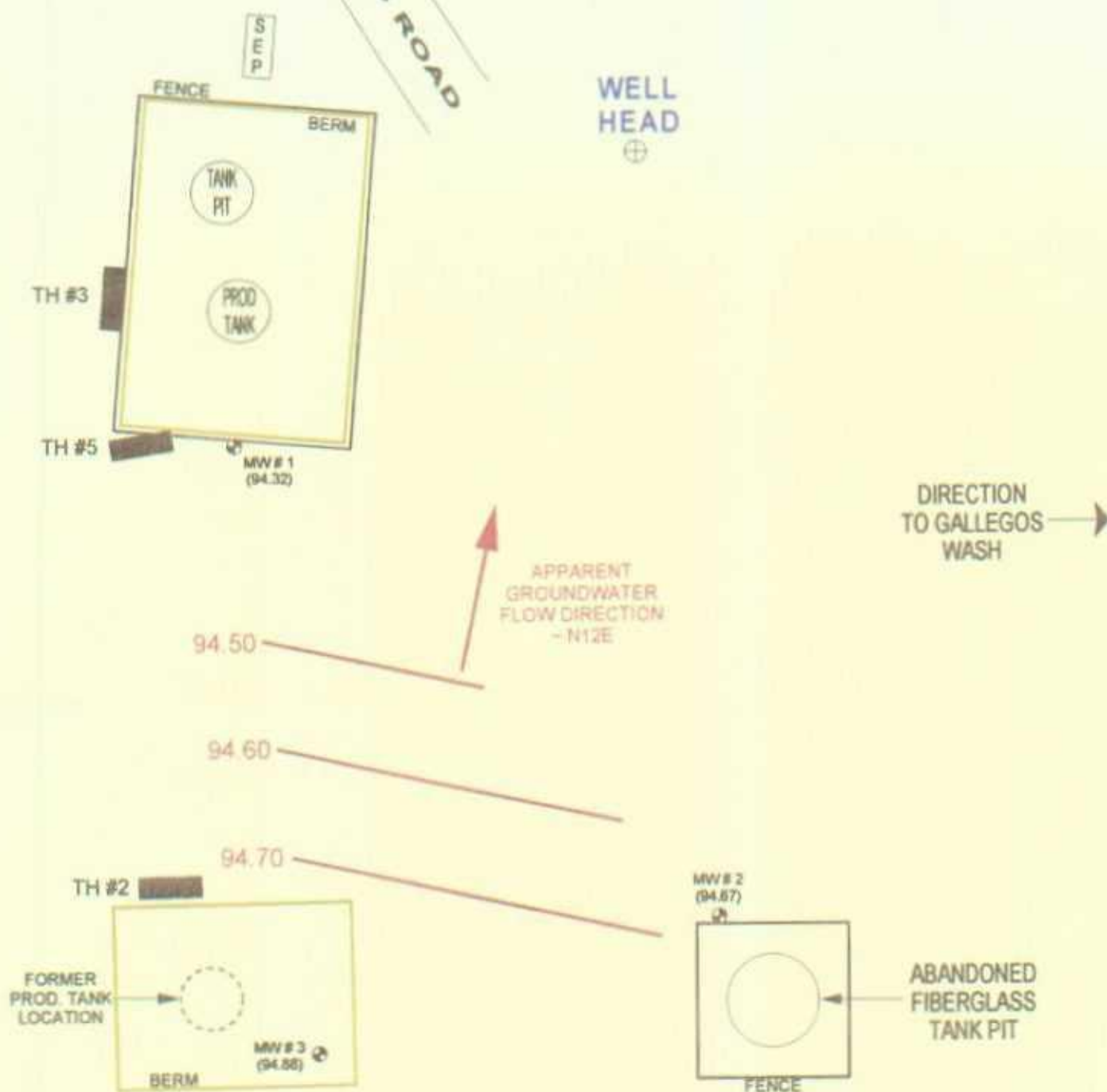
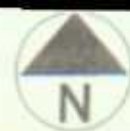
B LAGG ENGINEERING, INC.  
CONSULTING PETROLEUM RECLAMATION SERVICES  
P.O. BOX 57  
BLOOMFIELD, NEW MEXICO 87413  
PHONE: (505) 832-1190

PROJECT: MW SAMPLING  
DRAWN BY: NJV  
FILENAME: 05-29-03-GW.SKF

GROUNDWATER  
CONTOUR  
MAP  
05/03

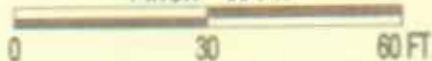


FIGURE 4  
(1st 1/4, 2004)



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

1 INCH = 30 FT.



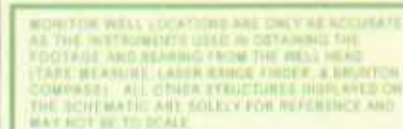
| Top of Well Elevation |                                      |
|-----------------------|--------------------------------------|
| MW #1                 | (102.35)                             |
| MW #2                 | (102.47)                             |
| MW #3                 | (103.43)                             |
| MW #1 (94.32)         | Groundwater Elevation as of 03/22/04 |

BP AMERICA PRODUCTION COMPANY  
GCU # 194  
NW1/4 NW1/4 SEC. 5, T27N, R12W, NMPM  
SAN JUAN COUNTY, NEW MEXICO

BLAGG ENGINEERING, INC.  
CONSULTING PETROLEUM / RECLAMATION SERVICES  
P.O. BOX 87  
BLOOMFIELD, NEW MEXICO 87413  
PHONE: (505) 832-1186

PROJECT: MW SAMPLING  
DRAWN BY: NJV  
FILENAME: 03-22-04-GW-SKF

GROUNDWATER  
CONTOUR  
MAP  
03/04



GROUNDWATER  
CONTOUR  
MAP  
03/05

# 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 # 194 UNIT D, SEC. 5, T27N, R12W  
CONTRACTOR: BLAGG ENGINEERING, INC.  
EQUIPMENT USED: EARTHPROBE 200  
BORING LOCATION: 96 FEET, S54.5E FROM WELL HEAD.

BORING #..... BH - 3  
MW #..... 1  
PAGE #..... 1  
DATE STARTED 12/18/02  
DATE FINISHED 12/18/02  
OPERATOR..... JCB  
PREPARED BY NJV

| DEPTH<br>(FT.) | INTERVAL | LITHOLOGY<br>INTERVAL | MW<br>SCHEMATIC | FIELD CLASSIFICATION AND REMARKS                                                                                                                                    |
|----------------|----------|-----------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |          |                       |                 | GROUND SURFACE                                                                                                                                                      |
| 1              |          |                       |                 | TOP OF CASING APPROX. 2.40 FEET ABOVE GRADE.                                                                                                                        |
| 2              |          |                       |                 |                                                                                                                                                                     |
| 3              |          |                       |                 | DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM,<br>NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS<br>(0.0 - 5.0 FT. BELOW GRADE). |
| 4              |          |                       |                 |                                                                                                                                                                     |
| 5              |          |                       |                 |                                                                                                                                                                     |
| 6              |          |                       |                 |                                                                                                                                                                     |
| 7              |          |                       |                 |                                                                                                                                                                     |
| 8              |          |                       |                 |                                                                                                                                                                     |
| 9              |          |                       |                 |                                                                                                                                                                     |
| 10             |          |                       |                 | MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SATURATED, NO APPARENT<br>HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (5.0 - 14.0 FT. BELOW GRADE).                    |
| 11             |          |                       |                 |                                                                                                                                                                     |
| 12             |          |                       |                 |                                                                                                                                                                     |
| 13             |          |                       |                 |                                                                                                                                                                     |
| 14             |          |                       |                 |                                                                                                                                                                     |
| 15             |          |                       |                 |                                                                                                                                                                     |
| 16             |          |                       |                 |                                                                                                                                                                     |
| 17             |          |                       |                 |                                                                                                                                                                     |
| 18             |          |                       |                 |                                                                                                                                                                     |
| 19             |          |                       |                 |                                                                                                                                                                     |
| 20             |          |                       |                 |                                                                                                                                                                     |
| 21             |          |                       |                 |                                                                                                                                                                     |
| 22             |          |                       |                 |                                                                                                                                                                     |
| 23             |          |                       |                 |                                                                                                                                                                     |
| 24             |          |                       |                 |                                                                                                                                                                     |
| 25             |          |                       |                 |                                                                                                                                                                     |
| 26             |          |                       |                 |                                                                                                                                                                     |
| 27             |          |                       |                 |                                                                                                                                                                     |
| 28             |          |                       |                 |                                                                                                                                                                     |
| 29             |          |                       |                 |                                                                                                                                                                     |
| 30             |          |                       |                 |                                                                                                                                                                     |
| 31             |          |                       |                 |                                                                                                                                                                     |

NOTES:  - SAND.

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

Monitor well consist of 2 inch PVC piping - casing from 2.4 ft. above grade to 2.1 ft. below grade,  
0.010 slotted screen between 2.1 to 12.1 foot below grade, locking cap with lock at top of casing.

DRAWING: GCU194-BH3-MW1. SKF DATE: 12/18/02 DWN BY: NJV

# 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 # 194 UNIT D, SEC. 5, T27N, R12W  
CONTRACTOR: BLAGG ENGINEERING, INC.  
EQUIPMENT USED: EARTHPROBE 200  
BORING LOCATION: 147 FEET, S6E FROM WELL HEAD.

BORING #..... BH - 1  
MW #..... 2  
PAGE #..... 2  
DATE STARTED 12/18/02  
DATE FINISHED 12/18/02  
OPERATOR..... JCB  
PREPARED BY NJV

| DEPTH (FT.) | INTERVAL | LITHOLOGY INTERVAL | MW SCHEMATIC | FIELD CLASSIFICATION AND REMARKS                                                                                                                                                                           |
|-------------|----------|--------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |          |                    |              | GROUND SURFACE                                                                                                                                                                                             |
| 1           |          |                    |              | TOP OF CASING APPROX. 2.55 FEET ABOVE GRADE.                                                                                                                                                               |
| 2           |          |                    | TOS 1.95 ft. | DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 5.0 FT. BELOW GRADE).                                              |
| 3           |          |                    |              |                                                                                                                                                                                                            |
| 4           |          |                    |              |                                                                                                                                                                                                            |
| 5           |          |                    |              |                                                                                                                                                                                                            |
| 6           |          |                    |              |                                                                                                                                                                                                            |
| 7           |          |                    |              |                                                                                                                                                                                                            |
| 8           |          |                    |              |                                                                                                                                                                                                            |
| 9           |          |                    |              | LIGHT TO DARK GRAY SAND, NON COHESIVE, SATURATED, STRONG HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (5.0 - 14.0 FT. BELOW GRADE).                                                                         |
| 10          |          |                    |              |                                                                                                                                                                                                            |
| 11          |          |                    |              |                                                                                                                                                                                                            |
| 12          |          |                    | TD 11.95 ft. |                                                                                                                                                                                                            |
| 13          |          |                    |              |                                                                                                                                                                                                            |
| 14          |          |                    |              |                                                                                                                                                                                                            |
| 15          |          |                    |              |                                                                                                                                                                                                            |
| 16          |          |                    |              |                                                                                                                                                                                                            |
| 17          |          |                    |              |                                                                                                                                                                                                            |
| 18          |          |                    |              |                                                                                                                                                                                                            |
| 19          |          |                    |              |                                                                                                                                                                                                            |
| 20          |          |                    |              |                                                                                                                                                                                                            |
| 21          |          |                    |              | NOTES:  - SAND.                                                                                                         |
| 22          |          |                    |              | TOS - Top of screen of monitor well.                                                                                                                                                                       |
| 23          |          |                    |              | TD - Total depth/bottom extent of monitor well.                                                                                                                                                            |
| 24          |          |                    |              |                                                                                                                                                                                                            |
| 25          |          |                    |              | Monitor well consist of 2 inch PVC piping - casing from 2.55 ft. above grade to 1.95 ft. below grade, 0.010 slotted screen between 1.95 to 11.95 feet below grade, locking cap with lock at top of casing. |
| 26          |          |                    |              |                                                                                                                                                                                                            |
| 27          |          |                    |              |                                                                                                                                                                                                            |
| 28          |          |                    |              |                                                                                                                                                                                                            |
| 29          |          |                    |              |                                                                                                                                                                                                            |
| 30          |          |                    |              |                                                                                                                                                                                                            |
| 31          |          |                    |              |                                                                                                                                                                                                            |

# 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 # 194 UNIT D, SEC. 5, T27N, R12W  
CONTRACTOR: BLAGG ENGINEERING, INC.  
EQUIPMENT USED: EARTHPROBE 200  
BORING LOCATION: 183 FEET, S20E FROM WELL HEAD.

BORING #..... BH - 2  
MWV#..... 3  
PAGE #..... 3  
DATE STARTED 12/18/02  
DATE FINISHED 12/18/02  
OPERATOR..... JCB  
PREPARED BY NJV

| DEPTH<br>(FT.) | INTERVAL | LITHOLOGY<br>INTERVAL | MW<br>SCHEMATIC | FIELD CLASSIFICATION AND REMARKS                                                                                                                                    |
|----------------|----------|-----------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                |          |                       |                 | GROUND SURFACE                                                                                                                                                      |
|                |          |                       |                 | TOP OF CASING APPROX. 2.40 FEET ABOVE GRADE.                                                                                                                        |
| 1              |          |                       | TOS 1.6 ft.     |                                                                                                                                                                     |
| 2              |          |                       |                 | DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM,<br>NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS<br>(0.0 - 5.0 FT. BELOW GRADE). |
| 3              |          |                       |                 |                                                                                                                                                                     |
| 4              |          |                       |                 |                                                                                                                                                                     |
| 5              |          |                       |                 |                                                                                                                                                                     |
| 6              |          |                       |                 |                                                                                                                                                                     |
| 7              |          |                       |                 |                                                                                                                                                                     |
| 8              |          |                       |                 | DARK GRAY TO BLACK SAND, NON COHESIVE, SATURATED, STRONG HC ODOR<br>DETECTED PHYSICALLY WITHIN CUTTINGS (5.0 - 10.0 FT. BELOW GRADE).                               |
| 9              |          |                       |                 |                                                                                                                                                                     |
| 10             |          |                       |                 |                                                                                                                                                                     |
| 11             |          |                       | TD 11.6 ft.     |                                                                                                                                                                     |
| 12             |          |                       |                 | PHASING INTO LIGHT OLIVE GRAY SAND, SLIGHTLY COHESIVE, SATURATED, SLIGHT<br>TO STRONG HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (10.0 - 14.0 FT. BELOW GRADE).    |
| 13             |          |                       |                 |                                                                                                                                                                     |
| 14             |          |                       |                 |                                                                                                                                                                     |
| 15             |          |                       |                 |                                                                                                                                                                     |
| 16             |          |                       |                 |                                                                                                                                                                     |
| 17             |          |                       |                 |                                                                                                                                                                     |
| 18             |          |                       |                 |                                                                                                                                                                     |
| 19             |          |                       |                 |                                                                                                                                                                     |
| 20             |          |                       |                 |                                                                                                                                                                     |
| 21             |          |                       |                 |                                                                                                                                                                     |
| 22             |          |                       |                 |                                                                                                                                                                     |
| 23             |          |                       |                 |                                                                                                                                                                     |
| 24             |          |                       |                 |                                                                                                                                                                     |
| 25             |          |                       |                 |                                                                                                                                                                     |
| 26             |          |                       |                 |                                                                                                                                                                     |
| 27             |          |                       |                 |                                                                                                                                                                     |
| 28             |          |                       |                 |                                                                                                                                                                     |
| 29             |          |                       |                 |                                                                                                                                                                     |
| 30             |          |                       |                 |                                                                                                                                                                     |
| 31             |          |                       |                 |                                                                                                                                                                     |

NOTES:  - SAND.

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

Monitor well consist of 2 inch PVC piping - casing from 2.4 ft. above grade to 1.6 ft. below grade,  
0.010 slotted screen between 1.6 to 11.6 foot below grade, locking cap with lock at top of casing.

DRAWING: GCU194-BH2-MW3, SKF DATE: 12/18/02 DWN BY: NJV

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

Form C-144  
March 12, 2004

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

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: <u>BP AMERICA PROD. CO.</u> Telephone: <u>(505) 326-9200</u>                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                       |                    |             |                                           |                       |                   |             |
| Address: <u>200 Energy Court, Farmington, NM 87410</u>                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                       |                    |             |                                           |                       |                   |             |
| Facility or well name: <u>GCU #194</u>                                                                                                                                                                                                                                                                                                                                                                                                                      | API #: <u>30-045-06935</u> U/L or Qtr/Qtr <u>D</u> Sec <u>5</u> T <u>27N</u> R <u>12W</u>                                                                                                                                             |                    |             |                                           |                       |                   |             |
| County: <u>San Juan</u> Latitude <u>36.06917</u> Longitude <u>108.14005</u>                                                                                                                                                                                                                                                                                                                                                                                 | NAD: 1927 <input type="checkbox"/> 1983 <input checked="" type="checkbox"/> Surface Owner Federal <input checked="" type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Indian <input type="checkbox"/> |                    |             |                                           |                       |                   |             |
| <b>Pit</b><br>Type: Drilling <input type="checkbox"/> Production <input type="checkbox"/> Disposal <input checked="" type="checkbox"/> SEPARATOR<br>Workover <input type="checkbox"/> Emergency <input type="checkbox"/><br>Lined <input checked="" type="checkbox"/> Unlined <input type="checkbox"/> FIBERGLASS TANK<br>Liner type: Synthetic <input type="checkbox"/> Thickness <u>      </u> mil Clay <input type="checkbox"/> Volume <u>      </u> bbl | <b>Below-grade tank</b><br>Volume: <u>      </u> bbl Type of fluid: <u>      </u><br>Construction material: <u>N/A</u><br>Double-walled with leak detection? <u>Yes</u> <input checked="" type="checkbox"/> If not, explain why not.  |                    |             |                                           |                       |                   |             |
| Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)                                                                                                                                                                                                                                                                                                                                              | <table border="1"><tr><td>Less than 50 feet</td><td>(20 points)</td></tr><tr><td>50 feet or more, but less than 100 feet</td><td>(10 points) <b>20</b></td></tr><tr><td>100 feet or more</td><td>( 0 points)</td></tr></table>        | Less than 50 feet  | (20 points) | 50 feet or more, but less than 100 feet   | (10 points) <b>20</b> | 100 feet or more  | ( 0 points) |
| Less than 50 feet                                                                                                                                                                                                                                                                                                                                                                                                                                           | (20 points)                                                                                                                                                                                                                           |                    |             |                                           |                       |                   |             |
| 50 feet or more, but less than 100 feet                                                                                                                                                                                                                                                                                                                                                                                                                     | (10 points) <b>20</b>                                                                                                                                                                                                                 |                    |             |                                           |                       |                   |             |
| 100 feet or more                                                                                                                                                                                                                                                                                                                                                                                                                                            | ( 0 points)                                                                                                                                                                                                                           |                    |             |                                           |                       |                   |             |
| Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)                                                                                                                                                                                                                                                                                                                   | <table border="1"><tr><td>Yes</td><td>(20 points)</td></tr><tr><td>No</td><td>( 0 points) <b>0</b></td></tr></table>                                                                                                                  | Yes                | (20 points) | No                                        | ( 0 points) <b>0</b>  |                   |             |
| Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                         | (20 points)                                                                                                                                                                                                                           |                    |             |                                           |                       |                   |             |
| No                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ( 0 points) <b>0</b>                                                                                                                                                                                                                  |                    |             |                                           |                       |                   |             |
| Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)                                                                                                                                                                                                                                                                                                             | <table border="1"><tr><td>Less than 200 feet</td><td>(20 points)</td></tr><tr><td>200 feet or more, but less than 1000 feet</td><td>(10 points) <b>10</b></td></tr><tr><td>1000 feet or more</td><td>( 0 points)</td></tr></table>    | Less than 200 feet | (20 points) | 200 feet or more, but less than 1000 feet | (10 points) <b>10</b> | 1000 feet or more | ( 0 points) |
| Less than 200 feet                                                                                                                                                                                                                                                                                                                                                                                                                                          | (20 points)                                                                                                                                                                                                                           |                    |             |                                           |                       |                   |             |
| 200 feet or more, but less than 1000 feet                                                                                                                                                                                                                                                                                                                                                                                                                   | (10 points) <b>10</b>                                                                                                                                                                                                                 |                    |             |                                           |                       |                   |             |
| 1000 feet or more                                                                                                                                                                                                                                                                                                                                                                                                                                           | ( 0 points)                                                                                                                                                                                                                           |                    |             |                                           |                       |                   |             |
| <b>Ranking Score (Total Points)</b> <b>30</b>                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                       |                    |             |                                           |                       |                   |             |

**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:

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 5 ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

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 (attached) alternative OCD-approved plan ☒.

Date: 12/13/05

Printed Name/Title Jeff Blagg - P.E. # 11607

Signature *Jeff 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:

Date:       

Printed Name/Title       

Signature



# **BLAGG ENGINEERING INC.**

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

Phone: (505)632-1199 Fax: (505)632-3903

May 7, 2002

Mr. William C. Olson, Hydrologist  
New Mexico Oil Conservation Division  
1220 St. Francis Drive  
Santa Fe, New Mexico 87504

Re: Notice of Groundwater Impact: BP America Production Co. GCU 194  
(D) Sec. 5 - T27N - R12W, San Juan County, New Mexico

Dear Mr. Olson:

On behalf of BP America Production Company, Blagg Engineering, Inc. (BEI) has conducted preliminary environmental monitoring at the subject location and potential groundwater impacts have been discovered. During modifications to surface equipment on April 29, 2002 BP personnel noticed hydrocarbon stained soil near a separator unit. BEI inspected the site and had a test hole excavated to groundwater, found at approximately 5 feet below ground surface. A sample of groundwater was collected on April 30, 2002 and submitted to Envirotech Laboratories in Farmington, New Mexico for analysis. On May 6, 2002 final laboratory test results on this sample indicated the constituent benzene was present at 15 ug/L. The New Mexico Water Quality Control Commission standard for benzene is 10 ug/L.

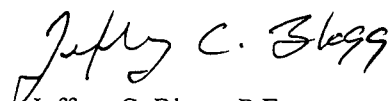
The original source of contamination is speculative. All containment pits on the well pad are either fiberglass or steel and no unlined earthen pits are presently used. The contamination source may be from prior earthen pit usage or from failure of an existing vessel. Visual inspection of preliminary test holes dug on and around the well site indicate that contamination is limited to the well pad area only. This well is located in a rural area of San Juan County and there is no immanent threat to drinking water sources. Site equipment is undergoing inspection and replacement to insure that there are no further environmental impacts. An investigation of the site will be conducted to determine the areal extent of contamination and best course of remedial action.

Attached are laboratory reports of the water sample collected on April 30, 2002. Also attached is a site map with the test hole groundwater sample location.

If you have questions or need additional information, please contact myself at (505)632-1199 or Brittany Benko with BP at (505)326-9235.

Respectfully:

**Blagg Engineering, Inc.**



Jeffrey C. Blagg, P.E.

President

Attachments: Lab Reports and Site Diagram

cc: Brittany Benko - BP San Juan Op. Ctr.  
Denny Foust - NMOCD Aztec

File: GCU194-1.wpd

# ENVIROTECH LABS

Practical Solutions for a Better Tomorrow

## CATION / ANION ANALYSIS

|                    |               |                 |           |
|--------------------|---------------|-----------------|-----------|
| Client:            | Blagg / BP    | Project #:      | 94034-010 |
| Sample ID:         | TH #1 GW @ 5' | Date Reported:  | 05-03-02  |
| Laboratory Number: | 22634         | Date Sampled:   | 04-30-02  |
| Chain of Custody:  | 9923          | Date Received:  | 04-30-02  |
| Sample Matrix:     | Water         | Date Extracted: | N/A       |
| Preservative:      | Cool          | Date Analyzed:  | 05-02-02  |
| Condition:         | Cool & Intact |                 |           |

| Parameter                     | Analytical Result | Units    | Units        |
|-------------------------------|-------------------|----------|--------------|
| pH                            | 8.12              | s.u.     |              |
| Conductivity @ 25° C          | 42,700            | umhos/cm |              |
| Total Dissolved Solids @ 180C | 21,360            | mg/L     |              |
| Total Dissolved Solids (Calc) | 20,640            | mg/L     |              |
| SAR                           | 94.3              | ratio    |              |
| Total Alkalinity as CaCO3     | 1,210             | mg/L     |              |
| Total Hardness as CaCO3       | 880               | mg/L     |              |
| Bicarbonate as HCO3           | 1,210             | mg/L     | 19.83 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              | 2.1               | mg/L     | 0.03 meq/L   |
| Nitrite Nitrogen              | 0.048             | mg/L     | 0.00 meq/L   |
| Chloride                      | 540               | mg/L     | 15.23 meq/L  |
| Fluoride                      | 1.70              | mg/L     | 0.09 meq/L   |
| Phosphate                     | 0.6               | mg/L     | 0.02 meq/L   |
| Sulfate                       | 12,600            | mg/L     | 262.33 meq/L |
| Iron                          | 0.018             | mg/L     | 0.00 meq/L   |
| Calcium                       | 288               | mg/L     | 14.37 meq/L  |
| Magnesium                     | 39.1              | mg/L     | 3.22 meq/L   |
| Potassium                     | 5.0               | mg/L     | 0.13 meq/L   |
| Sodium                        | 6,430             | mg/L     | 279.71 meq/L |
| Cations                       |                   |          | 297.42 meq/L |
| Anions                        |                   |          | 297.54 meq/L |
| Cation/Anion Difference       |                   |          | 0.04%        |

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

Comments: GCU 194.

Analyst

Review

# ENVIROTECH LABS

PRactical SOLUTIONS FOR A BETTER TOMORROW

## EPA Method 8260B

### Volatile Organic Compounds by GC/MS

Client: Blagg / BP  
Sample ID: TH #1 GW @ 5'  
Chain of Custody: 9923  
Laboratory Number: 22634  
Sample Matrix: Water  
Preservative: Cool  
Condition: Cool and Intact

Project #: 94034-010  
Date Reported: 05-02-02  
Date Sampled: 04-30-02  
Date Received: 04-30-02  
Date Analyzed: 05-02-02  
Analysis Requested: 8260 VOC

| Parameter                      | Concentration<br>(ug/L) | Units  | Det.<br>Limit | Dilution<br>Factor |
|--------------------------------|-------------------------|--------|---------------|--------------------|
| Benzene                        | 15.5                    | (ug/L) | 1.0           | 1                  |
| Toluene                        | ND                      | (ug/L) | 1.0           | 1                  |
| Ethylbenzene                   | 50.1                    | (ug/L) | 1.0           | 1                  |
| Xylenes, Total                 | 185                     | (ug/L) | 1.0           | 1                  |
| Methyl tert-butyl ether (MTBE) | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2,4-Trimethylbenzene         | 84.1                    | (ug/L) | 1.0           | 1                  |
| 1,3,5-Trimethylbenzene         | 35.9                    | (ug/L) | 1.0           | 1                  |
| 1,2-Dichloroethane (EDC)       | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2-Dibromoethane (EDB)        | ND                      | (ug/L) | 1.0           | 1                  |
| Napthalene                     | 26.7                    | (ug/L) | 1.0           | 1                  |
| 1-Methylnapthalene             | 14.1                    | (ug/L) | 2.0           | 1                  |
| 2-Methylnapthalene             | 27.0                    | (ug/L) | 2.0           | 1                  |
| Bromobenzene                   | ND                      | (ug/L) | 1.0           | 1                  |
| Bromochloromethane             | ND                      | (ug/L) | 1.0           | 1                  |
| Bromodichloromethane           | ND                      | (ug/L) | 1.0           | 1                  |
| Bromoform                      | ND                      | (ug/L) | 1.0           | 1                  |
| Bromomethane                   | ND                      | (ug/L) | 1.0           | 1                  |
| Carbon Tetrachloride           | ND                      | (ug/L) | 1.0           | 1                  |
| Chlorobenzene                  | ND                      | (ug/L) | 1.0           | 1                  |
| Chloroethane                   | ND                      | (ug/L) | 2.0           | 1                  |
| Chloroform                     | ND                      | (ug/L) | 1.0           | 1                  |
| Chloromethane                  | ND                      | (ug/L) | 1.0           | 1                  |
| 2-Chlorotoluene                | ND                      | (ug/L) | 1.0           | 1                  |
| 4-Chlorotoluene                | ND                      | (ug/L) | 1.0           | 1                  |
| cis-1,2-Dichloroethene         | ND                      | (ug/L) | 1.0           | 1                  |
| cis-1,3-Dichloropropene        | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2-Dibromo-3-chloropropane    | ND                      | (ug/L) | 2.0           | 1                  |
| Dibromochloromethane           | ND                      | (ug/L) | 1.0           | 1                  |
| Dibromoethane                  | ND                      | (ug/L) | 2.0           | 1                  |
| 1,2-Dichlorobenzene            | ND                      | (ug/L) | 1.0           | 1                  |
| 1,3-Dichlorobenzene            | ND                      | (ug/L) | 1.0           | 1                  |
| 1,4-Dichlorobenzene            | ND                      | (ug/L) | 1.0           | 1                  |
| Dichlorodifluoromethane        | ND                      | (ug/L) | 1.0           | 1                  |
| 1,1-Dichloroethane             | ND                      | (ug/L) | 1.0           | 1                  |
| 1,1-Dichloroethene             | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2-Dichloropropane            | ND                      | (ug/L) | 1.0           | 1                  |
| 1,3-Dichloropropane            | ND                      | (ug/L) | 1.0           | 1                  |
| 2,2-Dichloropropane            | ND                      | (ug/L) | 1.0           | 1                  |

Client: Blagg / BP  
Sample ID: TH #1 GW @ 5'  
Laboratory Number: 22634

page 2

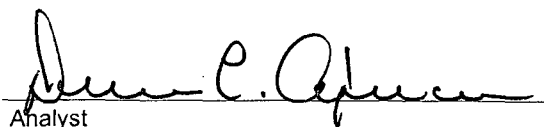
| Parameter                 | Concentration<br>(ug/L) | Units  | Det.<br>Limit | Dilution<br>Factor |
|---------------------------|-------------------------|--------|---------------|--------------------|
| 1,1-Dichloropropene       | ND                      | (ug/L) | 1.0           | 1                  |
| Hexachlorobutadiene       | ND                      | (ug/L) | 1.0           | 1                  |
| Isopropylbenzene          | 8.52                    | (ug/L) | 1.0           | 1                  |
| 4-Isopropyltoluene        | 5.62                    | (ug/L) | 1.0           | 1                  |
| Methylene Chloride        | ND                      | (ug/L) | 3.0           | 1                  |
| n-Butylbenzene            | 1.81                    | (ug/L) | 1.0           | 1                  |
| n-Propylbenzene           | 9.60                    | (ug/L) | 1.0           | 1                  |
| sec-Butylbenzene          | 2.14                    | (ug/L) | 1.0           | 1                  |
| Styrene                   | ND                      | (ug/L) | 1.0           | 1                  |
| tert-Butylbenzene         | 5.98                    | (ug/L) | 1.0           | 1                  |
| Tetrachloroethene (PCE)   | ND                      | (ug/L) | 1.0           | 1                  |
| 1,1,1,2-Tetrachloroethane | ND                      | (ug/L) | 1.0           | 1                  |
| 1,1,2,2-Tetrachloroethane | ND                      | (ug/L) | 1.0           | 1                  |
| trans-1,2-Dichloroethene  | ND                      | (ug/L) | 1.0           | 1                  |
| trans-1,3-Dichloropropene | ND                      | (ug/L) | 1.0           | 1                  |
| Trichloroethene (TCE)     | ND                      | (ug/L) | 1.0           | 1                  |
| Trichlorofluoromethane    | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2,3-Trichlorobenzene    | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2,4-Trichlorobenzene    | ND                      | (ug/L) | 1.0           | 1                  |
| 1,1,1-Trichloroethane     | ND                      | (ug/L) | 1.0           | 1                  |
| 1,1,2-Trichloroethane     | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2,3-Trichloropropane    | ND                      | (ug/L) | 2.0           | 1                  |
| Vinyl Chloride            | ND                      | (ug/L) | 2.0           | 1                  |

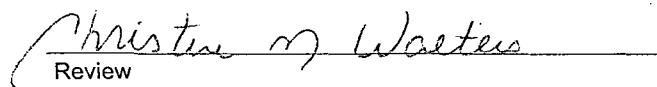
| Surrogates:           | Rec. Limits |            |          |   |
|-----------------------|-------------|------------|----------|---|
| Dibromofluoromethane  | 101.8       | % Recovery | 78.6-115 | 1 |
| 1,2-Dichloroethane-d4 | 97.6        | % Recovery | 74.6-123 | 1 |
| Toluene-d8            | 100.0       | % Recovery | 84.2-115 | 1 |
| 4-Bromofluorobenzene  | 100.0       | % Recovery | 78.6-115 | 1 |

ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste,  
SW-846, USEPA, July 1992.  
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass  
Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: GCU 194.

  
Analyst

  
Review

109-223

# ENVIROTECH INC.

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

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

**QUALITY ASSURANCE / QUALITY CONTROL**

**DOCUMENTATION**



# ENVIROTECH LABS

PRactical SOLUTIONS FOR A BETTER TOMORROW

## EPA Method 8260B

### Volatile Organic Compounds by GC/MS Quality Assurance Report

Client: QA/QC  
Sample ID: Laboratory Blank  
Laboratory Number: 05-02-VOA  
Sample Matrix: Water  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 05-02-02  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 05-02-02  
Analysis Requested: 8260 VOC

| Parameter                      | Concentration<br>(ug/L) | Units  | Det.<br>Limit | Dilution<br>Factor |
|--------------------------------|-------------------------|--------|---------------|--------------------|
| Benzene                        | ND                      | (ug/L) | 1.0           | 1                  |
| Toluene                        | ND                      | (ug/L) | 1.0           | 1                  |
| Ethylbenzene                   | ND                      | (ug/L) | 1.0           | 1                  |
| Xylenes, Total                 | ND                      | (ug/L) | 1.0           | 1                  |
| Methyl tert-butyl ether (MTBE) | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2,4-Trimethylbenzene         | ND                      | (ug/L) | 1.0           | 1                  |
| 1,3,5-Trimethylbenzene         | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2-Dichloroethane (EDC)       | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2-Dibromoethane (EDB)        | ND                      | (ug/L) | 1.0           | 1                  |
| Napthalene                     | ND                      | (ug/L) | 1.0           | 1                  |
| 1-Methylnapthalene             | ND                      | (ug/L) | 2.0           | 1                  |
| 2-Methylnapthalene             | ND                      | (ug/L) | 2.0           | 1                  |
| Bromobenzene                   | ND                      | (ug/L) | 1.0           | 1                  |
| Bromochloromethane             | ND                      | (ug/L) | 1.0           | 1                  |
| Bromodichloromethane           | ND                      | (ug/L) | 1.0           | 1                  |
| Bromoform                      | ND                      | (ug/L) | 1.0           | 1                  |
| Bromomethane                   | ND                      | (ug/L) | 1.0           | 1                  |
| Carbon Tetrachloride           | ND                      | (ug/L) | 1.0           | 1                  |
| Chlorobenzene                  | ND                      | (ug/L) | 1.0           | 1                  |
| Chloroethane                   | ND                      | (ug/L) | 2.0           | 1                  |
| Chloroform                     | ND                      | (ug/L) | 1.0           | 1                  |
| Chloromethane                  | ND                      | (ug/L) | 1.0           | 1                  |
| 2-Chlorotoluene                | ND                      | (ug/L) | 1.0           | 1                  |
| 4-Chlorotoluene                | ND                      | (ug/L) | 1.0           | 1                  |
| cis-1,2-Dichloroethene         | ND                      | (ug/L) | 1.0           | 1                  |
| cis-1,3-Dichloropropene        | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2-Dibromo-3-chloropropane    | ND                      | (ug/L) | 2.0           | 1                  |
| Dibromochloromethane           | ND                      | (ug/L) | 1.0           | 1                  |
| Dibromoethane                  | ND                      | (ug/L) | 2.0           | 1                  |
| 1,2-Dichlorobenzene            | ND                      | (ug/L) | 1.0           | 1                  |
| 1,3-Dichlorobenzene            | ND                      | (ug/L) | 1.0           | 1                  |
| 1,4-Dichlorobenzene            | ND                      | (ug/L) | 1.0           | 1                  |
| Dichlorodifluoromethane        | ND                      | (ug/L) | 1.0           | 1                  |
| 1,1-Dichloroethane             | ND                      | (ug/L) | 1.0           | 1                  |
| 1,1-Dichloroethene             | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2-Dichloropropane            | ND                      | (ug/L) | 1.0           | 1                  |
| 1,3-Dichloropropane            | ND                      | (ug/L) | 1.0           | 1                  |
| 2,2-Dichloropropane            | ND                      | (ug/L) | 1.0           | 1                  |

Client: QA/QC  
Sample ID: Laboratory Blank  
Laboratory Number: 05-02-VOA

page 2

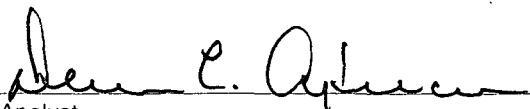
| Parameter                 | Concentration<br>(ug/L) | Units  | Det.<br>Limit | Dilution<br>Factor |
|---------------------------|-------------------------|--------|---------------|--------------------|
| 1,1-Dichloropropene       | ND                      | (ug/L) | 1.0           | 1                  |
| Hexachlorobutadiene       | ND                      | (ug/L) | 1.0           | 1                  |
| Isopropylbenzene          | ND                      | (ug/L) | 1.0           | 1                  |
| 4-Isopropyltoluene        | ND                      | (ug/L) | 1.0           | 1                  |
| Methylene Chloride        | ND                      | (ug/L) | 3.0           | 1                  |
| n-Butylbenzene            | ND                      | (ug/L) | 1.0           | 1                  |
| n-Propylbenzene           | ND                      | (ug/L) | 1.0           | 1                  |
| sec-Butylbenzene          | ND                      | (ug/L) | 1.0           | 1                  |
| Styrene                   | ND                      | (ug/L) | 1.0           | 1                  |
| tert-Butylbenzene         | ND                      | (ug/L) | 1.0           | 1                  |
| Tetrachloroethene (PCE)   | ND                      | (ug/L) | 1.0           | 1                  |
| 1,1,1,2-Tetrachloroethane | ND                      | (ug/L) | 1.0           | 1                  |
| 1,1,2,2-Tetrachloroethane | ND                      | (ug/L) | 1.0           | 1                  |
| trans-1,2-Dichloroethene  | ND                      | (ug/L) | 1.0           | 1                  |
| trans-1,3-Dichloropropene | ND                      | (ug/L) | 1.0           | 1                  |
| Trichloroethene (TCE)     | ND                      | (ug/L) | 1.0           | 1                  |
| Trichlorofluoromethane    | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2,3-Trichlorobenzene    | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2,4-Trichlorobenzene    | ND                      | (ug/L) | 1.0           | 1                  |
| 1,1,1-Trichloroethane     | ND                      | (ug/L) | 1.0           | 1                  |
| 1,1,2-Trichloroethane     | ND                      | (ug/L) | 1.0           | 1                  |
| 1,2,3-Trichloropropane    | ND                      | (ug/L) | 2.0           | 1                  |
| Vinyl Chloride            | ND                      | (ug/L) | 2.0           | 1                  |

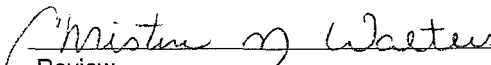
| Surrogates:           | Rec. Limits |            |          |   |
|-----------------------|-------------|------------|----------|---|
| Dibromofluoromethane  | 104.2       | % Recovery | 78.6-115 | 1 |
| 1,2-Dichloroethane-d4 | 105.3       | % Recovery | 74.6-123 | 1 |
| Toluene-d8            | 102.7       | % Recovery | 84.2-115 | 1 |
| 4-Bromofluorobenzene  | 104.1       | % Recovery | 78.6-115 | 1 |

ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste,  
SW-846, USEPA, July 1992.  
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass  
Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for sample 22634.

  
Analyst

  
Review

# ENVIROTECH LABS

PRactical SOLUTIONS FOR A BETTER TOMORROW

## EPA Method 8260B

### Volatile Organic Compounds by GC/MS Quality Assurance Report

Client: QA/QC  
Sample ID: Matrix Spikes  
Laboratory Number: 05-02-VOA - 22634  
Sample Matrix: Water  
Preservative: N/A  
Condition: N/A

Project #: N/A  
Date Reported: 05-02-02  
Date Sampled: N/A  
Date Received: N/A  
Date Analyzed: 05-02-02  
Analysis Requested: 8260 VOC

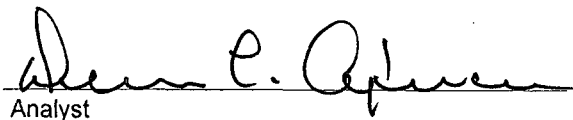
| Spike<br>Analyte      | Units: uG/L |       |        | %Recovery | Recovery<br>Limits | Det.<br>Limit |
|-----------------------|-------------|-------|--------|-----------|--------------------|---------------|
|                       | Sample      | Added | Result |           |                    |               |
| Benzene               | 15.5        | 100.0 | 115.9  | 100.4%    | 85.3 - 120         | 1.0           |
| Toluene               | ND          | 100.0 | 101.0  | 101.0%    | 73 - 123           | 1.0           |
| Chlorobenzene         | ND          | 100.0 | 99.9   | 99.9%     | 84.7 - 119         | 1.0           |
| 1,1-Dichloroethene    | ND          | 100.0 | 99.2   | 99.2%     | 83.4 - 122         | 1.0           |
| Trichloroethene (TCE) | ND          | 100.0 | 99.5   | 99.5%     | 76.1 - 126         | 1.0           |

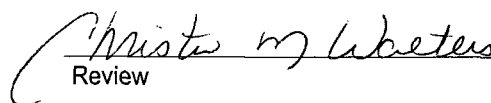
| Spike Duplicate<br>Analyte | Units: uG/L |       |        | %Recovery | Recovery<br>Limits | Det.<br>Limit |
|----------------------------|-------------|-------|--------|-----------|--------------------|---------------|
|                            | Sample      | Added | Result |           |                    |               |
| Benzene                    | 15.5        | 100.0 | 115.7  | 100.2%    | 85.3 - 120         | 1.0           |
| Toluene                    | ND          | 100.0 | 99.9   | 99.9%     | 73 - 123           | 1.0           |
| Chlorobenzene              | ND          | 100.0 | 99.9   | 99.9%     | 84.7 - 119         | 1.0           |
| 1,1-Dichloroethene         | ND          | 100.0 | 99.3   | 99.3%     | 83.4 - 122         | 1.0           |
| Trichloroethene (TCE)      | ND          | 100.0 | 99.9   | 99.9%     | 76.1 - 126         | 1.0           |

ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste,  
SW-846, USEPA, July 1992.  
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass  
Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for sample 22634.

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA Method 8260B

### Volatile Organic Compounds by GC/MS Daily Calibration Report

|                    |                   |                     |          |
|--------------------|-------------------|---------------------|----------|
| Client:            | QA/QC             | Project #:          | N/A      |
| Sample ID:         | Daily Calibration | Date Reported:      | 05-02-02 |
| Laboratory Number: | 05-02-VOA         | Date Sampled:       | N/A      |
| Sample Matrix:     | Water             | Date Received:      | N/A      |
| Preservative:      | N/A               | Date Analyzed:      | 05-02-02 |
| Condition:         | N/A               | Analysis Requested: | 8260 VOC |

| Parameter                      | Concentration<br>(ug/L) | Result | % Recoverd | % Recovery<br>Limits |
|--------------------------------|-------------------------|--------|------------|----------------------|
| Benzene                        | 100                     | 100.9  | 100.9      | 80 - 120             |
| Toluene                        | 100                     | 100.8  | 100.8      | 80 - 120             |
| Ethylbenzene                   | 100                     | 101.2  | 101.2      | 80 - 120             |
| Xylenes, Total                 | 100                     | 101.1  | 101.1      | 80 - 120             |
| Methyl tert-butyl ether (MTBE) | 100                     | 100.5  | 100.5      | 80 - 120             |
| 1,2,4-Trimethylbenzene         | 100                     | 101.3  | 101.3      | 80 - 120             |
| 1,3,5-Trimethylbenzene         | 100                     | 100.8  | 100.8      | 80 - 120             |
| 1,2-Dichloroethane (EDC)       | 100                     | 101.4  | 101.4      | 80 - 120             |
| 1,2-Dibromoethane (EDB)        | 100                     | 100.9  | 100.9      | 80 - 120             |
| Napthalene                     | 100                     | 102.5  | 102.5      | 80 - 120             |
| 1-Methylnapthalene             | 100                     | 100.4  | 100.4      | 80 - 120             |
| 2-Methylnapthalene             | 100                     | 102.4  | 102.4      | 80 - 120             |
| Bromobenzene                   | 100                     | 100.7  | 100.7      | 80 - 120             |
| Bromochloromethane             | 100                     | 101.2  | 101.2      | 80 - 120             |
| Bromodichloromethane           | 100                     | 100.7  | 100.7      | 80 - 120             |
| Bromoform                      | 100                     | 102.2  | 102.2      | 80 - 120             |
| Bromomethane                   | 100                     | 98.1   | 98.1       | 80 - 120             |
| Carbon Tetrachloride           | 100                     | 101.2  | 101.2      | 80 - 120             |
| Chlorobenzene                  | 100                     | 100.6  | 100.6      | 80 - 120             |
| Chloroethane                   | 100                     | 100.6  | 100.6      | 80 - 120             |
| Chloroform                     | 100                     | 101.5  | 101.5      | 80 - 120             |
| Chloromethane                  | 100                     | 100.6  | 100.6      | 80 - 120             |
| 2-Chlorotoluene                | 100                     | 100.3  | 100.3      | 80 - 120             |
| 4-Chlorotoluene                | 100                     | 101.2  | 101.2      | 80 - 120             |
| cis-1,2-Dichloroethene         | 100                     | 102.6  | 102.6      | 80 - 120             |
| cis-1,3-Dichloropropene        | 100                     | 100.7  | 100.7      | 80 - 120             |
| 1,2-Dibromo-3-chloropropane    | 100                     | 104.0  | 104.0      | 80 - 120             |
| Dibromochloromethane           | 100                     | 100.3  | 100.3      | 80 - 120             |
| Dibromoethane                  | 100                     | 101.0  | 101.0      | 80 - 120             |
| 1,2-Dichlorobenzene            | 100                     | 101.3  | 101.3      | 80 - 120             |
| 1,3-Dichlorobenzene            | 100                     | 101.6  | 101.6      | 80 - 120             |
| 1,4-Dichlorobenzene            | 100                     | 101.6  | 101.6      | 80 - 120             |
| Dichlorodifluoromethane        | 100                     | 100.1  | 100.1      | 80 - 120             |
| 1,1-Dichloroethane             | 100                     | 101.1  | 101.1      | 80 - 120             |
| 1,1-Dichloroethene             | 100                     | 99.4   | 99.4       | 80 - 120             |
| 1,2-Dichloropropane            | 100                     | 100.6  | 100.6      | 80 - 120             |
| 1,3-Dichloropropane            | 100                     | 101.9  | 101.9      | 80 - 120             |
| 2,2-Dichloropropane            | 100                     | 100.6  | 100.6      | 80 - 120             |

Client: QA/QC  
Sample ID: Daily Calibration  
Laboratory Number: 05-02-VOA

page 2

| Parameter                 | Concentration<br>(ug/L) | Result | % Recoverd | % Recovery<br>Limits |
|---------------------------|-------------------------|--------|------------|----------------------|
| 1,1-Dichloropropene       | 100                     | 101.5  | 101.5      | 80 - 120             |
| Hexachlorobutadiene       | 100                     | 103.5  | 103.5      | 80 - 120             |
| Isopropylbenzene          | 100                     | 101.4  | 101.4      | 80 - 120             |
| 4-Isopropyltoluene        | 100                     | 101.5  | 101.5      | 80 - 120             |
| Methylene Chloride        | 100                     | 99.9   | 99.9       | 80 - 120             |
| n-Butylbenzene            | 100                     | 102.4  | 102.4      | 80 - 120             |
| n-Propylbenzene           | 100                     | 101.0  | 101.0      | 80 - 120             |
| sec-Butylbenzene          | 100                     | 100.9  | 100.9      | 80 - 120             |
| Styrene                   | 100                     | 100.5  | 100.5      | 80 - 120             |
| tert-Butylbenzene         | 100                     | 102.4  | 102.4      | 80 - 120             |
| Tetrachloroethene (PCE)   | 100                     | 101.9  | 101.9      | 80 - 120             |
| 1,1,1,2-Tetrachloroethane | 100                     | 99.1   | 99.1       | 80 - 120             |
| 1,1,2,2-Tetrachloroethane | 100                     | 102.0  | 102.0      | 80 - 120             |
| trans-1,2-Dichloroethene  | 100                     | 101.1  | 101.1      | 80 - 120             |
| trans-1,3-Dichloropropene | 100                     | 100.9  | 100.9      | 80 - 120             |
| Trichloroethene (TCE)     | 100                     | 101.1  | 101.1      | 80 - 120             |
| Trichlorofluoromethane    | 100                     | 103.9  | 103.9      | 80 - 120             |
| 1,2,3-Trichlorobenzene    | 100                     | 102.4  | 102.4      | 80 - 120             |
| 1,2,4-Trichlorobenzene    | 100                     | 102.2  | 102.2      | 80 - 120             |
| 1,1,1-Trichloroethane     | 100                     | 102.6  | 102.6      | 80 - 120             |
| 1,1,2-Trichloroethane     | 100                     | 100.7  | 100.7      | 80 - 120             |
| 1,2,3-Trichloropropane    | 100                     | 103.0  | 103.0      | 80 - 120             |
| Vinyl Chloride            | 100                     | 102.4  | 102.4      | 80 - 120             |

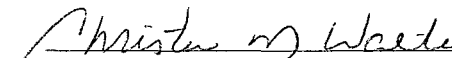
| Surrogates:           | Rec. Limits |            |          |
|-----------------------|-------------|------------|----------|
| Dibromofluoromethane  | 102.7       | % Recovery | 78.6-115 |
| 1,2-Dichloroethane-d4 | 106.1       | % Recovery | 74.6-123 |
| Toluene-d8            | 100.6       | % Recovery | 84.2-115 |
| 4-Bromofluorobenzene  | 102.0       | % Recovery | 78.6-115 |

ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste,  
SW-846, USEPA, July 1992.  
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass  
Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for sample 22634.

  
Analyst

  
Review

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

CLIENT : BP AMER. PROD. CO.

CHAIN-OF-CUSTODY # : 12152

GCU # 194 - SEPARATOR PIT  
UNIT D, SEC. 5, T27N, R12W

LABORATORY (S) USED : ON - SITE TECH.

Date : December 22, 2002

SAMPLER : N J V

Filename : 12-22-02.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) | VOLUME PURGED (gal.) | FREE PRODUCT (ft) |
|--------|-----------------|------------------|---------------------|------------------|---------------|------|-----------------|----------------------|-------------------|
| MW - 1 | 102.35          | 94.31            | 8.04                | 14.50            | 1025          | 7.73 | 6,100           | 3.25                 | -                 |
| MW - 2 | 102.47          | 94.63            | 7.84                | 14.50            | 1033          | 7.94 | 7,100           | 3.25                 | -                 |
| MW - 3 | 103.43          | 94.74            | 8.69                | 14.00            | 1040          | 7.80 | 8,800           | 2.75                 | -                 |

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

(i.e. 2" MW  $r = (1/12) \text{ ft. } h = 1 \text{ ft.}$  (i.e. 4" MW  $r = (2/12) \text{ ft. } h = 1 \text{ ft.}$ )

Ideally a minimum of three (3) wellbore volumes:

1.25 " well diameter = 0.19 gallons per foot of water ( or 24 oz. ).

2 bails per foot - small teflon bailer.

3 bails per foot - 3 / 4 " teflon bailer.

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

4.00 " well diameter = 1.95 gallons per foot of water.

Comments or note well diameter if not standard 2".

Excellent recovery in all MW's. MW #1 - murky brown, MW #2 - blackish tint, MW #3 - blackish tint. Collected BTEX from all MW's listed.

Top of casing MW #1 ~ 2.40 ft., MW #2 ~ 2.55 ft., MW #3 ~ 2.40 ft. above grade.

612 E. Murray Drive  
Farmington, NM 87401

Off: (505) 327-1072

*iiná bá*

P.O. Box 2606  
Farmington, NM 87499

Fax: (505) 327-1496

Date: 02-Jan-03

CLIENT: Blagg Engineering  
Work Order: 0212023  
Project: BP - GCU #194  
Lab ID: 0212023-001A

Client Sample Info: BP - GCU #194  
Client Sample ID: MW #1  
Collection Date: 12/22/2002 10:25:00 AM  
Matrix: AQUEOUS

| Parameter                    | Result | PQL     | Qual | Units | DF | Date Analyzed |
|------------------------------|--------|---------|------|-------|----|---------------|
| AROMATIC VOLATILES BY GC/PID |        | SW8021B |      |       |    | Analyst: JEM  |
| Benzene                      | ND     | 0.5     |      | µg/L  | 1  | 12/27/2002    |
| Ethylbenzene                 | ND     | 0.5     |      | µg/L  | 1  | 12/27/2002    |
| m,p-Xylene                   | ND     | 1.0     |      | µg/L  | 1  | 12/27/2002    |
| o-Xylene                     | ND     | 0.5     |      | µg/L  | 1  | 12/27/2002    |
| Toluene                      | ND     | 0.5     |      | µg/L  | 1  | 12/27/2002    |

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

Page 1 of 3

MAINTAINING HARMONY BETWEEN MAN AND HIS ENVIRONMENT

612 E. Murray Drive  
Farmington, NM 87401

Off: (505) 327-1072

*iiná bá*

P.O. Box 2606  
Farmington, NM 87499

Fax: (505) 327-1496

Date: 02-Jan-03

CLIENT: Blagg Engineering  
Work Order: 0212023  
Project: BP - GCU #194  
Lab ID: 0212023-002A

Client Sample Info: BP - GCU #194  
Client Sample ID: MW #2  
Collection Date: 12/22/2002 10:33:00 AM  
Matrix: AQUEOUS

| Parameter                    | Result | PQL     | Qual | Units | DF | Date Analyzed |
|------------------------------|--------|---------|------|-------|----|---------------|
| AROMATIC VOLATILES BY GC/PID |        | SW8021B |      |       |    | Analyst: JEM  |
| Benzene                      | 6.8    | 0.5     |      | µg/L  | 1  | 12/27/2002    |
| Ethylbenzene                 | 14     | 0.5     |      | µg/L  | 1  | 12/27/2002    |
| m,p-Xylene                   | 8.0    | 1.0     |      | µg/L  | 1  | 12/27/2002    |
| o-Xylene                     | ND     | 0.5     |      | µg/L  | 1  | 12/27/2002    |
| Toluene                      | 0.5    | 0.5     |      | µg/L  | 1  | 12/27/2002    |

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

Page 2 of 3



612 E. Murray Drive  
Farmington, NM 87401

Off: (505) 327-1072



P.O. Box 2606  
Farmington, NM 87499

Fax: (505) 327-1496

Date: 02-Jan-03

CLIENT: Blagg Engineering  
Work Order: 0212023  
Project: BP - GCU #194  
Lab ID: 0212023-003A

Client Sample Info: BP - GCU #194  
Client Sample ID: MW #3  
Collection Date: 12/22/2002 10:40:00 AM  
Matrix: AQUEOUS

| Parameter                    | Result | PQL     | Qual | Units        | DF | Date Analyzed |
|------------------------------|--------|---------|------|--------------|----|---------------|
| AROMATIC VOLATILES BY GC/PID |        | SW8021B |      | Analyst: JEM |    |               |
| Benzene                      | 180    | 0.5     |      | µg/L         | 1  | 12/27/2002    |
| Ethylbenzene                 | 220    | 5.0     |      | µg/L         | 10 | 12/27/2002    |
| m,p-Xylene                   | 1800   | 10      |      | µg/L         | 10 | 12/27/2002    |
| o-Xylene                     | 330    | 5.0     |      | µg/L         | 10 | 12/27/2002    |
| Toluene                      | 34     | 0.5     |      | µg/L         | 1  | 12/27/2002    |

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

Page 3 of 3

MAINTAINING HARMONY BETWEEN MAN AND HIS ENVIRONMENT

# CHAIN OF CUSTODY RECORD

Date: 12/22/06  
Page: 1 of 1

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

[illegible]

iina ba, Ltd.

### Sample Receipt Checklist

Client Name: **BLA1002**

Date and Time Received:

**12/23/2002**

Work Order Number: **0212023**

Received by: **HNR**

Checklist completed by: Heidi R  
Signature

12/23/02  
Date

Reviewed by: (HNR)

Initials

1/2/03  
Date

Matrix:

Carrier name: Courier

|                                                         |                                                 |                                         |                                                 |
|---------------------------------------------------------|-------------------------------------------------|-----------------------------------------|-------------------------------------------------|
| Shipping container/cooler in good condition?            | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             | Not Present <input type="checkbox"/>            |
| Custody seals intact on shipping container/cooler?      | Yes <input type="checkbox"/>                    | No <input type="checkbox"/>             | Not Present <input checked="" type="checkbox"/> |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>                    | No <input type="checkbox"/>             | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Sample containers intact?                               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Container/Temp Blank temperature in compliance?         | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Water - VOA vials have zero headspace?                  | No VOA vials submitted <input type="checkbox"/> | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                     |
| Water - pH acceptable upon receipt?                     | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |

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: \_\_\_\_\_

ina ba, Ltd.

Date: 02-Jan-03

CLIENT: Blagg Engineering

Work Order: 0212023

Project: BP - GCU #194

# ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX\_W

|                  |             |                 |                  |             |                           |                      |           |             |      |          |      |
|------------------|-------------|-----------------|------------------|-------------|---------------------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID        | MBLK_021227 | SampType: MBLK  | TestCode: BTEX_W | Units: µg/L | Prep Date: 12/27/2002     | Run ID: GC-1_021227A |           |             |      |          |      |
| Client ID: ZZZZZ |             | Batch ID: R4182 | TestNo: SW8021B  |             | Analysis Date: 12/27/2002 | SeqNo: 61242         |           |             |      |          |      |
| Analyte          | Result      | PQL             | SPK value        | SPK Ref Val | %REC                      | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

J

|            |            |                 |                  |             |                           |                      |           |             |      |          |      |
|------------|------------|-----------------|------------------|-------------|---------------------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID  | LCS_021227 | SampType: LCS   | TestCode: BTEX_W | Units: µg/L | Prep Date: 12/27/2002     | Run ID: GC-1_021227A |           |             |      |          |      |
| Client ID: | ZZZZZ      | Batch ID: R4182 | TestNo: SW8021B  |             | Analysis Date: 12/27/2002 | SeqNo: 61239         |           |             |      |          |      |
| Analyte    | Result     | PQL             | SPK value        | SPK Ref Val | %REC                      | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

|            |                |                 |                  |             |                           |                      |           |             |      |          |      |
|------------|----------------|-----------------|------------------|-------------|---------------------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID  | 0212023-001AMS | SampType: MS    | TestCode: BTEX_W | Units: µg/L | Prep Date: 12/27/2002     | Run ID: GC-1_021227A |           |             |      |          |      |
| Client ID: | MW #1          | Batch ID: R4182 | TestNo: SW8021B  |             | Analysis Date: 12/27/2002 | SeqNo: 61240         |           |             |      |          |      |
| 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  
Page 1 of 2

CLIENT: Blagg Engineering  
Work Order: 0212023  
Project: BP - GCU #194

# ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX\_W

|            |                 |                 |                  |             |                           |                      |           |             |      |          |      |
|------------|-----------------|-----------------|------------------|-------------|---------------------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID  | 0212023-001AMSD | SampType: MSD   | TestCode: BTEX_W | Units: µg/L | Prep Date: 12/27/2002     | Run ID: GC-1_021227A |           |             |      |          |      |
| Client ID: | MW #1           | Batch ID: R4182 | TestNo: SW8021B  |             | Analysis Date: 12/27/2002 | SeqNo: 61241         |           |             |      |          |      |
| Analyte    | Result          | PQL             | SPK value        | SPK Ref Val | %REC                      | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

|              |       |     |     |        |      |    |     |       |      |   |  |
|--------------|-------|-----|-----|--------|------|----|-----|-------|------|---|--|
| Benzene      | 187.1 | 2.5 | 200 | 0.4875 | 93.3 | 80 | 106 | 192.2 | 2.69 | 5 |  |
| Ethylbenzene | 188.8 | 2.5 | 200 | 0      | 94.4 | 82 | 108 | 193.9 | 2.67 | 5 |  |
| m,p-Xylene   | 376.3 | 5.0 | 400 | 2.168  | 93.5 | 80 | 113 | 386.1 | 2.56 | 5 |  |
| o-Xylene     | 186.5 | 2.5 | 200 | 0      | 93.2 | 82 | 105 | 190.5 | 2.11 | 4 |  |
| Toluene      | 186.6 | 2.5 | 200 | 0.6235 | 93   | 83 | 105 | 191.5 | 2.60 | 5 |  |

|                  |             |                 |                  |             |                           |                      |          |           |             |      |          |      |
|------------------|-------------|-----------------|------------------|-------------|---------------------------|----------------------|----------|-----------|-------------|------|----------|------|
| Sample ID        | CCV1_021227 | SampType: CCV   | TestCode: BTEX_W | Units: µg/L | Prep Date: 12/27/2002     | Run ID: GC-1_021227A |          |           |             |      |          |      |
| Client ID: ZZZZZ |             | Batch ID: R4182 | TestNo: SW8021B  |             | Analysis Date: 12/27/2002 | SeqNo: 61237         |          |           |             |      |          |      |
| Analyte          |             | Result          | PQL              | SPK value   | SPK Ref Val               | %REC                 | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

|              |       |      |    |   |      |    |     |   |   |  |  |
|--------------|-------|------|----|---|------|----|-----|---|---|--|--|
| Benzene      | 19.58 | 0.50 | 20 | 0 | 97.9 | 85 | 115 | 0 | 0 |  |  |
| Ethylbenzene | 19.7  | 0.50 | 20 | 0 | 98.5 | 85 | 115 | 0 | 0 |  |  |
| m,p-Xylene   | 39.03 | 1.0  | 40 | 0 | 97.6 | 85 | 115 | 0 | 0 |  |  |
| o-Xylene     | 19.4  | 0.50 | 20 | 0 | 97   | 85 | 115 | 0 | 0 |  |  |
| Toluene      | 19.44 | 0.50 | 20 | 0 | 97.2 | 85 | 115 | 0 | 0 |  |  |

|            |             |                 |                  |             |                           |                      |           |             |      |          |      |
|------------|-------------|-----------------|------------------|-------------|---------------------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID  | CCV2_021227 | SampType: CCV   | TestCode: BTEX_W | Units: µg/L | Prep Date: 12/27/2002     | Run ID: GC-1_021227A |           |             |      |          |      |
| Client ID: | ZZZZZ       | Batch ID: R4182 | TestNo: SW8021B  |             | Analysis Date: 12/27/2002 | SeqNo: 61238         |           |             |      |          |      |
| Analyte    | Result      | PQL             | SPK value        | SPK Ref Val | %REC                      | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

|              |       |      |    |   |      |    |     |   |   |  |  |
|--------------|-------|------|----|---|------|----|-----|---|---|--|--|
| Benzene      | 19.01 | 0.50 | 20 | 0 | 95.1 | 85 | 115 | 0 | 0 |  |  |
| Ethylbenzene | 19.16 | 0.50 | 20 | 0 | 95.8 | 85 | 115 | 0 | 0 |  |  |
| m,p-Xylene   | 38.07 | 1.0  | 40 | 0 | 95.2 | 85 | 115 | 0 | 0 |  |  |
| o-Xylene     | 18.97 | 0.50 | 20 | 0 | 94.9 | 85 | 115 | 0 | 0 |  |  |
| Toluene      | 18.94 | 0.50 | 20 | 0 | 94.7 | 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

ina ba, Ltd.

Date: 02-Jan-03

CLIENT: Blagg Engineering

Work Order: 0212023

Project: BP - GCU #194

Test No: SW8021B

Matrix: W

## QC SUMMARY REPORT SURROGATE RECOVERIES

| Sample ID       | 14FBZ | 4BCBZ | FLBZ |  |  |  |  |  |
|-----------------|-------|-------|------|--|--|--|--|--|
| 0212023-001A    | 94.1  | 125   | 84.7 |  |  |  |  |  |
| 0212023-001A    | 94.1  | 127   | 84.3 |  |  |  |  |  |
| 0212023-001A    | 94.0  | 125   | 84.5 |  |  |  |  |  |
| 0212023-001AMS  | 94.1  | 125   | 84.7 |  |  |  |  |  |
| 0212023-001AMSD | 94.1  | 127   | 84.3 |  |  |  |  |  |
| 0212023-002A    | 95.4  | 126   | 85.1 |  |  |  |  |  |
| 0212023-003A    | 92.2  | 127   | 83.1 |  |  |  |  |  |
| CCV1_021227     | 93.4  | 123   | 84.5 |  |  |  |  |  |
| CCV2_021227     | 93.4  | 125   | 84.2 |  |  |  |  |  |
| LCS_021227      | 93.9  | 126   | 83.8 |  |  |  |  |  |
| MBLK_021227     | 104   | 124   | 92.1 |  |  |  |  |  |

| Acronym | Surrogate              | QC Limits |
|---------|------------------------|-----------|
| 14FBZ   | = 1,4-Difluorobenzene  | 70-130    |
| 4BCBZ   | = 4-Bromochlorobenzene | 70-130    |
| FLBZ    | = Fluorobenzene        | 70-130    |

\* Surrogate recovery outside acceptance limits

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

CLIENT : BP AMER. PROD. CO.

CHAIN-OF-CUSTODY # : 12158

GCU # 194 - SEPARATOR PIT  
UNIT D, SEC. 5, T27N, R12W

LABORATORY (S) USED : ON - SITE TECH.

Date : February 24, 2003

SAMPLER : N J V

Filename : 02-24-03.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) | VOLUME PURGED (gal.) | FREE PRODUCT (ft) |
|--------|-----------------|------------------|---------------------|------------------|---------------|------|-----------------|----------------------|-------------------|
| MW - 1 | 102.35          | 94.43            | 7.92                | 14.50            | -             | -    | -               | -                    | -                 |
| MW - 2 | 102.47          | 94.75            | 7.72                | 14.50            | 1405          | 8.03 | 6,900           | 3.25                 | -                 |
| MW - 3 | 103.43          | 94.88            | 8.55                | 14.00            | -             | -    | -               | -                    | -                 |

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

Ideally a minimum of three (3) wellbore volumes:

1.25 " well diameter = 0.19 gallons per foot of water ( or 24 oz. ).

2 bails per foot - small teflon bailer.

3 bails per foot - 3 / 4 " teflon bailer.

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

4.00 " well diameter = 1.95 gallons per foot of water.

Comments or note well diameter if not standard 2".

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

Top of casing MW #1 ~ 2.40 ft. , MW #2 ~ 2.55 ft. , MW #3 ~ 2.40 ft. above grade .

612 E. Murray Drive  
Farmington, NM 87401

Off: (505) 327-1072

*iiná bá*

P.O. Box 2606  
Farmington, NM 87499

Fax: (505) 327-1496

Date: 28-Feb-03

CLIENT: Blagg Engineering  
Work Order: 0302025  
Project: BP - GCU #194  
Lab ID: 0302025-001A

Client Sample Info: BP - GCU #194  
Client Sample ID: MW #2  
Collection Date: 2/24/2003 2:05:00 PM  
Matrix: AQUEOUS

| Parameter                    | Result | PQL     | Qual | Units        | DF | Date Analyzed |
|------------------------------|--------|---------|------|--------------|----|---------------|
| AROMATIC VOLATILES BY GC/PID |        | SW8021B |      | Analyst: JEM |    |               |
| Benzene                      | 5.4    | 0.5     |      | µg/L         | 1  | 2/27/2003     |
| Ethylbenzene                 | 9.9    | 0.5     |      | µg/L         | 1  | 2/27/2003     |
| m,p-Xylene                   | 13     | 1.0     |      | µg/L         | 1  | 2/27/2003     |
| o-Xylene                     | ND     | 0.5     |      | µg/L         | 1  | 2/27/2003     |
| Toluene                      | ND     | 0.5     |      | µg/L         | 1  | 2/27/2003     |

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

Page 1 of 1

MAINTAINING HARMONY BETWEEN MAN AND HIS ENVIRONMENT





**7-1**

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

Date: 2/24/03

Page: 1 of 1[illegible]

ina ba, Ltd.

Date: 28-Feb-03

CLIENT: Blagg Engineering  
Work Order: 0302025  
Project: BP - GCU #194

# ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX\_W

|                  |           |                 |                  |             |                          |                      |           |             |      |          |      |
|------------------|-----------|-----------------|------------------|-------------|--------------------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID        | MB_030227 | SampType: MBLK  | TestCode: BTEX_W | Units: µg/L | Prep Date: 2/27/2003     | Run ID: GC-1_030227A |           |             |      |          |      |
| Client ID: ZZZZZ |           | Batch ID: R4258 | TestNo: SW8021B  |             | Analysis Date: 2/27/2003 | SeqNo: 62131         |           |             |      |          |      |
| Analyte          | Result    | PQL             | SPK value        | SPK Ref Val | %REC                     | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

|              |        |      |  |  |  |  |  |  |  |  |  |
|--------------|--------|------|--|--|--|--|--|--|--|--|--|
| Benzene      | ND     | 0.50 |  |  |  |  |  |  |  |  |  |
| Ethylbenzene | ND     | 0.50 |  |  |  |  |  |  |  |  |  |
| m,p-Xylene   | ND     | 1.0  |  |  |  |  |  |  |  |  |  |
| o-Xylene     | ND     | 0.50 |  |  |  |  |  |  |  |  |  |
| Toluene      | 0.1025 | 0.50 |  |  |  |  |  |  |  |  |  |

J

|            |            |           |           |             |         |          |           |                |           |          |              |
|------------|------------|-----------|-----------|-------------|---------|----------|-----------|----------------|-----------|----------|--------------|
| Sample ID  | LCS_030227 | SampType: | LCS       | TestCode:   | BTEX_W  | Units:   | µg/L      | Prep Date:     | 2/27/2003 | Run ID:  | GC-1_030227A |
| Client ID: | ZZZZZ      | Batch ID: | R4258     | TestNo:     | SW8021B |          |           | Analysis Date: | 2/27/2003 | SeqNo:   | 62130        |
| Analyte    | Result     | PQL       | SPK value | SPK Ref Val | %REC    | LowLimit | HighLimit | RPD Ref Val    | %RPD      | RPDLimit | Qual         |

|              |       |      |    |        |      |    |     |   |   |  |  |
|--------------|-------|------|----|--------|------|----|-----|---|---|--|--|
| Benzene      | 40.07 | 0.50 | 40 | 0      | 100  | 88 | 110 | 0 | 0 |  |  |
| Ethylbenzene | 39.86 | 0.50 | 40 | 0      | 99.6 | 90 | 110 | 0 | 0 |  |  |
| m,p-Xylene   | 79.46 | 1.0  | 80 | 0      | 99.3 | 86 | 110 | 0 | 0 |  |  |
| o-Xylene     | 39.02 | 0.50 | 40 | 0      | 97.5 | 89 | 110 | 0 | 0 |  |  |
| Toluene      | 39.26 | 0.50 | 40 | 0.1025 | 97.9 | 87 | 110 | 0 | 0 |  |  |

|                  |                |                 |                  |             |                          |                      |           |             |      |          |      |
|------------------|----------------|-----------------|------------------|-------------|--------------------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID        | 0302024-001AMS | SampType: MS    | TestCode: BTEX_W | Units: µg/L | Prep Date: 2/27/2003     | Run ID: GC-1_030227A |           |             |      |          |      |
| Client ID: ZZZZZ |                | Batch ID: R4258 | TestNo: SW8021B  |             | Analysis Date: 2/27/2003 | SeqNo: 62132         |           |             |      |          |      |
| Analyte          | Result         | PQL             | SPK value        | SPK Ref Val | %REC                     | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

|              |       |     |     |       |      |    |     |   |   |  |  |
|--------------|-------|-----|-----|-------|------|----|-----|---|---|--|--|
| Benzene      | 197.7 | 2.5 | 200 | 0     | 98.8 | 84 | 106 | 0 | 0 |  |  |
| Ethylbenzene | 196.6 | 2.5 | 200 | 1.324 | 97.6 | 84 | 111 | 0 | 0 |  |  |
| m,p-Xylene   | 391.5 | 5.0 | 400 | 2.582 | 97.2 | 80 | 118 | 0 | 0 |  |  |
| o-Xylene     | 192.2 | 2.5 | 200 | 1.134 | 95.5 | 83 | 108 | 0 | 0 |  |  |
| Toluene      | 193.7 | 2.5 | 200 | 1.454 | 96.1 | 86 | 105 | 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: 0302025  
Project: BP - GCU #194

# ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX\_W

|                  |                 |                 |                  |             |                          |                      |           |             |      |          |      |
|------------------|-----------------|-----------------|------------------|-------------|--------------------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID        | 0302024-001AMSD | SampleType: MSD | TestCode: BTEX_W | Units: µg/L | Prep Date: 2/27/2003     | Run ID: GC-1_030227A |           |             |      |          |      |
| Client ID: ZZZZZ |                 | Batch ID: R4258 | TestNo: SW8021B  |             | Analysis Date: 2/27/2003 | SeqNo: 62133         |           |             |      |          |      |
| Analyte          | Result          | PQL             | SPK value        | SPK Ref Val | %REC                     | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

|              |       |     |     |       |      |    |     |       |      |   |  |
|--------------|-------|-----|-----|-------|------|----|-----|-------|------|---|--|
| Benzene      | 191.8 | 2.5 | 200 | 0     | 95.9 | 80 | 106 | 197.7 | 3.05 | 5 |  |
| Ethylbenzene | 190.3 | 2.5 | 200 | 1.324 | 94.5 | 82 | 108 | 196.6 | 3.23 | 5 |  |
| m,p-Xylene   | 379.2 | 5.0 | 400 | 2.582 | 94.2 | 80 | 113 | 391.5 | 3.20 | 5 |  |
| o-Xylene     | 187.2 | 2.5 | 200 | 1.134 | 93   | 82 | 105 | 192.2 | 2.65 | 4 |  |
| Toluene      | 188   | 2.5 | 200 | 1.454 | 93.3 | 83 | 105 | 193.7 | 2.95 | 5 |  |

|                  |             |                 |                  |             |                          |                      |           |             |      |          |      |
|------------------|-------------|-----------------|------------------|-------------|--------------------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID        | CCV1_030227 | SampleType: CCV | TestCode: BTEX_W | Units: µg/L | Prep Date: 2/27/2003     | Run ID: GC-1_030227A |           |             |      |          |      |
| Client ID: ZZZZZ |             | Batch ID: R4258 | TestNo: SW8021B  |             | Analysis Date: 2/27/2003 | SeqNo: 62127         |           |             |      |          |      |
| Analyte          | Result      | PQL             | SPK value        | SPK Ref Val | %REC                     | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

|              |       |      |    |   |      |    |     |   |   |  |  |
|--------------|-------|------|----|---|------|----|-----|---|---|--|--|
| Benzene      | 19.98 | 0.50 | 20 | 0 | 99.9 | 85 | 115 | 0 | 0 |  |  |
| Ethylbenzene | 19.81 | 0.50 | 20 | 0 | 99.1 | 85 | 115 | 0 | 0 |  |  |
| m,p-Xylene   | 39.17 | 1.0  | 40 | 0 | 97.9 | 85 | 115 | 0 | 0 |  |  |
| o-Xylene     | 19.37 | 0.50 | 20 | 0 | 96.8 | 85 | 115 | 0 | 0 |  |  |
| Toluene      | 19.44 | 0.50 | 20 | 0 | 97.2 | 85 | 115 | 0 | 0 |  |  |

|                  |             |                 |                  |             |                          |                      |           |             |      |          |      |
|------------------|-------------|-----------------|------------------|-------------|--------------------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID        | CCV2_030227 | SampleType: CCV | TestCode: BTEX_W | Units: µg/L | Prep Date: 2/27/2003     | Run ID: GC-1_030227A |           |             |      |          |      |
| Client ID: ZZZZZ |             | Batch ID: R4258 | TestNo: SW8021B  |             | Analysis Date: 2/27/2003 | SeqNo: 62128         |           |             |      |          |      |
| Analyte          | Result      | PQL             | SPK value        | SPK Ref Val | %REC                     | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

|              |       |      |    |   |      |    |     |   |   |  |  |
|--------------|-------|------|----|---|------|----|-----|---|---|--|--|
| Benzene      | 19.41 | 0.50 | 20 | 0 | 97   | 85 | 115 | 0 | 0 |  |  |
| Ethylbenzene | 19.19 | 0.50 | 20 | 0 | 96   | 85 | 115 | 0 | 0 |  |  |
| m,p-Xylene   | 37.99 | 1.0  | 40 | 0 | 95   | 85 | 115 | 0 | 0 |  |  |
| o-Xylene     | 18.96 | 0.50 | 20 | 0 | 94.8 | 85 | 115 | 0 | 0 |  |  |
| Toluene      | 18.92 | 0.50 | 20 | 0 | 94.6 | 85 | 115 | 0 | 0 |  |  |

|            |             |                 |                  |             |                          |                      |           |             |      |          |      |
|------------|-------------|-----------------|------------------|-------------|--------------------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID  | CCV3_030227 | SampleType: CCV | TestCode: BTEX_W | Units: µg/L | Prep Date: 2/27/2003     | Run ID: GC-1_030227A |           |             |      |          |      |
| Client ID: | ZZZZZ       | Batch ID: R4258 | TestNo: SW8021B  |             | Analysis Date: 2/27/2003 | SeqNo: 62129         |           |             |      |          |      |
| Analyte    | Result      | PQL             | SPK value        | SPK Ref Val | %REC                     | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

|         |       |      |    |   |      |    |     |   |   |  |  |
|---------|-------|------|----|---|------|----|-----|---|---|--|--|
| Benzene | 38.73 | 0.50 | 40 | 0 | 96.8 | 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: 0302025  
 Project: BP - GCU #194

# ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX\_W

|            |             |                 |                  |             |                          |                      |           |             |      |          |      |
|------------|-------------|-----------------|------------------|-------------|--------------------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID  | CCV3_030227 | SampType: CCV   | TestCode: BTEX_W | Units: µg/L | Prep Date: 2/27/2003     | Run ID: GC-1_030227A |           |             |      |          |      |
| Client ID: | ZZZZZ       | Batch ID: R4258 | TestNo: SW8021B  |             | Analysis Date: 2/27/2003 | SeqNo: 62129         |           |             |      |          |      |
| Analyte    | Result      | PQL             | SPK value        | SPK Ref Val | %REC                     | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |

Ethylbenzene

m,p-Xylene

o-Xylene

Toluene

38.6

77.08

38.12

38.11

0.50

1.0

0.50

0.50

40

80

40

40

0

0

0

0

96.5

96.4

95.3

95.3

85

85

85

85

115

115

115

115

0

0

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

iina ba, Ltd.

Date: 28-Feb-03

CLIENT: Blagg Engineering

Work Order: 0302025

Project: BP - GCU #194

Test No: SW8021B

Matrix: W

## QC SUMMARY REPORT SURROGATE RECOVERIES

| Sample ID       | 14FBZ | 4BCBZ | FLBZ |
|-----------------|-------|-------|------|
| 0302024-001AMS  | 103   | 111   | 102  |
| 0302024-001AMSD | 102   | 112   | 102  |
| 0302025-001A    | 103   | 108   | 103  |
| CCV1_030227     | 104   | 108   | 101  |
| CCV2_030227     | 102   | 110   | 102  |
| CCV3_030227     | 104   | 108   | 101  |
| LCS_030227      | 102   | 109   | 102  |
| MB_030227       | 103   | 108   | 102  |

| Acronym | Surrogate              | QC Limits |
|---------|------------------------|-----------|
| 14FBZ   | = 1,4-Difluorobenzene  | 70-130    |
| 4BCBZ   | = 4-Bromochlorobenzene | 70-130    |
| FLBZ    | = Fluorobenzene        | 70-130    |

\* Surrogate recovery outside acceptance limits

ina ba, Ltd.

### Sample Receipt Checklist

Client Name: **BLA1002**

Date and Time Received:

**2/25/2003**

Work Order Number: **0302025**

Received by: **JEM**

Checklist completed by:

*J. Moore*  
Signature

**2/25/03**  
Date

Reviewed by:

*JL*  
Initials

**2/25/03**  
Date

Matrix:

Carrier name: Courier

|                                                         |                                                 |                                         |                                                 |
|---------------------------------------------------------|-------------------------------------------------|-----------------------------------------|-------------------------------------------------|
| Shipping container/cooler in good condition?            | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             | Not Present <input type="checkbox"/>            |
| Custody seals intact on shipping container/cooler?      | Yes <input type="checkbox"/>                    | No <input type="checkbox"/>             | Not Present <input checked="" type="checkbox"/> |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>                    | No <input type="checkbox"/>             | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Sample containers intact?                               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Container/Temp Blank temperature in compliance?         | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Water - VOA vials have zero headspace?                  | No VOA vials submitted <input type="checkbox"/> | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                     |
| Water - pH acceptable upon receipt?                     | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |

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: \_\_\_\_\_

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

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

GCU # 194 - SEPARATOR PIT  
UNIT D, SEC. 5, T27N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : May 29, 2003

SAMPLER : N J V

Filename : 05-29-03.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) | VOLUME PURGED (gal.) | FREE PRODUCT (ft) |
|--------|-----------------|------------------|---------------------|------------------|---------------|------|-----------------|----------------------|-------------------|
| MW - 1 | 102.35          | 94.18            | 8.17                | 14.50            | -             | -    | -               | -                    | -                 |
| MW - 2 | 102.47          | 94.51            | 7.96                | 14.50            | 0655          | 7.78 | 6,100           | 3.25                 | -                 |
| MW - 3 | 103.43          | 94.62            | 8.81                | 14.00            | 0725          | 7.40 | 7,700           | 2.50                 | -                 |

INSTRUMENT CALIBRATIONS =

DATE & TIME =

|          |       |
|----------|-------|
| 7.00     | 2,800 |
| 05/29/03 | 06:55 |

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

Ideally a minimum of three (3) wellbore volumes:

1.25 " well diameter = 0.19 gallons per foot of water ( or 24 oz. ).

2 bails per foot - small teflon bailer.

3 bails per foot - 3 / 4 " teflon bailer.

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

4.00 " well diameter = 1.95 gallons per foot of water.

Comments or note well diameter if not standard 2".

Excellent recovery in MW #2 & #3. Collected BTEX from both MW's.

Top of casing MW #1 ~ 2.40 ft., MW #2 ~ 2.55 ft., MW #3 ~ 2.40 ft. above grade.

# Hall Environmental Analysis Laboratory

Date: 05-Jun-03

CLIENT: Blagg Engineering  
Lab Order: 0305215  
Project: GCU Lease  
Lab ID: 0305215-01

Client Sample ID: GCU#194 MW#2  
Collection Date: 5/29/2003 6:55:00 AM  
Matrix: AQUEOUS

| Analyses                    | Result | Limit  | Qual | Units | DF | Date Analyzed       |
|-----------------------------|--------|--------|------|-------|----|---------------------|
| EPA METHOD 8021B: VOLATILES |        |        |      |       |    | Analyst: NSB        |
| Benzene                     | 5.4    | 0.50   |      | µg/L  | 1  | 6/2/2003 7:48:31 PM |
| Toluene                     | 1.0    | 0.50   |      | µg/L  | 1  | 6/2/2003 7:48:31 PM |
| Ethylbenzene                | 6.7    | 0.50   |      | µg/L  | 1  | 6/2/2003 7:48:31 PM |
| Xylenes, Total              | 11     | 0.50   |      | µg/L  | 1  | 6/2/2003 7:48:31 PM |
| Surr: 4-Bromofluorobenzene  | 109    | 74-118 |      | %REC  | 1  | 6/2/2003 7:48:31 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



# Hall Environmental Analysis Laboratory

Date: 05-Jun-03

CLIENT: Blagg Engineering  
Lab Order: 0305215  
Project: GCU Lease  
Lab ID: 0305215-02

Client Sample ID: GCU#194 MW#3  
Collection Date: 5/29/2003 7:25:00 AM  
Matrix: AQUEOUS

| Analyses                    | Result | Limit  | Qual | Units | DF | Date Analyzed       |
|-----------------------------|--------|--------|------|-------|----|---------------------|
| EPA METHOD 8021B: VOLATILES |        |        |      |       |    | Analyst: NSB        |
| Benzene                     | 8.6    | 0.50   |      | µg/L  | 1  | 6/2/2003 8:21:32 PM |
| Toluene                     | 7.6    | 0.50   |      | µg/L  | 1  | 6/2/2003 8:21:32 PM |
| Ethylbenzene                | 8.6    | 0.50   |      | µg/L  | 1  | 6/2/2003 8:21:32 PM |
| Xylenes, Total              | 17     | 0.50   |      | µg/L  | 1  | 6/2/2003 8:21:32 PM |
| Surr: 4-Bromofluorobenzene  | 112    | 74-118 |      | %REC  | 1  | 6/2/2003 8:21:32 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

**HALL ENVIRONMENTAL ANALYSIS LABORATORY**  
4801 Hawkins NE, Suite A  
Albuquerque, New Mexico 87109  
Tel. 505.345.3975 Fax 505.345.4107  
[www.hallenvironmental.com](http://www.hallenvironmental.com)

GCN LEASE

**Project #:**

BOOMFIELD NM 87413

### **Project Manager:**

Jeff Glass

Phone #: 505-632-1199

Sampler: Nelson Velez

ax #: 505-632-3903

Samples Cold?: 23 ☒ Yes ☐ No

## Data

Time

## Matrix

**Sample I.D. No.**

Number/Volume

Preservative

811

08190

HEAL No.

2

2270

100

100

15

-

9/23

2275

1978

2013-11-15

2-40#1

— 19 —

Time:

Relinquished By: (Signature)

Received By: (Signature)

118:

Time:

Relinquished By: (Signature)

Received By: (Signature)

# ANALYSIS REQUEST

[illegible]

Remarks:

## Hall Environmental Analysis Laboratory

Date: 05-Jun-03

CLIENT: Blagg Engineering

Work Order: 0305215

Project: GCU Lease

## QC SUMMARY REPORT

Method Blank

|                            |                  |                 |                        |             |                                   |           |           |             |      |          |      |
|----------------------------|------------------|-----------------|------------------------|-------------|-----------------------------------|-----------|-----------|-------------|------|----------|------|
| Sample ID                  | Reagent Blank 5m | Batch ID: R8430 | Test Code: SW8021      | Units: µg/L | Analysis Date 6/2/2003 9:34:55 AM | Prep Date |           |             |      |          |      |
| Client ID:                 |                  |                 | Run ID: PIDFID_030602A |             | SeqNo: 190827                     |           |           |             |      |          |      |
| Analyte                    | Result           | PQL             | SPK value              | SPK Ref Val | %REC                              | LowLimit  | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene                    | ND               | 0.50            |                        |             |                                   |           |           |             |      |          |      |
| Toluene                    | ND               | 0.50            |                        |             |                                   |           |           |             |      |          |      |
| Ethylbenzene               | ND               | 0.50            |                        |             |                                   |           |           |             |      |          |      |
| Xylenes, Total             | ND               | 0.50            |                        |             |                                   |           |           |             |      |          |      |
| Surr: 4-Bromofluorobenzene | 21.07            | 0               | 20                     | 0           | 105                               | 74        | 118       | 0           |      |          |      |

| Sample ID                  | Reagent Blank 5m | Batch ID: R8442 | Test Code: SW8021      | Units: µg/L | Analysis Date 6/3/2003 8:47:01 AM | Prep Date |           |             |      |          |      |
|----------------------------|------------------|-----------------|------------------------|-------------|-----------------------------------|-----------|-----------|-------------|------|----------|------|
| Client ID:                 |                  |                 | Run ID: PIDFID_030603A |             | SeqNo: 191050                     |           |           |             |      |          |      |
| Analyte                    | Result           | PQL             | SPK value              | SPK Ref Val | %REC                              | LowLimit  | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene                    | ND               | 0.50            |                        |             |                                   |           |           |             |      |          |      |
| Toluene                    | ND               | 0.50            |                        |             |                                   |           |           |             |      |          |      |
| Ethylbenzene               | ND               | 0.50            |                        |             |                                   |           |           |             |      |          |      |
| Xylenes, Total             | ND               | 0.50            |                        |             |                                   |           |           |             |      |          |      |
| Surr: 4-Bromofluorobenzene | 19.87            | 0               | 20                     | 0           | 99.3                              | 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

1

# Hall Environmental Analysis Laboratory

Date: 05-Jun-03

CLIENT: Blagg Engineering

Work Order: 0305215

Project: GCU Lease

## QC SUMMARY REPORT

Laboratory Control Spike - generic

|                |                |                 |                        |             |               |                     |           |             |      |          |      |
|----------------|----------------|-----------------|------------------------|-------------|---------------|---------------------|-----------|-------------|------|----------|------|
| Sample ID      | BTEX Std 100ng | Batch ID: R8430 | Test Code: SW8021      | Units: µg/L | Analysis Date | 6/2/2003 8:54:19 PM | Prep Date |             |      |          |      |
| Client ID:     |                |                 | Run ID: PIDFID_030602A |             | SeqNo: 190886 |                     |           |             |      |          |      |
| Analyte        | Result         | PQL             | SPK value              | SPK Ref Val | %REC          | LowLimit            | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene        | 20.02          | 0.50            | 20                     | 0           | 100           | 81.3                | 121       | 0           |      |          |      |
| Toluene        | 20.35          | 0.50            | 20                     | 0           | 102           | 84.9                | 118       | 0           |      |          |      |
| Ethylbenzene   | 20.23          | 0.50            | 20                     | 0           | 101           | 53.8                | 149       | 0           |      |          |      |
| Xylenes, Total | 61.24          | 0.50            | 60                     | 0           | 102           | 83.1                | 122       | 0           |      |          |      |

|                |                |                 |                        |             |               |                      |           |             |      |          |      |
|----------------|----------------|-----------------|------------------------|-------------|---------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID      | BTEX Std 100ng | Batch ID: R8430 | Test Code: SW8021      | Units: µg/L | Analysis Date | 6/2/2003 10:32:32 PM | Prep Date |             |      |          |      |
| Client ID:     |                |                 | Run ID: PIDFID_030602A |             | SeqNo: 190887 |                      |           |             |      |          |      |
| Analyte        | Result         | PQL             | SPK value              | SPK Ref Val | %REC          | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene        | 21.44          | 0.50            | 20                     | 0           | 107           | 81.3                 | 121       | 20.02       | 6.82 | 27       |      |
| Toluene        | 21.21          | 0.50            | 20                     | 0           | 106           | 84.9                 | 118       | 20.35       | 4.14 | 19       |      |
| Ethylbenzene   | 21.34          | 0.50            | 20                     | 0           | 107           | 53.8                 | 149       | 20.23       | 5.33 | 10       |      |
| Xylenes, Total | 63.89          | 0.50            | 60                     | 0           | 106           | 83.1                 | 122       | 61.24       | 4.22 | 13       |      |

|                |                 |                 |                        |             |               |                     |           |             |      |          |      |
|----------------|-----------------|-----------------|------------------------|-------------|---------------|---------------------|-----------|-------------|------|----------|------|
| Sample ID      | BTEX Std 87.5ng | Batch ID: R8442 | Test Code: SW8021      | Units: µg/L | Analysis Date | 6/3/2003 9:51:05 AM | Prep Date |             |      |          |      |
| Client ID:     |                 |                 | Run ID: PIDFID_030603A |             | SeqNo:        | 191064              |           |             |      |          |      |
| Analyte        | Result          | PQL             | SPK value              | SPK Ref Val | %REC          | LowLimit            | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene        | 19.05           | 0.50            | 20                     | 0           | 95.3          | 81.3                | 121       | 0           |      |          |      |
| Toluene        | 18.9            | 0.50            | 20                     | 0           | 94.5          | 84.9                | 118       | 0           |      |          |      |
| Ethylbenzene   | 18.89           | 0.50            | 20                     | 0           | 94.5          | 53.8                | 149       | 0           |      |          |      |
| Xylenes, Total | 56.74           | 0.50            | 60                     | 0           | 94.6          | 83.1                | 122       | 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

## Sample Receipt Checklist

Client Name **BLAGG**

Date and Time Receive

Work Order Number **0305215**

Received by **AMG**

Checklist completed by

Signature

Date

Matrix:

Carrier name: Greyhound

|                                                         |                                                 |                                         |                                                 |
|---------------------------------------------------------|-------------------------------------------------|-----------------------------------------|-------------------------------------------------|
| Shipping container/cooler in good condition?            | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             | Not Present <input type="checkbox"/>            |
| Custody seals intact on shipping container/cooler?      | Yes <input type="checkbox"/>                    | No <input type="checkbox"/>             | Not Present <input checked="" type="checkbox"/> |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>                    | No <input type="checkbox"/>             | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Sample containers intact?                               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Water - VOA vials have zero headspace?                  | No VOA vials submitted <input type="checkbox"/> | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                     |
| Water - pH acceptable upon receipt?                     | Yes <input type="checkbox"/>                    | No <input type="checkbox"/>             | N/A <input checked="" type="checkbox"/>         |
| Container/Temp Blank temperature?                       | <b>23°</b>                                      | <b>4° C ± 2 Acceptable</b>              |                                                 |

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 # 194 - SEPARATOR PIT

LABORATORY (S) USED : HALL ENVIRONMENTAL

UNIT D, SEC. 5, T27N, R12W

Date : August 18, 2003

SAMPLER : N J V

Filename : 08-18-03.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 | 102.35          | 93.59            | 8.76                | 14.50            | -             | -    | -               | -               | -                    |
| MW - 2 | 102.47          | 93.89            | 8.58                | 14.50            | 0835          | 7.56 | 8,700           | 18.6            | 3.00                 |
| MW - 3 | 103.43          | 93.97            | 9.46                | 14.00            | 0920          | 7.25 | 9,500           | 22.2            | 2.25                 |

INSTRUMENT CALIBRATIONS =

DATE & TIME =

|          |       |
|----------|-------|
| 7.00     | 2,800 |
| 08/18/03 | 0815  |

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2"

Excellent recovery in MW #2 & #3. Collected BTEX from both MW's.

Top of casing MW #1 ~ 2.40 ft., MW #2 ~ 2.55 ft., MW #3 ~ 2.40 ft. above grade.

**Hall Environmental Analysis Laboratory**

Date: 28-Aug-03

**CLIENT:** Blagg Engineering  
**Project:** GCU Lease**Lab Order:** 0308148**Lab ID:** 0308148-01**Collection Date:** 8/18/2003 8:35:00 AM**Client Sample ID:** #194 - MW #2**Matrix:** AQUEOUS

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|----------|--------|-------|------|-------|----|---------------|
|----------|--------|-------|------|-------|----|---------------|

**EPA METHOD 8021B: VOLATILES**

Analyst: NSB

|                            |     |        |  |      |   |                      |
|----------------------------|-----|--------|--|------|---|----------------------|
| Benzene                    | 11  | 0.50   |  | µg/L | 1 | 8/25/2003 2:03:56 PM |
| Toluene                    | ND  | 0.50   |  | µg/L | 1 | 8/25/2003 2:03:56 PM |
| Ethylbenzene               | 17  | 0.50   |  | µg/L | 1 | 8/25/2003 2:03:56 PM |
| Xylenes, Total             | 19  | 0.50   |  | µg/L | 1 | 8/25/2003 2:03:56 PM |
| Surr: 4-Bromofluorobenzene | 103 | 74-118 |  | %REC | 1 | 8/25/2003 2:03:56 PM |

**Lab ID:** 0308148-02**Collection Date:** 8/18/2003 9:20:00 AM**Client Sample ID:** #194 - MW #3**Matrix:** AQUEOUS

| Analyses | Result | Limit | Qual | Units | DF | Date Analyzed |
|----------|--------|-------|------|-------|----|---------------|
|----------|--------|-------|------|-------|----|---------------|

**EPA METHOD 8021B: VOLATILES**

Analyst: NSB

|                            |     |        |   |      |   |                      |
|----------------------------|-----|--------|---|------|---|----------------------|
| Benzene                    | 13  | 0.50   |   | µg/L | 1 | 8/25/2003 2:35:38 PM |
| Toluene                    | ND  | 0.50   |   | µg/L | 1 | 8/25/2003 2:35:38 PM |
| Ethylbenzene               | 2.1 | 0.50   |   | µg/L | 1 | 8/25/2003 2:35:38 PM |
| Xylenes, Total             | 30  | 0.50   |   | µg/L | 1 | 8/25/2003 2:35:38 PM |
| Surr: 4-Bromofluorobenzene | 126 | 74-118 | S | %REC | 1 | 8/25/2003 2:35:38 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

**HALL ENVIRONMENTAL ANALYSIS LABORATORY**  
4901 Hawkins NE, Suite A  
Albuquerque, New Mexico 87109  
Tel. 505.345.3975 Fax 505.345.4107  
[www.hallenvironmental.com](http://www.hallenvironmental.com)

Project Name:

FCU TEST

Address: P.O. Box 87

Bloomfield, Nm 87413

**Project Manager:**

Project Manager: *NK.50J VEEZ*

Phone #: (505) 632-1199

Sampler: Nelson Velez

Fax #: (505) 632-3903

Samples Cold?:

☒ Yes ☐ No **60**

| Date | Time |
|------|------|
|      |      |

## Matrix

Sample I.D. No.

Number/Volume

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

HEAL No.

8/18/03

2500

2-3-5

2014-2015

 $2 - \frac{1}{2}x$ 

0308148-1

8/18/03

0260

WATER

WATER #194-MW #3

2-40ml

-2-

|       |       |
|-------|-------|
| Date: | Time: |
|-------|-------|

Relinawis

Relinquished By: (Signature)

Received By: (Signature)

8/20/03

Date: \_\_\_\_\_ Time: \_\_\_\_\_

## Relinquis

Relinquished By: (Signature)

Received By: (Signature)

1

# ANALYSIS REQUEST

[illegible]

Remarks:



## Hall Environmental Analysis Laboratory

Date: 28-Aug-03

CLIENT: Blagg Engineering

Work Order: 0308148

Project: GCU Lease

## QC SUMMARY REPORT

Method Blank

|                            |                  |                 |                        |             |               |                      |           |             |      |          |      |
|----------------------------|------------------|-----------------|------------------------|-------------|---------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID                  | Reagent Blank 5m | Batch ID: R9343 | Test Code: SW8021      | Units: µg/L | Analysis Date | 8/25/2003 9:16:56 AM | Prep Date |             |      |          |      |
| Client ID:                 |                  |                 | Run ID: PIDFID_030825A |             | SeqNo:        | 210719               |           |             |      |          |      |
| Analyte                    | Result           | PQL             | SPK value              | SPK Ref Val | %REC          | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene                    | ND               | 0.50            |                        |             |               |                      |           |             |      |          |      |
| Toluene                    | ND               | 0.50            |                        |             |               |                      |           |             |      |          |      |
| Ethylbenzene               | ND               | 0.50            |                        |             |               |                      |           |             |      |          |      |
| Xylenes, Total             | ND               | 0.50            |                        |             |               |                      |           |             |      |          |      |
| Surr: 4-Bromofluorobenzene | 21.19            | 0               | 20                     | 0           | 106           | 74                   | 118       | 0           |      |          |      |

|                            |                  |                 |                        |             |               |                      |           |             |      |          |      |
|----------------------------|------------------|-----------------|------------------------|-------------|---------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID                  | Reagent Blank 5m | Batch ID: R9362 | Test Code: SW8021      | Units: µg/L | Analysis Date | 8/26/2003 9:30:49 AM | Prep Date |             |      |          |      |
| Client ID:                 |                  |                 | Run ID: PIDFID_030826A |             | SeqNo:        | 211096               |           |             |      |          |      |
| Analyte                    | Result           | PQL             | SPK value              | SPK Ref Val | %REC          | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene                    | ND               | 0.50            |                        |             |               |                      |           |             |      |          |      |
| Toluene                    | ND               | 0.50            |                        |             |               |                      |           |             |      |          |      |
| Ethylbenzene               | ND               | 0.50            |                        |             |               |                      |           |             |      |          |      |
| Xylenes, Total             | ND               | 0.50            |                        |             |               |                      |           |             |      |          |      |
| Surr: 4-Bromofluorobenzene | 19.81            | 0               | 20                     | 0           | 99.1          | 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: 28-Aug-03

CLIENT: Blagg Engineering

Work Order: 0308148

Project: GCU Lease

## QC SUMMARY REPORT

Laboratory Control Spike - generic

|                |                |                        |                   |             |               |                      |           |             |      |          |      |
|----------------|----------------|------------------------|-------------------|-------------|---------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID      | BTEX Std 100ng | Batch ID: R9343        | Test Code: SW8021 | Units: µg/L | Analysis Date | 8/25/2003 6:45:46 PM | Prep Date |             |      |          |      |
| Client ID:     |                | Run ID: PIDFID_030825A |                   |             | SeqNo: 210771 |                      |           |             |      |          |      |
| Analyte        | Result:        | PQL                    | SPK value         | SPK Ref Val | %REC          | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene        | 20.11          | 0.50                   | 20                | 0           | 101           | 81.3                 | 121       | 0           |      |          |      |
| Toluene        | 19.96          | 0.50                   | 20                | 0           | 99.8          | 84.9                 | 118       | 0           |      |          |      |
| Ethylbenzene   | 19.3           | 0.50                   | 20                | 0           | 96.5          | 53.8                 | 149       | 0           |      |          |      |
| Xylenes, Total | 59.57          | 0.50                   | 60                | 0           | 99.3          | 83.1                 | 122       | 0           |      |          |      |

|                |                |                        |                   |             |               |                      |           |             |      |          |      |
|----------------|----------------|------------------------|-------------------|-------------|---------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID      | BTEX Std 100ng | Batch ID: R9343        | Test Code: SW8021 | Units: µg/L | Analysis Date | 8/26/2003 1:53:40 AM | Prep Date |             |      |          |      |
| Client ID:     |                | Run ID: PIDFID_030825A |                   |             | SeqNo:        | 210773               |           |             |      |          |      |
| Analyte        | Result         | PQL                    | SPK value         | SPK Ref Val | %REC          | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene        | 20.82          | 0.50                   | 20                | 0           | 104           | 81.3                 | 121       | 20.11       | 3.47 | 27       |      |
| Toluene        | 20.92          | 0.50                   | 20                | 0           | 105           | 84.9                 | 118       | 19.96       | 4.70 | 19       |      |
| Ethylbenzene   | 20.17          | 0.50                   | 20                | 0           | 101           | 53.8                 | 149       | 19.3        | 4.38 | 10       |      |
| Xylenes, Total | 61.91          | 0.50                   | 60                | 0           | 103           | 83.1                 | 122       | 59.57       | 3.85 | 13       |      |

|                |                |                        |                   |             |               |                      |           |             |      |          |      |
|----------------|----------------|------------------------|-------------------|-------------|---------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID      | BTEX Std 100ng | Batch ID: R9362        | Test Code: SW8021 | Units: µg/L | Analysis Date | 8/26/2003 7:19:17 PM | Prep Date |             |      |          |      |
| Client ID:     |                | Run ID: PIDFID_030826A |                   |             | SeqNo:        | 211140               |           |             |      |          |      |
| Analyte        | Result         | PQL                    | SPK value         | SPK Ref Val | %REC          | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene        | 20.6           | 0.50                   | 20                | 0           | 103           | 81.3                 | 121       | 0           |      |          |      |
| Toluene        | 20.95          | 0.50                   | 20                | 0           | 105           | 84.9                 | 118       | 0           |      |          |      |
| Ethylbenzene   | 19.98          | 0.50                   | 20                | 0           | 99.9          | 53.8                 | 149       | 0           |      |          |      |
| Xylenes, Total | 61.52          | 0.50                   | 60                | 0           | 103           | 83.1                 | 122       | 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: 0308148

Project: GCU Lease

## QC SUMMARY REPORT

Laboratory Control Spike Duplicate

|                |                |                 |                   |             |               |                      |           |             |       |          |      |
|----------------|----------------|-----------------|-------------------|-------------|---------------|----------------------|-----------|-------------|-------|----------|------|
| Sample ID      | BTEX Std 100ng | Batch ID: R9362 | Test Code: SW8021 | Units: µg/L | Analysis Date | 8/27/2003 3:35:46 AM | Prep Date |             |       |          |      |
| Client ID:     |                | Run ID:         | PIDFID_030826A    |             | SeqNo:        | 211141               |           |             |       |          |      |
| Analyte        | Result         | PQL             | SPK value         | SPK Ref Val | %REC          | LowLimit             | HighLimit | RPD Ref Val | %RPD  | RPDLimit | Qual |
| Benzene        | 21.6           | 0.50            | 20                | 0           | 108           | 81.3                 | 121       | 20.6        | 4.74  | 27       |      |
| Toluene        | 21.2           | 0.50            | 20                | 0           | 106           | 84.9                 | 118       | 20.95       | 1.15  | 19       |      |
| Ethylbenzene   | 20.39          | 0.50            | 20                | 0           | 102           | 53.8                 | 149       | 19.98       | 2.02  | 10       |      |
| Xylenes, Total | 61.32          | 0.50            | 60                | 0           | 102           | 83.1                 | 122       | 61.52       | 0.332 | 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

8/20/03

Work Order Number **0308148**

Received by **AT**

Checklist completed by



Signature

Date

Matrix:

Carrier name: Greyhound

|                                                         |                                                 |                                         |                                                 |
|---------------------------------------------------------|-------------------------------------------------|-----------------------------------------|-------------------------------------------------|
| Shipping container/cooler in good condition?            | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             | Not Present <input type="checkbox"/>            |
| Custody seals intact on shipping container/cooler?      | Yes <input type="checkbox"/>                    | No <input type="checkbox"/>             | Not Present <input checked="" type="checkbox"/> |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>                    | No <input type="checkbox"/>             | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Sample containers intact?                               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>             |                                                 |
| Water - VOA vials have zero headspace?                  | No VOA vials submitted <input type="checkbox"/> | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>                     |
| Water - pH acceptable upon receipt?                     | Yes <input type="checkbox"/>                    | No <input type="checkbox"/>             | N/A <input checked="" type="checkbox"/>         |
| Container/Temp Blank temperature?                       | 6°                                              | 4° C ± 2 Acceptable                     |                                                 |

COMMENTS:

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments: \_\_\_\_\_

Corrective Action \_\_\_\_\_

## Hall Environmental Analysis Laboratory

Date: 28-Aug-03

CLIENT: Blagg Engineering  
Project: GCU Lease  
Lab Order: 0308148

### CASE NARRATIVE

Analytical Comments for METHOD 8021BTEX\_W, SAMPLE 0308148-02a: Elevated surrogate due to matrix interference. Analytical Comments for METHOD 8021BTEX\_W, SAMPLE 0308148-03a: Elevated surrogate due to matrix interference.

# BLAGG ENGINEERING, INC.

## MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY #: N / A

GCU #194 - SEPARATOR PIT

LABORATORY (S) USED: HALL ENVIRONMENTAL

UNIT D, SEC. 5, T27N, R12W

Date: November 18, 2003

SAMPLER: N J V

Filename: 11-18-03.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 | 102.35          | 93.99            | 8.36                | 14.50            | -             | -    | -               | -               | -                    |
| MW - 2 | 102.47          | 94.27            | 8.20                | 14.50            | 0910          | 7.66 | 7,900           | 11.7            | 3.00                 |
| MW - 3 | 103.43          | 94.46            | 8.97                | 14.00            | 0940          | 7.37 | 7,900           | 14.6            | 2.50                 |

INSTRUMENT CALIBRATIONS =  
DATE & TIME =

|          |       |
|----------|-------|
| 7.00     | 2,800 |
| 11/11/03 | 0730  |

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2"

Excellent recovery in MW #2 & #3. Collected BTEX from both MW's.

Top of casing MW #1 ~ 2.40 ft., MW #2 ~ 2.55 ft., MW #3 ~ 2.40 ft. above grade.

# Hall Environmental Analysis Laboratory

Date: 01-Dec-03

CLIENT: Blagg Engineering  
Project: GCU Lease

Lab Order: 0311145

|                             |              |                  |                       |       |    |                       |
|-----------------------------|--------------|------------------|-----------------------|-------|----|-----------------------|
| Lab ID:                     | 0311145-01   | Collection Date: | 11/18/2003 9:10:00 AM |       |    |                       |
| Client Sample ID:           | GCU#194 MW#2 | Matrix:          | AQUEOUS               |       |    |                       |
| Analyses                    | Result       | Limit            | Qual                  | Units | DF | Date Analyzed         |
| EPA METHOD 8021B: VOLATILES |              |                  |                       |       |    | Analyst: NSB          |
| Benzene                     | 2.3          | 0.50             |                       | µg/L  | 1  | 11/30/2003 3:29:18 PM |
| Toluene                     | ND           | 0.50             |                       | µg/L  | 1  | 11/30/2003 3:29:18 PM |
| Ethylbenzene                | 8.4          | 0.50             |                       | µg/L  | 1  | 11/30/2003 3:29:18 PM |
| Xylenes, Total              | 5.1          | 0.50             |                       | µg/L  | 1  | 11/30/2003 3:29:18 PM |
| Surr: 4-Bromofluorobenzene  | 105          | 74-118           |                       | %REC  | 1  | 11/30/2003 3:29:18 PM |

|                             |              |                  |                       |       |     |                       |
|-----------------------------|--------------|------------------|-----------------------|-------|-----|-----------------------|
| Lab ID:                     | 0311145-02   | Collection Date: | 11/18/2003 9:40:00 AM |       |     |                       |
| Client Sample ID:           | GCU#194 MW#3 | Matrix:          | AQUEOUS               |       |     |                       |
| Analyses                    | Result       | Limit            | Qual                  | Units | DF  | Date Analyzed         |
| EPA METHOD 8021B: VOLATILES |              |                  |                       |       |     | Analyst: NSB          |
| Benzene                     | 1800         | 25               |                       | µg/L  | 50  | 11/30/2003 4:00:00 PM |
| Toluene                     | 100          | 25               |                       | µg/L  | 50  | 11/30/2003 4:00:00 PM |
| Ethylbenzene                | 1300         | 25               |                       | µg/L  | 50  | 11/30/2003 4:00:00 PM |
| Xylenes, Total              | 13000        | 100              |                       | µg/L  | 200 | 11/30/2003 4:30:42 PM |
| Surr: 4-Bromofluorobenzene  | 114          | 74-118           |                       | %REC  | 50  | 11/30/2003 4:00:00 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

Client: BLAES ENVR. / BP AMERICA

Address: P.O. BOX 87

Bloomfield, NM 87413

Phone #: (505) 632-1199

Fax #: (505) 632-3903

Accreditation Applied:

NELAC ☐ USACE ☐

Other:

Project Name:

GEN LEASE

Project #:

Project Manager:

NJV

Sampler:

NJV

Sample Temperature:

30

Date

Time

Matrix

Sample I.D. No.

Number/Volume

Preservative

H<sub>2</sub>Cl<sub>2</sub> HNO<sub>3</sub>

HEAL No.

031145

11/18/03

0910

WATER

GEN #194

MW #2

2-40ml

✓

11/18/03

0940

WATER

GEN #194

MW #3

2-40ml

✓

Date:

Time:

Relinquished By: (Signature)

11/19/03

0930

11/19/03

Date:

Time:

Relinquished By: (Signature)

11/19/03

1702

## ANALYSIS REQUEST

BTEX + MTBE + TPH (Gasoline Only)

BTEX + MTBE + TMBs (80218)

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<sub>3</sub>, NO<sub>2</sub>, PO<sub>4</sub>, SO<sub>4</sub>)

8081 Pesticides / PCB's (8082)

8260 (VOA)

8270 (Semi-VOA)

Air Bubbles or Headspace (Y or N)

Remarks:



## Hall Environmental Analysis Laboratory

Date: 01-Dec-03

CLIENT: Blagg Engineering  
Project: GCU Lease  
Lab Order: 0311145

### CASE NARRATIVE

Analytical Comments for METHOD 8021BTEX\_W, SAMPLE 0311145-03a: High surrogate due to matrix interference.

## Hall Environmental Analysis Laboratory

Date: 01-Dec-03

CLIENT: Blagg Engineering

Work Order: 0311145

Project: GCU Lease

## QC SUMMARY REPORT

Method Blank

|                            |                  |                  |                        |             |               |                       |           |             |      |          |      |
|----------------------------|------------------|------------------|------------------------|-------------|---------------|-----------------------|-----------|-------------|------|----------|------|
| Sample ID                  | Reagent Blank 5m | Batch ID: R10208 | Test Code: SW8021      | Units: µg/L | Analysis Date | 11/30/2003 1:57:24 PM | Prep Date |             |      |          |      |
| Client ID:                 |                  |                  | Run ID: PIDFID_031130A |             | SeqNo: 229168 |                       |           |             |      |          |      |
| Analyte                    | Result           | PQL              | SPK value              | SPK Ref Val | %REC          | LowLimit              | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene                    | ND               | 0.50             |                        |             |               |                       |           |             |      |          |      |
| Toluene                    | ND               | 0.50             |                        |             |               |                       |           |             |      |          |      |
| Ethylbenzene               | ND               | 0.50             |                        |             |               |                       |           |             |      |          |      |
| Xylenes, Total             | ND               | 0.50             |                        |             |               |                       |           |             |      |          |      |
| Surr: 4-Bromofluorobenzene | 19.59            | 0                | 20                     | 0           | 97.9          | 74                    | 118       | 0           |      |          |      |

## Qualifiers:

ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limitsS - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

J

## Hall Environmental Analysis Laboratory

Date: 01-Dec-03

CLIENT: Blagg Engineering

Work Order: 0311145

Project: GCU Lease

## QC SUMMARY REPORT

Laboratory Control Spike - generic

|                |                |                  |                   |             |               |                       |           |             |      |          |      |
|----------------|----------------|------------------|-------------------|-------------|---------------|-----------------------|-----------|-------------|------|----------|------|
| Sample ID      | BTEX Std 100ng | Batch ID: R10208 | Test Code: SW8021 | Units: µg/L | Analysis Date | 11/30/2003 2:58:49 PM | Prep Date |             |      |          |      |
| Client ID:     |                | Run ID:          | PIDFID_031130A    |             | SeqNo:        | 229186                |           |             |      |          |      |
| Analyte        | Result         | PQL              | SPK value         | SPK Ref Val | %REC          | LowLimit              | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene        | 22.23          | 0.50             | 20                | 0           | 111           | 81.3                  | 121       | 0           |      |          |      |
| Toluene        | 21.34          | 0.50             | 20                | 0           | 107           | 84.9                  | 118       | 0           |      |          |      |
| Ethylbenzene   | 20.48          | 0.50             | 20                | 0           | 102           | 53.8                  | 149       | 0           |      |          |      |
| Xylenes, Total | 62.37          | 0.50             | 60                | 0           | 104           | 83.1                  | 122       | 0           |      |          |      |

| Sample ID      | BTEX Std 100ng | Batch ID: R10208 | Test Code: SW8021 | Units: µg/L | Analysis Date | 12/1/2003 1:09:48 AM | Prep Date |           |             |      |          |      |
|----------------|----------------|------------------|-------------------|-------------|---------------|----------------------|-----------|-----------|-------------|------|----------|------|
| Client ID:     | Run ID:        | PIDFID_031130A   | PQL               | SPK value   | SPK Ref Val   | %REC                 | LowLimit  | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Analyte        | Result         |                  |                   |             |               |                      |           |           |             |      |          |      |
| Benzene        | 21.38          | 0.50             | 20                | 0           | 0             | 107                  | 81.3      | 121       | 22.23       | 3.91 | 27       |      |
| Toluene        | 19.81          | 0.50             | 20                | 0           | 0             | 99.0                 | 84.9      | 118       | 21.34       | 7.44 | 19       |      |
| Ethylbenzene   | 19.28          | 0.50             | 20                | 0           | 0             | 96.4                 | 53.8      | 149       | 20.48       | 6.05 | 10       |      |
| Xylenes, Total | 59.67          | 0.50             | 60                | 0           | 0             | 99.5                 | 83.1      | 122       | 62.37       | 4.42 | 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 Received:

Work Order Number 0311145

Received by AMG

Checklist completed by

Bongalis 11/19/03  
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?

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 # 194 - SEPARATOR PIT

LABORATORY (S) USED : HALL ENVIRONMENTAL

UNIT D, SEC. 5, T27N, R12W

Date : March 22, 2004

SAMPLER : N J V

Filename : 03-22-04.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 | 102.35          | 94.32            | 8.03                | 14.50            | -             | -    | -               | -               | -                    |
| MW - 2 | 102.47          | 94.67            | 7.80                | 14.50            | 1130          | 7.59 | 6,800           | 18.5            | 3.25                 |
| MW - 3 | 103.43          | 94.88            | 8.55                | 14.00            | -             | -    | -               | -               | -                    |

DEPTH TO PRODUCT ( FT. ) = 8.55

PRODUCT THICKNESS ( FT. ) = 0.01

INSTRUMENT CALIBRATIONS =

7.00    2,800

DATE & TIME =

03/22/04    1125

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2".

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

Top of casing MW #1 ~ 2.40 ft., MW #2 ~ 2.55 ft., MW #3 ~ 2.40 ft. above grade.

# Hall Environmental Analysis Laboratory

Date: 25-Mar-04

CLIENT: Blagg Engineering  
Lab Order: 0403190  
Project: GCU #194  
Lab ID: 0403190-01

Client Sample ID: MW#2  
Collection Date: 3/22/2004 11:30:00 AM  
Matrix: AQUEOUS

| Analyses                    | Result | PQL    | Qual | Units | DF | Date Analyzed        |
|-----------------------------|--------|--------|------|-------|----|----------------------|
| EPA METHOD 8021B: VOLATILES |        |        |      |       |    | Analyst: NSB         |
| Benzene                     | 2.1    | 0.50   |      | µg/L  | 1  | 3/24/2004 1:34:17 PM |
| Toluene                     | ND     | 0.50   |      | µg/L  | 1  | 3/24/2004 1:34:17 PM |
| Ethylbenzene                | 5.8    | 0.50   |      | µg/L  | 1  | 3/24/2004 1:34:17 PM |
| Xylenes, Total              | 7.6    | 0.50   |      | µg/L  | 1  | 3/24/2004 1:34:17 PM |
| Surr: 4-Bromofluorobenzene  | 108    | 74-118 |      | %REC  | 1  | 3/24/2004 1:34:17 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

# HALL ENVIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE, Suite D  
Albuquerque, New Mexico 87109  
Tel. 505.345.3975 Fax 505.345.4107  
[www.hallenenvironmental.com](http://www.hallenenvironmental.com)

[illegible]

# Hall Environmental Analysis Laboratory

Date: 25-Mar-04

CLIENT: Blagg Engineering

Work Order: 0403190

Project: GCU #194

## QC SUMMARY REPORT

Method Blank

|                            |                  |                        |                   |             |               |                      |           |             |      |          |      |
|----------------------------|------------------|------------------------|-------------------|-------------|---------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID                  | Reagent Blank 5m | Batch ID: R11403       | Test Code: SW8021 | Units: µg/L | Analysis Date | 3/24/2004 8:57:22 AM | Prep Date |             |      |          |      |
| Client ID:                 |                  | Run ID: PIDFID_040324A |                   |             | SeqNo:        | 261425               |           |             |      |          |      |
| Analyte                    | Result           | PQL                    | SPK value         | SPK Ref Val | %REC          | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene                    | ND               | 0.50                   |                   |             |               |                      |           |             |      |          |      |
| Toluene                    | ND               | 0.50                   |                   |             |               |                      |           |             |      |          |      |
| Ethylbenzene               | ND               | 0.50                   |                   |             |               |                      |           |             |      |          |      |
| Xylenes, Total             | ND               | 0.50                   |                   |             |               |                      |           |             |      |          |      |
| Surr: 4-Bromofluorobenzene | 18.68            | 0                      | 20                | 0           | 93.4          | 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: 25-Mar-04

CLIENT: Blagg Engineering

Work Order: 0403190

Project: GCU #194

## QC SUMMARY REPORT

Laboratory Control Spike - generic

| Sample ID      | BTEX STD 100ng | Batch ID: R11403 | Test Code: SW8021 | Units: µg/L | Analysis Date | 3/24/2004 5:11:53 PM | Prep Date |             |      |          |      |
|----------------|----------------|------------------|-------------------|-------------|---------------|----------------------|-----------|-------------|------|----------|------|
| Client ID:     |                | Run ID:          | PIDFID_040324A    |             | SeqNo:        | 261449               |           |             |      |          |      |
| Analyte        | Result         | PQL              | SPK value         | SPK Ref Val | %REC          | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene        | 20.41          | 0.50             | 20                | 0           | 102           | 81.3                 | 121       | 0           |      |          |      |
| Toluene        | 20.47          | 0.50             | 20                | 0           | 102           | 84.9                 | 118       | 0           |      |          |      |
| Ethylbenzene   | 20.62          | 0.50             | 20                | 0           | 103           | 53.8                 | 149       | 0           |      |          |      |
| Xylenes, Total | 63.96          | 0.50             | 60                | 0           | 107           | 83.1                 | 122       | 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

## Sample Receipt Checklist

Client Name BLAGG

Date and Time Received:

Work Order Number 0403190

Received by AMG

Checklist completed by

Abonjalis 03/23/04  
Signature Date

Matrix

Carrier name Greyhound

|                                                         |                                                 |                                                          |                                                                                      |
|---------------------------------------------------------|-------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------|
| Shipping container/cooler in good condition?            | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>                              | Not Present <input type="checkbox"/>                                                 |
| Custody seals intact on shipping container/cooler?      | Yes <input type="checkbox"/>                    | No <input type="checkbox"/>                              | Not Present <input checked="" type="checkbox"/> Not Shipped <input type="checkbox"/> |
| Custody seals intact on sample bottles?                 | Yes <input type="checkbox"/>                    | No <input type="checkbox"/>                              | N/A <input checked="" type="checkbox"/>                                              |
| Chain of custody present?                               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>                              |                                                                                      |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>                              |                                                                                      |
| Chain of custody agrees with sample labels?             | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>                              |                                                                                      |
| Samples in proper container/bottle?                     | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>                              |                                                                                      |
| Sample containers intact?                               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>                              |                                                                                      |
| Sufficient sample volume for indicated test?            | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>                              |                                                                                      |
| All samples received within holding time?               | Yes <input checked="" type="checkbox"/>         | No <input type="checkbox"/>                              |                                                                                      |
| Water - VOA vials have zero headspace?                  | No VOA vials submitted <input type="checkbox"/> | Yes <input checked="" type="checkbox"/>                  | No <input type="checkbox"/>                                                          |
| Water - pH acceptable upon receipt?                     | Yes <input type="checkbox"/>                    | No <input type="checkbox"/>                              | N/A <input checked="" type="checkbox"/>                                              |
| Container/Temp Blank temperature?                       | <u>2°</u>                                       | 4° C ± 2 Acceptable<br>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 # 194 - SEPARATOR PIT

LABORATORY (S) USED : HALL ENVIRONMENTAL

UNIT D, SEC. 5, T27N, R12W

Date : June 23, 2004

SAMPLER : N J V

Filename : 06-23-04.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 | 102.35          | 93.70            | 8.65                | 14.50            | -             | -    | -               | -               | -                    |
| MW - 2 | 102.47          | 94.04            | 8.43                | 14.50            | 1205          | 7.49 | 8,000           | 21.1            | 3.00                 |
| MW - 3 | 103.43          |                  | -                   | 14.00            | -             | -    | -               | -               | 3.00                 |

DEPTH TO PRODUCT (FT.) = 19.20

PRODUCT THICKNESS (FT.) = 0.45

INSTRUMENT CALIBRATIONS =

|          |       |
|----------|-------|
| 7.00     | 2,800 |
| 06/23/04 | 0900  |

DATE & TIME =

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 "

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

Top of casing MW #1 ~ 2.40 ft., MW #2 ~ 2.55 ft., MW #3 ~ 2.40 ft. above grade.

# Hall Environmental Analysis Laboratory

Date: 07-Jul-04

CLIENT: Blagg Engineering  
Project: GCU Lease

Lab Order: 0406245

Lab ID: 0406245-03  
Client Sample ID: MW#2-GCU#194

Collection Date: 6/23/2004 12:05:00 PM  
Matrix: AQUEOUS

| Analyses | Result | PQL | Qual | Units | DF | Date Analyzed |
|----------|--------|-----|------|-------|----|---------------|
|----------|--------|-----|------|-------|----|---------------|

## EPA METHOD 8021B: VOLATILES

Analyst: NSB

|                            |     |        |  |      |   |                     |
|----------------------------|-----|--------|--|------|---|---------------------|
| Benzene                    | 3.5 | 0.50   |  | µg/L | 1 | 7/3/2004 1:15:54 AM |
| Toluene                    | ND  | 0.50   |  | µg/L | 1 | 7/3/2004 1:15:54 AM |
| Ethylbenzene               | 8.5 | 0.50   |  | µg/L | 1 | 7/3/2004 1:15:54 AM |
| Xylenes, Total             | 5.4 | 0.50   |  | µg/L | 1 | 7/3/2004 1:15:54 AM |
| Surr: 4-Bromofluorobenzene | 104 | 74-118 |  | %REC | 1 | 7/3/2004 1:15:54 AM |

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

**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**

4901 Hawkins NE, Suite D  
Albuquerque, New Mexico 87109  
Tel. 505.345.3975 Fax 505.345.3976  
[www.hallenvironmental.com](http://www.hallenvironmental.com)

Tel. 505.345.3975 Fax 505.345.4107  
www.hallenvironmental.com

## ANALYSIS REQUEST

**Air Bithlos an Hoofden van de Nij**

Accreditation Applied:

NELAC ☐ USACE ☐

Other:

Project Name:

Gen LEASE

Project #:

246

**Project Manager:**

NTV

**Sampler:**

NIN

**Sample Temperature:**

9

HEAL No.

Preservative

$$\text{HgCl}_2 \quad \text{HNO}_3$$

Number/Volume

Sample I.D. No.

## Matrix

Time

Phone #:

505-632-1199

Fax #:

505-632-3903

|      |          |
|------|----------|
| 5021 | 40/02/05 |
|------|----------|

WATER

1  
2  
3

|       |   |
|-------|---|
| 2-40m | ✓ |
|-------|---|

3

Date: \_\_\_\_\_

Time:

Relinquished By: (Signature)

Received By: (Signature)

6/24/04

Date: \_\_\_\_\_

Time:

Relinquished By: (Signature)

Received By: (Signature)

# Hall Environmental Analysis Laboratory

Date: 07-Jul-04

CLIENT: Blagg Engineering  
 Work Order: 0406245  
 Project: GCU Lease

## QC SUMMARY REPORT

Method Blank

|                            |                  |                  |                        |             |                                    |           |           |             |      |          |      |
|----------------------------|------------------|------------------|------------------------|-------------|------------------------------------|-----------|-----------|-------------|------|----------|------|
| Sample ID                  | Reagent Blank 5m | Batch ID: R12337 | Test Code: SW8021      | Units: µg/L | Analysis Date 7/2/2004 10:11:05 AM | Prep Date |           |             |      |          |      |
| Client ID:                 |                  |                  | Run ID: PIDFID_040702A |             | SeqNo: 283891                      |           |           |             |      |          |      |
| Analyte                    | Result           | PQL              | SPK value              | SPK Ref Val | %REC                               | LowLimit  | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene                    | ND               | 0.5              |                        |             |                                    |           |           |             |      |          |      |
| Toluene                    | ND               | 0.5              |                        |             |                                    |           |           |             |      |          |      |
| Ethylbenzene               | ND               | 0.5              |                        |             |                                    |           |           |             |      |          |      |
| Xylenes, Total             | ND               | 0.5              |                        |             |                                    |           |           |             |      |          |      |
| Surr: 4-Bromofluorobenzene | 19.72            | 0                | 20                     | 0           | 98.6                               | 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: 07-Jul-04

CLIENT: Blagg Engineering  
 Work Order: 0406245  
 Project: GCU Lease

## QC SUMMARY REPORT

Laboratory Control Spike - generic

|                |                |                  |                        |             |               |                      |           |             |      |          |      |
|----------------|----------------|------------------|------------------------|-------------|---------------|----------------------|-----------|-------------|------|----------|------|
| Sample ID      | BTEX std 100ng | Batch ID: R12337 | Test Code: SW8021      | Units: µg/L | Analysis Date | 7/2/2004 11:11:40 AM | Prep Date |             |      |          |      |
| Client ID:     |                |                  | Run ID: PIDFID_040702A |             | SeqNo:        | 283917               |           |             |      |          |      |
| Analyte        | Result         | PQL              | SPK value              | SPK Ref Val | %REC          | LowLimit             | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene        | 20.22          | 0.5              | 20                     | 0           | 101           | 81.3                 | 121       | 0           |      |          |      |
| Toluene        | 19.3           | 0.5              | 20                     | 0           | 96.5          | 84.9                 | 118       | 0           |      |          |      |
| Ethylbenzene   | 18.75          | 0.5              | 20                     | 0           | 93.8          | 53.8                 | 149       | 0           |      |          |      |
| Xylenes, Total | 55.59          | 0.5              | 60                     | 0           | 92.7          | 83.1                 | 122       | 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

## Sample Receipt Checklist

Client Name BLAGG

Date and Time Received:

6/24/2004

Work Order Number 0406245

Received by AT

Checklist completed by

Signature

Date

6/24/04

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

GCU # 194 - SEPARATOR PIT

LABORATORY (S) USED : HALL ENVIRONMENTAL

UNIT D, SEC. 5, T27N, R12W

Date : December 22, 2004

SAMPLER : N J V

Filename : 12-22-04.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 | 102.35          | 94.19            | 8.16                | 14.50            | -             | -   | -               | -               | -                    |
| MW - 2 | 102.47          | 94.54            | 7.93                | 14.50            | 1015          | N/A | N/A             | N/A             | 3.25                 |
| MW - 3 | 103.43          | 94.58            | 8.85                | 14.00            | -             | -   | -               | -               | 3.00                 |

DEPTH TO PRODUCT ( FT. ) = 8.71

PRODUCT THICKNESS ( FT. ) = 0.40

INSTRUMENT CALIBRATIONS =

DATE & TIME =

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2".

Excellent recovery in MW #2. Collected BTEX from MW #2 only. Bailed approx. 5 gallons from MW #3.

Top of casing MW #1 ~ 2.40 ft., MW #2 ~ 2.55 ft., MW #3 ~ 2.40 ft. above grade.

## Hall Environmental Analysis Laboratory

Date: 03-Jan-05

CLIENT: Blagg Engineering  
Project: GCU Lease

Lab Order: 0412231

|                                       |               |                  |                        |               |
|---------------------------------------|---------------|------------------|------------------------|---------------|
| Lab ID:                               | 0412231-02    | Collection Date: | 12/22/2004 10:15:00 AM |               |
| Client Sample ID:                     | MW#2-GCU #194 | Matrix:          | AQUEOUS                |               |
| Analyses                              | Result        | PQL Qual Units   | DF                     | Date Analyzed |
| EPA METHOD 8260: VOLATILES SHORT LIST |               |                  |                        | Analyst: KTM  |
| Benzene                               | ND            | 1.0 µg/L         | 1                      | 12/28/2004    |
| Toluene                               | ND            | 1.0 µg/L         | 1                      | 12/28/2004    |
| Ethylbenzene                          | 1.9           | 1.0 µg/L         | 1                      | 12/28/2004    |
| Xylenes, Total                        | 2.7           | 1.0 µg/L         | 1                      | 12/28/2004    |
| Surr: 4-Bromofluorobenzene            | 101           | 76.2-122 %REC    | 1                      | 12/28/2004    |

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



## Hall Environmental Analysis Laboratory

Date: 03-Jan-05

CLIENT: Blagg Engineering

Work Order: 0412231

Project: GCU Lease

## QC SUMMARY REPORT

Method Blank

|                            |        |                      |                    |             |               |            |           |             |      |          |      |
|----------------------------|--------|----------------------|--------------------|-------------|---------------|------------|-----------|-------------|------|----------|------|
| Sample ID                  | 5mL rb | Batch ID: R14158     | Test Code: SW8260B | Units: µg/L | Analysis Date | 12/28/2004 | Prep Date |             |      |          |      |
| Client ID:                 |        | Run ID: THOR_041228A |                    |             | SeqNo:        | 329216     |           |             |      |          |      |
| Analyte                    | Result | PQL                  | SPK value          | SPK Ref Val | %REC          | LowLimit   | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene                    | ND     | 1                    |                    |             |               |            |           |             |      |          |      |
| Toluene                    | ND     | 1                    |                    |             |               |            |           |             |      |          |      |
| Ethylbenzene               | ND     | 1                    |                    |             |               |            |           |             |      |          |      |
| Xylenes, Total             | ND     | 1                    |                    |             |               |            |           |             |      |          |      |
| Surr: 4-Bromofluorobenzene | 9.466  | 0                    | 10                 | 0           | 94.7          | 76.2       | 122       | 0           |      |          |      |

|                            |        |                      |                    |             |                          |          |           |             |      |          |      |
|----------------------------|--------|----------------------|--------------------|-------------|--------------------------|----------|-----------|-------------|------|----------|------|
| Sample ID                  | 5mL rb | Batch ID: R14177     | Test Code: SW8260B | Units: µg/L | Analysis Date 12/29/2004 |          | Prep Date |             |      |          |      |
| Client ID:                 |        | Run ID: THOR_041229A |                    |             | SeqNo: 329660            |          |           |             |      |          |      |
| Analyte                    | Result | PQL                  | SPK value          | SPK Ref Val | %REC                     | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene                    | ND     | 1                    |                    |             |                          |          |           |             |      |          |      |
| Toluene                    | ND     | 1                    |                    |             |                          |          |           |             |      |          |      |
| Ethylbenzene               | ND     | 1                    |                    |             |                          |          |           |             |      |          |      |
| Xylenes, Total             | ND     | 1                    |                    |             |                          |          |           |             |      |          |      |
| Surr: 4-Bromofluorobenzene | 9.58   | 0                    | 10                 | 0           | 95.8                     | 76.2     | 122       | 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: 03-Jan-05

CLIENT: Blagg Engineering  
Work Order: 0412231  
Project: GCU Lease

## QC SUMMARY REPORT

Laboratory Control Spike - generic

|            |           |                      |                    |             |               |            |           |             |      |          |      |
|------------|-----------|----------------------|--------------------|-------------|---------------|------------|-----------|-------------|------|----------|------|
| Sample ID  | 100ng lcs | Batch ID: R14158     | Test Code: SW8260B | Units: µg/L | Analysis Date | 12/28/2004 | Prep Date |             |      |          |      |
| Client ID: |           | Run ID: THOR_041228A |                    |             | SeqNo:        | 329219     |           |             |      |          |      |
| Analyte    | Result    | PQL                  | SPK value          | SPK Ref Val | %REC          | LowLimit   | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene    | 23.06     | 1                    | 20                 | 0           | 115           | 76.6       | 123       | 0           |      |          |      |
| Toluene    | 21.54     | 1                    | 20                 | 0           | 108           | 77         | 121       | 0           |      |          |      |

|            |           |                      |                    |             |               |            |           |             |      |          |      |
|------------|-----------|----------------------|--------------------|-------------|---------------|------------|-----------|-------------|------|----------|------|
| Sample ID  | 100ng lcs | Batch ID: R14177     | Test Code: SW8260B | Units: µg/L | Analysis Date | 12/29/2004 | Prep Date |             |      |          |      |
| Client ID: |           | Run ID: THOR_041229A |                    |             | SeqNo: 329664 |            |           |             |      |          |      |
| Analyte    | Result    | PQL                  | SPK value          | SPK Ref Val | %REC          | LowLimit   | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene    | 22.19     | 1                    | 20                 | 0           | 111           | 76.6       | 123       | 0           |      |          |      |
| Toluene    | 21.01     | 1                    | 20                 | 0           | 105           | 77         | 121       | 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

## Sample Receipt Checklist

Client Name **BLAGG**

Date and Time Received:

12/23/2004

Work Order Number **0412231**

Received by **AT**

Checklist completed by

Signature

Date

12/23/04

Matrix

Carrier name Greyhound

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

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 # 194 - SEPARATOR PIT

LABORATORY (S) USED: HALL ENVIRONMENTAL

UNIT D, SEC. 5, T27N, R12W

Date: March 28, 2005

SAMPLER: NJV

Filename: 03-28-05.WK4

PROJECT MANAGER: NJV

| 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 | 102.35          | 94.47            | 7.88                | 14.50            | -             | -    | -               | -               | -                    |
| MW - 2 | 102.47          | 94.80            | 7.67                | 14.50            | 1715          | 7.58 | 6,400           | 13.6            | 3.50                 |
| MW - 3 | 103.43          | 94.95            | 8.48                | 14.00            | -             | -    | -               | -               | 3.00                 |

DEPTH TO PRODUCT ( FT. ) = 8.48

PRODUCT THICKNESS ( FT. ) = 0.01

INSTRUMENT CALIBRATIONS =

7.00      2,800

DATE & TIME =

03/28/05      1245

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 "

Excellent recovery in MW # 2. Collected BTEX from MW # 2 only. Bailed approx. 5 gallons from MW #3.

Top of casing MW # 1 ~ 2.40 ft., MW # 2 ~ 2.55 ft., MW # 3 ~ 2.40 ft. above grade.

## Hall Environmental Analysis Laboratory

Date: 04-Apr-05

CLIENT: Blagg Engineering  
Project: GCU Lease

Lab Order: 0503265

Lab ID: 0503265-02  
Client Sample ID: MW#2 GCU #194

Collection Date: 3/28/2005 5:15:00 PM  
Matrix: AQUEOUS

| Analyses                    | Result | PQL      | Qual | Units | DF | Date Analyzed        |
|-----------------------------|--------|----------|------|-------|----|----------------------|
| EPA METHOD 8021B: VOLATILES |        |          |      |       |    | Analyst: NSB         |
| Benzene                     | ND     | 0.50     |      | µg/L  | 1  | 4/1/2005 11:41:38 AM |
| Toluene                     | ND     | 0.50     |      | µg/L  | 1  | 4/1/2005 11:41:38 AM |
| Ethylbenzene                | 1.5    | 0.50     |      | µg/L  | 1  | 4/1/2005 11:41:38 AM |
| Xylenes, Total              | 2.1    | 0.50     |      | µg/L  | 1  | 4/1/2005 11:41:38 AM |
| Sum: 4-Bromofluorobenzene   | 108    | 83.3-121 |      | %REC  | 1  | 4/1/2005 11:41:38 AM |

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



Accreditation Applied:  
NELAC ☐ USACE ☐

Client: BLAKE ENGL. / BP AMERICA

Address: P.O. BOX 87

82FD, NM 87413

Phone #: 505-632-1199

Fax #: 505-632-3903

| Date | Time | Matrix | Sample I.D. No. |
|------|------|--------|-----------------|
|------|------|--------|-----------------|

Number/Volume

HEAL No.

[illegible][illegible]

|         |      |       |           |
|---------|------|-------|-----------|
| 3/28/05 | 1715 | WATER | mw # 2 -  |
|         |      |       | GCW # 194 |

|        |   |
|--------|---|
| 2-40ml | ✓ |
|--------|---|

-2

Date: 3/5 Time: 8:15

Relinquished By: (Signature) 

Received By (Signature) 3/29/05

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished By: (Signature)

Received By: (Signature)

**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**  
4901 Hawking NE, Suite D  
Albuquerque, New Mexico 87109  
Tel. 505.345.3875 Fax 505.345.4107  
[www.hallenvironmental.com](http://www.hallenvironmental.com)

# ANALYSIS REQUEST

|  |                                                                                        |   |
|--|----------------------------------------------------------------------------------------|---|
|  | (BTEX) + MTBE + TMB's (B021B)                                                          | > |
|  | BTEX + MTBE + TPH (Gasoline Only)                                                      |   |
|  | TPH Method 8015B (Gas/Diesel)                                                          |   |
|  | TPH (Method 418.1)                                                                     |   |
|  | EDB (Method 504.1)                                                                     |   |
|  | EDC (Method 8021)                                                                      |   |
|  | 8310 (PMA or PAH)                                                                      |   |
|  | RCA 8 Metals                                                                           |   |
|  | Anions (F, Cl, NO <sub>2</sub> , NO <sub>3</sub> , PO <sub>4</sub> , SO <sub>4</sub> ) |   |
|  | 8081 Pesticides / PCB's (8082)                                                         |   |
|  | 8260B (VDA)                                                                            |   |
|  | 8270 (Semi-VDA)                                                                        |   |
|  |                                                                                        |   |
|  |                                                                                        |   |
|  |                                                                                        |   |
|  | Air Bubbles or Headspace (Y or N)                                                      |   |

Remarks:

## Hall Environmental Analysis Laboratory

Date: 04-Apr-05

CLIENT: Blagg Engineering  
Work Order: 0503265  
Project: GCU Lease

**QC SUMMARY REPORT**  
Method Blank

| Sample ID                 | Reagent Blank 5m | Batch ID: R14984 | Test Code: SW8021      | Units: µg/L | Analysis Date 4/1/2005 9:03:48 AM | Prep Date |           |             |      |          |      |
|---------------------------|------------------|------------------|------------------------|-------------|-----------------------------------|-----------|-----------|-------------|------|----------|------|
| Client ID:                |                  |                  | Run ID: PIDFID_050401A |             | SeqNo: 348595                     |           |           |             |      |          |      |
| Analyte                   | Result           | PQL              | SPK value              | SPK Ref Val | %REC                              | LowLimit  | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene                   | ND               | 0.5              |                        |             |                                   |           |           |             |      |          |      |
| Toluene                   | ND               | 0.5              |                        |             |                                   |           |           |             |      |          |      |
| Ethylbenzene              | ND               | 0.5              |                        |             |                                   |           |           |             |      |          |      |
| Xylenes, Total            | ND               | 0.5              |                        |             |                                   |           |           |             |      |          |      |
| Sum: 4-Bromofluorobenzene | 19.48            | 0                | 20                     | 0           | 87.5                              | 83.3      | 121       | 0           |      |          |      |

2 / 5

| 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: 04-Apr-05

CLIENT: Blagg Engineering

Work Order: 0503265

Project: GCU Lease

## QC SUMMARY REPORT

Sample Matrix Spike

|                            |                |                  |                        |             |               |                     |           |             |      |          |      |
|----------------------------|----------------|------------------|------------------------|-------------|---------------|---------------------|-----------|-------------|------|----------|------|
| Sample ID                  | 0503265-02a.ms | Batch ID: R14984 | Test Code: SW8021      | Units: µg/L | Analysis Date | 4/1/2005 5:45:26 PM | Prep Date |             |      |          |      |
| Client ID:                 | MW#2 GCU #194  |                  | Run ID: PIDFID_050401A |             | SeqNo: 348625 |                     |           |             |      |          |      |
| Analyte                    | Result         | PQL              | SPK value              | SPK Ref Val | %REC          | LowLimit            | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene                    | 21.18          | 0.5              | 20                     | 0.4414      | 104           | 88.7                | 114       | 0           |      |          |      |
| Toluene                    | 20.37          | 0.5              | 20                     | 0.2268      | 101           | 89.3                | 112       | 0           |      |          |      |
| Ethylbenzene               | 23.48          | 0.5              | 20                     | 1.487       | 110           | 88.6                | 113       | 0           |      |          |      |
| Xylenes, Total             | 64.53          | 0.5              | 60                     | 2.118       | 104           | 89.4                | 112       | 0           |      |          |      |
| Surr: 4-Bromofluorobenzene | 24.97          | 0                | 24                     | 0           | 104           | 83.3                | 121       | 0           |      |          |      |

|                            |                |                  |                   |             |               |                     |           |             |       |          |      |
|----------------------------|----------------|------------------|-------------------|-------------|---------------|---------------------|-----------|-------------|-------|----------|------|
| Sample ID                  | 0503265-02a.ms | Batch ID: R14984 | Test Code: SW8021 | Units: µg/L | Analysis Date | 4/1/2005 8:15:44 PM | Prep Date |             |       |          |      |
| Client ID:                 | MW#2 GCU #194  | Run ID:          | PIDFID_050401A    | SeqNo:      | 348631        |                     |           |             |       |          |      |
| Analyte                    | Result         | PQL              | SPK value         | SPK Ref Val | %REC          | LowLimit            | HighLimit | RPD Ref Val | %RPD  | RPDLimit | Qual |
| Benzene                    | 20.65          | 0.5              | 20                | 0.4414      | 101           | 88.7                | 114       | 21.18       | 2.56  | 27       |      |
| Toluene                    | 20.75          | 0.5              | 20                | 0.2268      | 103           | 88.3                | 112       | 20.37       | 1.84  | 19       |      |
| Ethylbenzene               | 23.19          | 0.5              | 20                | 1.487       | 109           | 88.6                | 113       | 23.48       | 1.17  | 10       |      |
| Xylenes, Total             | 61.73          | 0.5              | 60                | 2.118       | 99.3          | 89.4                | 112       | 64.53       | 4.44  | 13       |      |
| Surr: 4-Bromofluorobenzene | 25.22          | 0                | 24                | 0           | 105           | 83.3                | 121       | 24.97       | 0.989 | 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

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## Hall Environmental Analysis Laboratory

Date: 04-Apr-05

CLIENT: Blegg Engineering

Work Order: 0503265

Project: GCU Lease

## QC SUMMARY REPORT

Laboratory Control Spike - generic

|                |         |       |                  |                   |             |               |                     |             |      |          |      |
|----------------|---------|-------|------------------|-------------------|-------------|---------------|---------------------|-------------|------|----------|------|
| Sample ID      | BTX Ics | 100ng | Batch ID: R14984 | Test Code: SW8021 | Units: µg/L | Analysis Date | 4/1/2005 5:15:08 PM | Prep Date   |      |          |      |
| Client ID:     |         |       | Run ID:          | PIDFID_050401A    |             | SeqNo:        | 348644              |             |      |          |      |
| Analyte        | Result  | PQL   | SPK value        | SPK Ref Val       | %REC        | LowLimit      | HighLimit           | RPD Ref Val | %RPD | RPDLimit | Qual |
| Benzene        | 19.61   | 0.5   | 20               | 0                 | 99.0        | 88.7          | 114                 | 0           |      |          |      |
| Toluene        | 20.39   | 0.5   | 20               | 0                 | 102         | 89.3          | 112                 | 0           |      |          |      |
| Ethylbenzene   | 20.77   | 0.5   | 20               | 0                 | 104         | 88.6          | 113                 | 0           |      |          |      |
| Xylenes, Total | 59.76   | 0.5   | 60               | 0                 | 99.6        | 89.4          | 112                 | 0           |      |          |      |

Qualifiers:

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# Hall Environmental Analysis Laboratory

## Sample Receipt Checklist

Client Name **BLAGG**

Date and Time Received:

3/29/05

Work Order Number **0503285**

Received by **AT**

Checklist completed by

*[Signature]*

3/29/05

Signature

Date

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☐

No ☐

Not Present ☒

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☒

N/A ☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

5°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding \_\_\_\_\_

Comments: \_\_\_\_\_

Corrective Action \_\_\_\_\_