3R - 423

ANNUAL MONITORING REPORT

03/28/2008

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

3R423

March 28, 2008

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

RE: BP America Production Company (formerly Amoco Production Co.)
Groundwater Monitoring Report
Hutton GC # 1E, Unit F, Sec. 6, T29N, R12W, NMPM
San Juan County, New Mexico

NMOCD Administrative/Environmental Order #: NONE

Dear Mr. von Gonten:

BP America Production Company (**BP**) has retained Blagg Engineering, Inc. (**BEI**) to conduct environmental monitoring of groundwater at the Hutton GC # 1E.

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

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

Respectfully submitted:
Blagg Engineering, Inc.

Nelson J. Velez
Staff Geologist

Attachment: Groundwater Report (2 copies)

cc: Mr. Brandon Powell, Environmental Specialist, NMOCD District III Office, Aztec, NM
Mr. Larry Schlotterback, Environmental Coordinator, BP, Farmington, NM (without lab report)

NJV/njv

Hutton GC 1E 03-28-08 CVL.DOC

BP AMERICA PRODUCTION CO.

GROUNDWATER REMEDIATION REPORT

RECEIVED
2008 APR 1 PM 4 04

HUTTON GC #1E
(F) SECTION 6, T29N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

PREPARED FOR:
NEW MEXICO OIL CONSERVATION DIVISION
1220 ST. FRANCIS DRIVE
SANTA FE, NEW MEXICO 87505

MARCH 2008

PREPARED BY:
BLAGG ENGINEERING, INC.

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

BP AMERICA PRODUCTION COMPANY
Hutton GC #1E
SE/4 NW/4, Sec. 6, T29N, R12W

Historical Information:

Pit Closure Dates:	June 1994 – Separator pit; February 1995 -Production Tank pit
Monitor Well Installation Dates:	September 2006
Reclamation Procedures:	Excavation (June 1994 & February 1995)
Monitor Well Sampling Dates:	10/02/06; 12/20/06; 02/21/07; 05/17/07

This site is located within the city limits of Farmington, New Mexico in close proximity (< 300 feet) to the Animas River. Groundwater was encountered at a depth of approximately six (6) feet below surface grade during excavation of impacted soils from a separator pit in June 1996 (documentation attached). The excavation perimeter was measured at approximately 16 X 24 X 8 feet depth. Approximately 115 cubic yards of soil was removed and transported to a private landowner property near BP's (formerly Amoco Production Company) Garcia GC B #1 well site (Unit J, Sec. 21, T29N, R10W). The groundwater within the excavation perimeter was pumped via water hauling trucks and disposed at an approved facility. Afterwards, the exposed groundwater was sampled and tested for benzene, toluene, ethylbenzene, and total xylenes (**BTEX**) per US EPA Method 8020. A subsequent sampling event was conducted on June 14, 1994. The pit closure data was submitted to the New Mexico Oil Conservation Division (**NMOCD**) with a letter dated June 20, 1994. NMOCD responded with a letter dated December 19, 1996 denying closure based on results exceeding the New Mexico Water Quality Control Commission (**NMWQCC**) standards (see attached letter). The BTEX results of the groundwater sampling from the excavation are as follows;

Sample ID	Date	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Total Xylenes (ppb)
1 @ GW (6')	06/09/94	**706**	**2,178**	196	**1,872**
2 @ GW (6')	06/14/94	3.6	4.0	0.7	34.2
NMWQCC regulatory standards		**10**	**750**	**750**	**620**

Note: NMWQCC = New Mexico Water Quality Control Commission, ppb = parts per billion.

Groundwater was encountered at a depth of approximately six (6) feet below surface grade during excavation of impacted soils from a production tank pit in February 1995 (documentation attached). The excavation perimeter was measured at approximately 30 X 75 X 7 feet depth. Approximately 580 cubic yards of soil was removed and transported to the same aforementioned private landowner property and handled in the same manner. The groundwater within the excavation perimeter was pumped via water hauling trucks and disposed at an approved facility. Afterwards, the exposed groundwater was sampled and tested for BTEX. Two (2) subsequent sampling events were conducted at later dates. The pit closure data was submitted to the NMOCD with a letter dated April 7, 1995. NMOCD responded with a letter dated July 10, 1996 denying closure based on results exceeding the NMWQCC standards (see attached letter). The BTEX results of the groundwater sampling from the excavation are as follows;

Sample ID	Date	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Total Xylenes (ppb)
GW @ 6'	02/21/95	**38**	**839**	88	**872**
PW2 @ GW (6')	02/27/95	**59.2**	108.9	7.5	108.8
PW3 @ GW (6')	03/08/95	ND	ND	ND	162.7
NMWQCC regulatory standards		**10**	**750**	**750**	**620**

Note: NMWQCC = New Mexico Water Quality Control Commission, ppb = parts per billion, ND = not detectable at reported limits.

Groundwater Investigation and Soil Lithology:

Groundwater monitor wells were installed in September 2006 to test groundwater quality (Figure 1). Boring logs for all four (4) monitor wells along with well completion information are contained within this report. There are no known receptors impacted by the previous discovery of impacted soil and/or groundwater.

Soil lithology at the site consists of primarily sand and gravel of varying color and size.

Groundwater Monitor Well Sampling Procedures:

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

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

Groundwater Quality & Flow Direction Information:

Quarterly groundwater monitor well sampling was initiated in October 2006. Summary of laboratory BTEX analytical results are included in the table on the following pages. Free phase product (0.04 ft.) was observed within MW #2 near the separator tank pit in May 2007. The remaining monitor wells within the source area of the production tank pit excavation and down gradient (MW #3 & MW #4, respectively) indicate all BTEX constituents tested at non-detectable levels for four (4) consecutive sampling events. There were no abnormalities revealed from the general water chemistry testing. All pertinent laboratory reports and field data sheets are included in this report.

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

Summary and Recommendations:

Hydrocarbon impact from two (2) apparent source areas have been partially remediated via excavation and groundwater impacts are presently being monitored. This site will continue to have a minimum of an annual and/or quarterly sampling and testing pursuant to BP's NMOCD approved groundwater management plan. It is recommended to investigate the source of free phase product in groundwater near the separator unit. Delineation down gradient of this area will be necessary by installing a minimum of one (1) groundwater monitor well outside the current security fence perimeter. Limited excavation of the separator tank pit area may be considered. If this approach is undertaken, reinstallation of MW #2 will be required. The off-site private landowner will be appraised of the previous and current conditions and approval to conduct such work will adhere to the stipulations addressed within the Landowner Notification Act.

30045 2415a

RESULTS GIVEN TO BOB McCOY 6/9/94

CLIENT: AMOCO

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

~~LOCATION NO:~~ B0009

C.O.C. NO: 1583 / 1571 6/13/94

FIELD REPORT: CLOSURE VERIFICATION

~~JOB No:~~

PAGE No: 1 of 1

LOCATION: NAME: HUTTON GC WELL #: 1E PIT: SEP. ~~BGT~~

QUAD/UNIT: F SEC: 6 TWP: 29N RNG: 12W BM: NM CNTY: SJ ST: NM

QTR/FOOTAGE: SE/4 NW/4 CONTRACTOR: P. VELASQUEZ

DATE STARTED: 6/8/94

DATE FINISHED: 6/13/94

ENVIRONMENTAL SPECIALIST: NV

SOIL REMEDIATION: EXCAVATION APPROX. 16 FT. x 24 FT. x 8 FT. DEEP.

DISPOSAL FACILITY: _____ CUBIC YARDAGE: 115

LAND USE: AGRICULTURAL / RESIDENTIAL LEASE: FEE

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 143 FEET N86W FROM WELLHEAD.

DEPTH TO GROUNDWATER: 6' NEAREST WATER SOURCE: <1000 NEAREST SURFACE WATER: <1000

NMOCD RANKING SCORE: 50 NMOCD TPH CLOSURE STD: 100 PPM FM.- OK.

SOIL AND EXCAVATION DESCRIPTION:

SOIL SAMPLES NOT ACCESSIBLE. MED. GRAY TO BLACK DISCOLORED SOIL 2' THICK ABOVE GROUNDWATER LEVEL @ TIME OF SAMPLING.

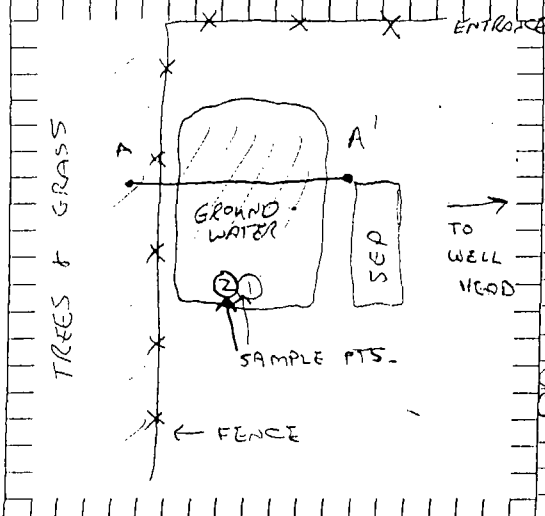
FIELD 418.1 CALCULATIONS

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

SCALE

0 FT

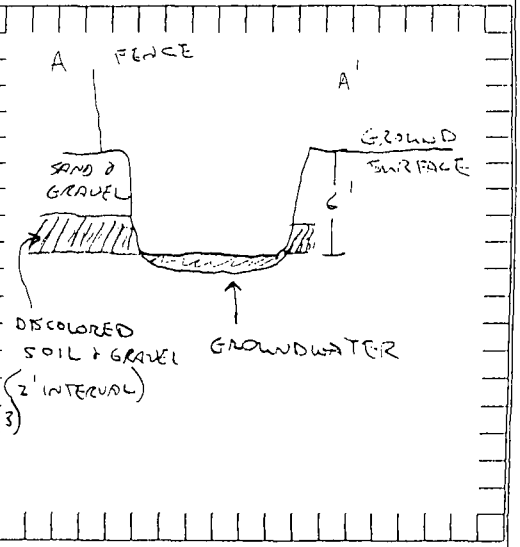
PIT PERIMETER



OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ GW (6')	251.1
2 @ GW (6')	1.2 (6/13)
3	
4	
5	
	LAB SAMPLES
1 @ GW (6')	BTEX (8020)
2 @ GW (6')	BTEX (8020) (6/13)

PIT PROFILE



TRAVEL NOTES: CALLOUT: 6/6/94 ONSITE: 6/8/94

ON SITE TECHNOLOGIES, LTD.

AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	6/9/94
Company:	*Blagg Engineering*	*Lab ID:*	*1650*
Address:	*P.O. Box 87*	*Sample ID:*	*1583*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Hutton GC 1E***				
Project Location:	***1 @ GS (6') Separator Pit***				
Sampled by:	NV	Date:	6/8/94	Time:	8:35
Analyzed by:	DLA	Date:	6/9/94		
Sample Matrix:	*Liquid*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L
Benzene	*706*
Toluene	*2,178*
Ethylbenzene	*196*
m,p-Xylene	*1,470*
o-Xylene	*402*
TOTAL	*4,952 ug/L*

ND - Not Detectable
*** - Method Detection Limit, 2 ug/L*

Method *- SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by:
Date:

FAX: (505) 327-1496 ▪ 24 HR. – (505) 327-7105 ▪ OFF.: (505) 325-8786
3005 NORTHRIDGE DRIVE ▪ SUITE F ▪ P. O. BOX 2606 ▪ FARMINGTON, NEW MEXICO 87499

ON SITE TECHNOLOGIES, LTD.

AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	6/14/94
Company:	*Blagg Engineering*	*Lab ID:*	*1571*
Address:	*P.O. Box 87*	*Sample ID:*	*1667*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Hutton GC 1E***				
Project Location:	***2 @ GW (6') - Separator Pit***				
Sampled by:	NV	Date:	6/13/94	Time:	17:42
Analyzed by:	DLA	Date:	6/14/94		
Sample Matrix:	*Liquid*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L
Benzene	*3.6*
Toluene	*4.0*
Ethylbenzene	*0.7*
m,p-Xylene	*30.5*
o-Xylene	*3.7*
TOTAL	*42.5 ug/L*

ND - Not Detectable
*** - Method Detection Limit, 2 ug/L*

Method *- SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: JAG
Date: 6/14/94

FAX: (505) 327-1496 ▪ 24 HR. – (505) 327-7105 ▪ OFF.: (505) 325-8786
3005 NORTHRIDGE DRIVE ▪ SUITE F ▪ P. O. BOX 2606 ▪ FARMINGTON, NEW MEXICO 87499

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

December 19, 1996

RECEIVED
JAN - 8 1997
OIL CON. DIV.
DIST. 3

CERTIFIED MAIL
RETURN RECEIPT NO. P-269-269-232

Mr. B.D. Shaw
Amoco Production Company
200 Amoco Court
Farmington, New Mexico 87401

RE: FINAL SAN JUAN BASIN PIT CLOSURE REPORTS

Dear Mr. Shaw:

The New Mexico Oil Conservation Division (OCD) has completed a review o Amoco Production Company's (Amoco) June 20, 1994 "AMOCO PRODUCTION COMPAN PIT CLOSURE VERIFICATIONS" which were submitted on behalf of Amoco by thei consultant Blagg Engineering, Inc. This document contains "PIT REMEDIATIO AND CLOSURE REPORTS" for 54 unlined pits in the San Juan Basin o Northwestern New Mexico.

The OCD's review of the above referenced document is addressed below:

A. The pit closure/soil remediation activities conducted at the site listed below are approved.

1.	Cole A#1E (Blow pit)	Unit I, Sec. 35, T28N, R10W.
2.	Cole A#1E (Tank pit)	Unit I, Sec. 35, T28N, R10W.
3.	Elliott GC C#1 (Blow pit)	Unit G, Sec. 09, T30N, R09W.
4.	Elliott GC C#1A (Blow pit)	Unit E, Sec. 09, T30N, R09W.
5.	Elliott GC L#1 (Blow pit)	Unit A, Sec. 33, T30N, R09W.
6.	Elliott GC N#1E (~~Blow pit~~ Separator)	Unit A, Sec. 33, T30N, R09W.
7.	Elliott GC N#1E (Blow pit)	Unit A, Sec. 33, T30N, R09W.
8.	Elliott GC B#1 (Blow pit)	Unit K, Sec. 27, T30N, R09W.
9.	Elliott GC B#1 (Compressor pit)	Unit K, Sec. 27, T30N, R09W.
10.	E.E. Elliott B#8 (Blow pit)	Unit K, Sec. 27, T30N, R09W.
11.	E.E. Elliott C#2 (Blow pit)	Unit F, Sec. 09, T30N, R09W.
12.	Florance #55 (Tank pit)	Unit M, Sec. 22, T30N, R09W.
13.	Johnston LS #8 (Tank pit)	Unit G, Sec. 17, T28N, R09W.
14.	Johnston LS #8 (Blow pit)	Unit G, Sec. 17, T28N, R09W.
15.	Johnston LS #8 (Separator pit)	Unit G, Sec. 17, T28N, R09W.
16.	Omler A#2 (Blow pit)	Unit G, Sec. 35, T28N, R10W.
17.	Omler A#2 (Separator pit)	Unit G, Sec. 35, T28N, R10W.
18.	Omler A#2E (Blow pit)	Unit D, Sec. 35, T28N, R10W.
19.	Omler A#2E (Tank pit)	Unit D, Sec. 35, T28N, R10W.
20.	Omler A#2E (Separator pit)	Unit D, Sec. 35, T28N, R10W.
21.	Omler A#3 (Separator pit)	Unit M, Sec. 26, T28N, R10W.
22.	Omler A#3E (Separator pit)	Unit O, Sec. 26, T28N, R10W.
23.	Omler A#3E (Tank pit)	Unit O, Sec. 26, T28N, R10W.
24.	Riddle A#3 (Tank pit)	Unit A, Sec. 18, T30N, R09W.

Please be advised that OCD approval does not relieve Amoco o liability if remaining contaminants are found to pose a future threa to surface water, ground water, human health or the environment. I addition, OCD approval does not relieve Amoco of responsibility fo compliance with any other federal, state or local laws and/o regulations.

B. The pit remedial activities conducted at the sites listed below ar satisfactory. However, according to the reports, onsite landfarmin and/or composting actions are still continuing at the sites Subsequently, the OCD cannot issue final closure approval at this tim and approval of closure actions at these sites is **denied**. Pleas resubmit final closure reports for these sites upon completion of th landfarming and/or composting activities. The final reports wil include the results of the soil remediation levels achieved, th laboratory analyses and associated quality assurance/quality contro data and the disposition of the remediated soils.

[illegible].	Abrams GC D#1 (Blow pit)	Unit I, Sec. 29, T29N, R10W
[illegible].	Florance B#1 (Blow pit)	Unit E, Sec. 22, T30N, R09W
3.	Florance C LS #13 (Dehy pit)	Unit C, Sec. 29, T28N, R08W
4.	Florance #124 (Blow pit)	Unit M, Sec. 27, T29N, R09W
5.	W.D. Heath A#3X (Separator pit)	Unit K, Sec. 17, T29N, R09W
6.	W.D. Heath A#5 (Blow pit)	Unit P, Sec. 17, T29N, R09W
7.	W.D. Heath A#10 (Blow pit)	Unit K, Sec. 17, T29N, R09W
8.	W.D. Heath A#10 (Separator pit)	Unit K, Sec. 17, T29N, R09W
9.	W.D. Heath A#10E (Blow pit)	Unit A, Sec. 17, T29N, R09W
10.	W.D. Heath A#13 (Blow pit)	Unit N, Sec. 17, T29N, R09W
11.	Skelly GC #1E (Separator pit)	Unit O, Sec. 32, T29N, R10W
12.	Warren #4E (Separator pit)	Unit H, Sec. 13, T28N, R09W
13.	Warren Com #3 (Separator pit)	Unit P, Sec. 12, T28N, R09W
14.	Warren Com #3 (Blow pit)	Unit P, Sec. 12, T28N, R09W
15.	Warren Com #3 (Dehy pit)	Unit P, Sec. 12, T28N, R09W
16.	Warren LS #1A (Dehy pit)	Unit J, Sec. 13, T28N, R09W
17.	Warren LS #1A (Separator pit)	Unit J, Sec. 13, T28N, R09W
18.	Warren LS #8 (Separator pit)	Unit M, Sec. 07, T28N, R08W
19.	Warren LS #4E (Blow pit)	Unit H, Sec. 13, T28N, R09W
20.	Warren LS #4E (Separator pit)	Unit H, Sec. 13, T28N, R09W
21.	Warren LS #11 (Dehy pit)	Unit A, Sec. 13, T28N, R09W

C. The final pit remedial contaminant levels at the sites listed belo are in excess of the OCD's recommended remediation levels Consequently, the OCD cannot issue final closure approval and approva of closure actions at these sites is **denied**. The OCD requests tha Amoco address the extent of the remaining contamination at thes sites. The OCD will reconsider issuing closure approval upo resubmission of pit closure forms which address the remaining exten of contamination at the sites. The resubmitted forms should includ the completed form and all pertinent information elated to the exten

of contamination, the results of the soil remediation levels achieved, the results of the soil remediation levels achieved, the laboratory analyses and associated quality assurance/quality control data and the disposition of the remediated soils.

6.	Florance GC B#1 (Separator pit)	Unit H, Sec. 09, T29N, R12W.
7.	Omler A#1E (Separator pit)	Unit F, Sec. 26, T28N, R10W.
8.	W.D. Heath A#3X (Blow pit)	Unit K, Sec. 17, T29N, R09W.
9.	W.D. Heath A#5 (Separator pit)	Unit P, Sec. 17, T29N, R09W.

D. Ground waters at the sites listed below are contaminated with petroleum related constituents in excess of New Mexico Water Quality Control Commission ground water standards. In addition, the extent of ground water contamination at the sites has not been determined. Therefore, approval of these pit closure forms is **denied**. The OCD requests that Amoco investigate the extent of contamination and, if necessary, remediate contaminated ground water pursuant to Amoco's November 21, 1995 ground water investigation/remediation work plan which was approved by the OCD on November 29, 1995.

1.	Gooch #1E (Separator pit)	Unit F, Sec. 20, T28N, R08W.
2.	Hutton GC #1E (Separator pit)	Unit F, Sec. 06, T29N, R12W.
3.	McCoy GC C#1 (Separator pit)	Unit A, Sec. 28, T30N, R12W.
4.	Sullivan Frame GU A#1E (Dehy pit)	Unit A, Sec. 30, T29N, R10W.
5.	Sullivan GC D#1 (Separator pit)	Unit B, Sec. 26, T29N, R11W.

To simplify the approval process for both Amoco and OCD, the OCD requests that Amoco submit all future pit closure reports only upon completion of all closure activities including onsite landfarming or composting of contaminated soils. The reports should include the completed form and all pertinent information related to the extent of contamination, the results of the soil remediation levels in the pits and landfarms, all laboratory analyses and associated quality assurance/quality control data and the disposition of all remediated soils.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: OCD Aztec District Office
Bill Liess, BLM Farmington District Office

30045 24152

CLIENT: Amoco	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: B 0009 C.O.C. NO: 2682 2687 2636

FIELD REPORT: PIT CLOSURE VERIFICATION

LOCATION: NAME: HUTTON GC WELL #: 1E PIT: PROD. TANK
QUAD/UNIT: F SEC: 6 TWP: 29N RNG: 12W BM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: SE/4 NW/4 CONTRACTOR: PAUL x SON

DATE STARTED: 2-21-95
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: JCB/NV

EXCAVATION APPROX. 30 FT. x 75 FT. x 7 FT. DEEP. CUBIC YARDS: 580
DISPOSAL FACILITY: GARCIA GC B1 REMEDIATION METHOD: ROCK CRUSHER
LAND USE: AGRICULTURAL/RESIDENT LEASE: FEE FORMATION: DK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 150 FEET S80W FROM WELLHEAD.
DEPTH TO GROUNDWATER: 6' NEAREST WATER SOURCE: <1000' NEAREST SURFACE WATER: <1000'
NMOCD RANKING SCORE: 50 NMOCD TPH CLOSURE STD: 100 PPM

SOIL AND EXCAVATION DESCRIPTION: PIT DISPOSITION: ABANDONED

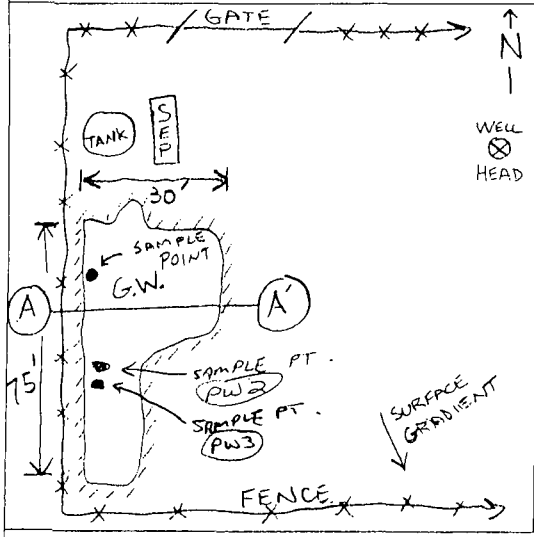
G.W. SAMPLED ONLY - SOIL SAMPLES NON-OBTAINABLE DUE TO INACCESSIBILITY. EXCAVATED MATERIAL MOSTLY GRAVEL WITH SAND MIX.

FIELD 418.1 CALCULATIONS

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

SCALE
0 FT

PIT PERIMETER

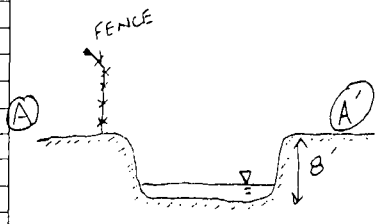


OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1	
2	
3	
4	
5	
LAB	SAMPLES
GW@6'	BTEX 8020
PW2@GW(6')	BTEX 8020
PW3@GW(6')	BTEX 8020

FAILED 8 CB
2/27 FAILED NV
3/7 PASSED NV

PIT PROFILE



TRAVEL NOTES: CALLOUT: 2-21-95 @: 3PA ONSITE: 1005A 2-21-95

OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*Jeff Blagg*	Date:	2/21/95
Company:	*Blagg Engineering*	*Lab ID:*	*2682*
Address:	*P.O. Box 87*	*Sample ID:*	*5251*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Hutton GC # 1E***				
Project Location:	***GW @ 6'***				
Sampled by:	JB	Date:	2/21/95	Time:	10:35
Analyzed by:	DLA	Date:	2/21/95		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	*Measured Concentration ug/L*	*Detection Limit Concentration ug/L*
Benzene	38	*0.2*
Toluene	839	*0.2*
Ethylbenzene	88	*0.2*
m,p-Xylene	723	*0.2*
o-Xylene	149	*0.2*
	TOTAL *1,836 ug/L*	

ND - Not Detectable

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: DaG
Date: 2/21/95

OFF: (505) 325-8786

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	2/27/95
Company:	*Blagg Engineering*	*Lab ID:*	*2687*
Address:	*P.O. Box 87*	*Sample ID:*	*5291*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Hutton GC 1E***				
Project Location:	***PW 2 @ GW (6') - Prod. Pit***				
Sampled by:	NV	Date:	2/27/95	Time:	7:40
Analyzed by:	DLA	Date:	2/27/95		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	*Measured Concentration ug/L*	*Detection Limit Concentration ug/L*
Benzene	59.2	*0.2*
Toluene	108.9	*0.2*
Ethylbenzene	7.5	*0.2*
m,p-Xylene	92.2	*0.2*
o-Xylene	16.6	*0.2*
	TOTAL 284.4 *ug/L*	

ND - Not Detectable

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: DaL

Date: 2/28/95

OFF: (505) 325-8786

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*Nelson Velez*	Date:	3/8/95
Company:	*Blagg Engineering*	*Lab ID:*	*2636*
Address:	*P.O. Box 87*	*Sample ID:*	*5412*
City, State:	*Bloomfield, NM 87413*	*Job No.*	*2-1000*

Project Name:	***Hutton GC 1E***				
Project Location:	***PW 3 @ GW (6') - Prod. Pit***				
Sampled by:	NV	Date:	3/7/95	Time:	15:35
Analyzed by:	DLA	Date:	3/8/95		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	*Measured Concentration ug/L*	*Detection Limit Concentration ug/L*
Benzene	ND	*0.2*
Toluene	ND	*0.2*
Ethylbenzene	ND	*0.2*
m,p-Xylene	112.7	*0.2*
o-Xylene	50.0	*0.2*
	TOTAL *162.7 ug/L*	

ND - Not Detectable

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: Daly

Date: 3/8/95

(2)

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

July 10, 1996

CERTIFIED MAIL
RETURN RECEIPT NO. P-269-269-169

Mr. B.D. Shaw
Amoco Production Company
200 Amoco Court
Farmington, New Mexico 87401

RE: FINAL SAN JUAN BASIN PIT CLOSURE REPORTS

Dear Mr. Shaw:

The New Mexico Oil Conservation Division (OCD) has completed a review of Amoco Production Company's (Amoco) April 7, 1995 "AMOCO PRODUCTION COMPANY PIT CLOSURE VERIFICATIONS" which were submitted on behalf of Amoco by their consultant Blagg Engineering, Inc. This document contains "PIT REMEDIATION AND CLOSURE REPORTS" for 36 unlined pits in the San Juan Basin of Northwestern New Mexico.

The OCD's review of the above referenced document is addressed below:

A. The pit closure/soil remediation activities conducted at the sites listed below are approved as meeting the standards in effect at the time of closure.

1.	Atlantic LS #17 (Dehy pit)	Unit L, Sec. 24, T31N, R10W.
✓2.	Fred Feasel L#1 (Blow pit)	Unit H, Sec. 32, T28N, R10W.
3.	Gallegos #1 (Separator pit)	Unit G, Sec. 29, T26N, R11W.
4.	GCU #150 (Blow pit)	Unit M, Sec. 22, T29N, R12W.
5.	GCU #150 (Separator pit)	Unit M, Sec. 22, T29N, R12W.
6	GCU #170 (Blow pit)	Unit K, Sec. 35, T29N, R12W.
7.	GCU #170E (Separator pit)	Unit E, Sec. 35, T29N, R12W.
8.	GCU #170E (Blow pit)	Unit E, Sec. 35, T29N, R12W.
9.	GCU #238R (Blow pit)	Unit B, Sec. 23, T28N, R13W.
10.	GCU #238R (Separator pit)	Unit B, Sec. 23, T28N, R13W.
11.	GCU Com E #161E (Tank pit)	Unit N, Sec. 23, T29N, R13W.
12.	GCU Com E #161E (Separator pit)	Unit N, Sec. 23, T29N, R13W.
13.	H.B. McGrady A#1 (Blow pit)	Unit L, Sec. 14, T27N, R12W.
14.	H.B. McGrady A#2 (Blow pit)	Unit E, Sec. 23, T27N, R12W.
15.	Mudge Com B#1E (Dehy pit)	Unit J, Sec. 11, T31N, R11W.
16.	Navajo #2E (Blow pit)	Unit L, Sec. 28, T26N, R11W.
17.	Navajo #2E (Tank pit)	Unit L, Sec. 28, T26N, R11W.
18.	Navajo #2E (Separator pit)	Unit L, Sec. 28, T26N, R11W.
19.	Neil A#8A (Dehy pit)	Unit K, Sec. 04, T31N, R11W.
20.	Neil LS #6A (Dehy I pit)	Unit O, Sec. 33, T32N, R11W.
21.	Neil LS #6A (Dehy II pit)	Unit O, Sec. 33, T32N, R11W.
22.	Ried LS #1 (Dehy pit)	Unit M, Sec. 08, T28N, R09W.

Please be advised that OCD approval does not relieve Amoco of liability if, in the future, remaining contaminants are found to pose a threat to surface water, ground water, human health or the environment. In addition, OCD approval does not relieve Amoco of responsibility for compliance with any other federal, state or local laws and/or regulations.

B. The pit remedial activities conducted at the sites listed below are satisfactory. However, according to the reports, onsite landfarming and/or composting actions are still continuing at the sites. Subsequently, the OCD cannot issue final closure approval at this time and approval of closure actions at these sites is denied. Please resubmit the closure report for these sites upon completion of the landfarming and/or composting activities. The final reports will include the results of the soil remediation levels achieved and the disposition of the remediated soils.

1. Duff Gas Com B#1 (Blow pit) Unit P, Sec. 27, T30N, R12W.
2. Florance C#3 (Tank pit) Unit K, Sec. 19, T28N, R08W.
3. GCU Com I #181E (Abandoned pit) Unit H, Sec. 34, T29N, R12W.

C. The final pit remedial contaminant levels at the sites listed below are in excess of the OCD's recommended remediation levels. Subsequently, the OCD cannot issue final closure approval and approval of closure actions at these sites is denied. The OCD requests that Amoco submit a plan to address the remaining contamination at these sites. The plan will be submitted to the OCD Santa Fe Office by August 2, 1996 with a copy supplied to the OCD Aztec Office.

1. Fred Feasel L#1 (Separator pit) APPROV. Unit H, Sec. 32, T28N, R10W.
2. Florance C#3 (Dehy pit) APPROV. Unit K, Sec. 19, T28N, R08W.
3. GCU #191E (Separator pit) Unit G, Sec. 32, T28N, R12W.
4. Neil LS #7 (Dehy pit) APPROV. Unit L, Sec. 33, T32N, R11W.
5. Reid LS #1 (Separator pit) APPROV. Unit M, Sec. 08, T28N, R09W.

D. Ground water at the sites listed below is contaminated with petroleum related constituents in excess of New Mexico Water Quality Control Commission ground water standards and the extent of ground water contamination at these sites has not been determined. Therefore, approval of these pit closure forms is denied. The OCD requests that Amoco investigate the extent of contamination and, if necessary, remediate contaminated ground water pursuant to Amoco's November 21, 1995 ground water investigation/remediation work plan which was approved by the OCD on November 29, 1995.

1. Duff Gas Com B#1 (Separator pit) Unit P, Sec. 27, T30N, R12W.

2.	GCU #153E (Dehy pit)	Unit C, Sec. 28, T29N, R12W.
3.	GCU #170 (Separator pit)	Unit K, Sec. 35, T29N, R12W.
4.	GCU Com I #181E (Separator pit)	Unit H, Sec. 34, T29N, R12W.
5.	Hutton GC #1E (Tank pit)	Unit F, Sec. 06, T29N, R12W.
6.	Sammons GC F#1 (Compressor pit)	Unit A, Sec. 18, T29N, R09W.

To simplify the approval process for both Amoco and OCD, the OCD requests that Amoco submit all future pit closure reports only upon completion of all closure activities including onsite landfarming or composting of contaminated soils. The results of final remediation levels achieved during landfarming or composting and the disposition of the remediated soils should be included in the report.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: OCD Aztec District Office
Bill Liess, BLM Farmington District Office
Charmaine Tso, Navajo Nation EPA
Robert O'Neill, Blagg Engineering, Inc.

BP AMERICA PRODUCTION CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

Hutton GC # 1E
UNIT F, SEC. 6, T29N, R12W

REVISED DATE: August 3, 2007

FILENAME: (Hut-2Q07.WK4) NJV

								BTEX EPA METHOD 8021B (ppb)			
SAMPLE DATE	WELL NAME or No.	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	Benzene	Toluene	Ethyl Benzene	Total Xylene
02-Oct-06	MW #1	6.80	15.00		2,100	6.93		ND	ND	ND	ND
02-Oct-06	MW #2	7.39	15.00		2,000	7.14		2.4	13	12	81
20-Dec-06		6.75			2,100	7.25		1.7	24	58	**1,000**
17-May-07		7.03					**0.04**				
02-Oct-06	MW #3	7.63	15.00		1,900	7.39		ND	ND	4.9	34
20-Dec-06		7.04			2,000	7.44		ND	ND	ND	ND
21-Feb-07		6.95			1,900	7.31		ND	ND	ND	ND
17-May-07		7.34			2,100	7.25		ND	ND	ND	ND
02-Oct-06	MW #4	7.01	15.00		2,200	7.17		ND	ND	ND	ND
20-Dec-06		6.65			1,900	7.49		ND	ND	ND	ND
21-Feb-07		6.59			1,800	7.34		ND	ND	ND	ND
17-May-07		6.96			2,000	7.35		ND	ND	ND	ND
					NMWQCC GROUNDWATER STANDARDS			10	750	750	620

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

GENERAL WATER QUALITY

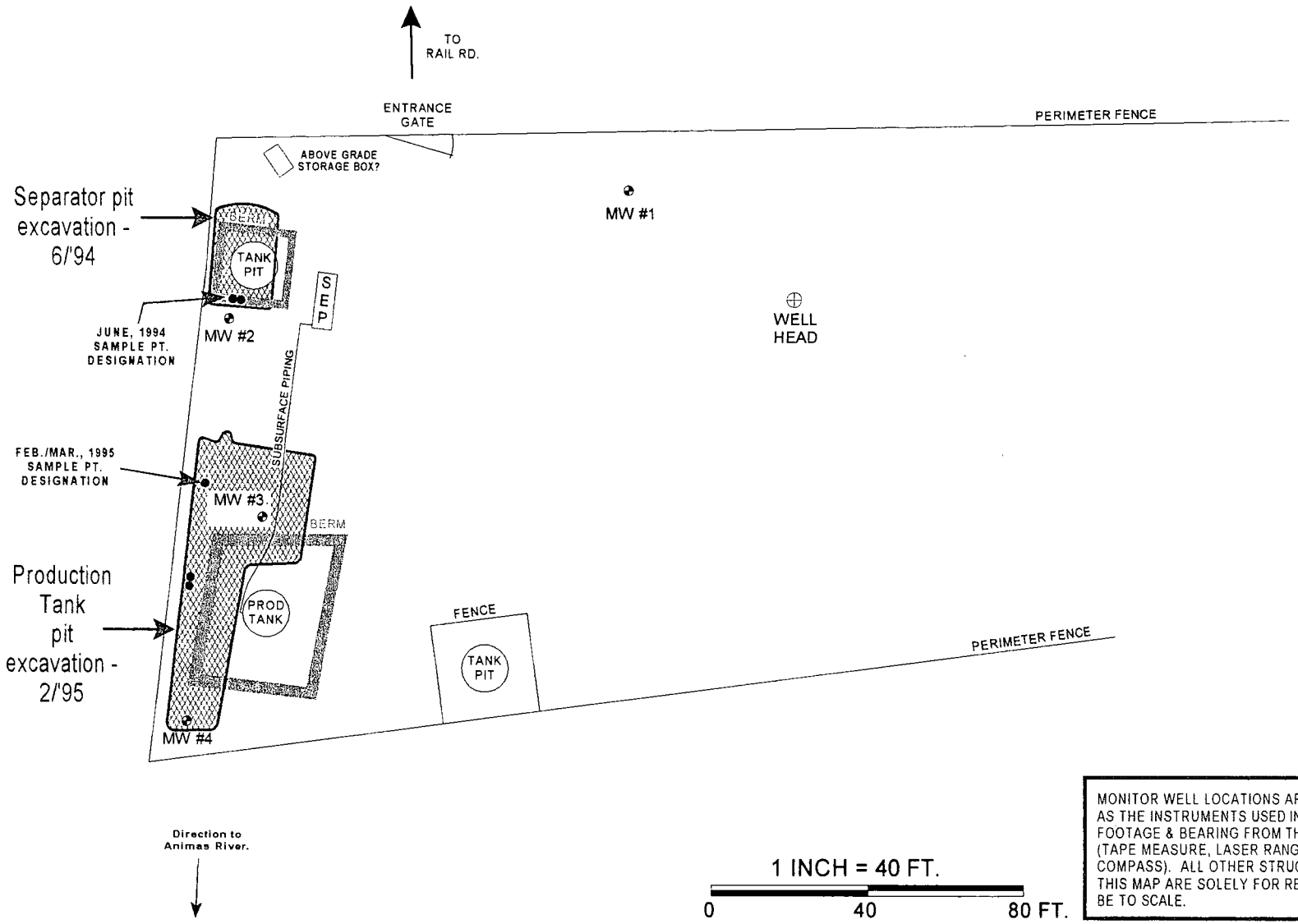
BP AMERICA PRODUCTION COMPANY

HUTTON GC # 1E

Sample Date : October 2 , 2006

PARAMETERS	MW # 1	MW # 2	MW # 3	MW # 4	Units
LAB pH	7.78	7.78	7.19	7.29	s. u.
LAB CONDUCTIVITY @ 25 C	2,340	3,020	1,140	836	umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	1,670	2,070	760	528	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	1,680	1,950	750	530	mg / L
SODIUM ABSORPTION RATIO	16.3	10.4	3.8	1.3	ratio
TOTAL ALKALINITY AS CaCO3	520	890	416	420	mg / L
TOTAL HARDNESS AS CaCO3	172	432	285	332	mg / L
BICARBONATE as HCO3	520	890	416	420	mg / L
CARBONATE AS CO3	< 0.1	< 0.1	< 0.1	< 0.1	mg / L
HYDROXIDE AS OH	< 0.1	< 0.1	< 0.1	< 0.1	mg / L
NITRATE NITROGEN	< 0.01	< 0.01	< 0.01	< 0.01	mg / L
NITRITE NITROGEN	< 0.01	< 0.01	< 0.01	< 0.01	mg / L
CHLORIDE	9.60	40.1	16.4	18.6	mg / L
FLUORIDE	0.78	3.44	0.73	0.46	mg / L
PHOSPHATE	0.72	< 0.1	< 0.1	< 0.1	mg / L
SULFATE	780	692	230	75.0	mg / L
IRON	0.028	< 0.01	0.7	0.245	mg / L
CALCIUM	68.0	168	83	115	mg / L
MAGNESIUM	0.48	2.81	18.5	10.70	mg / L
POTASSIUM	12.8	0.68	2.10	3.94	mg / L
SODIUM	490	498	146	52.3	mg / L
CATION / ANION DIFFERENCE	0.09	0.04	0.24	0.01	

FIGURE 1



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

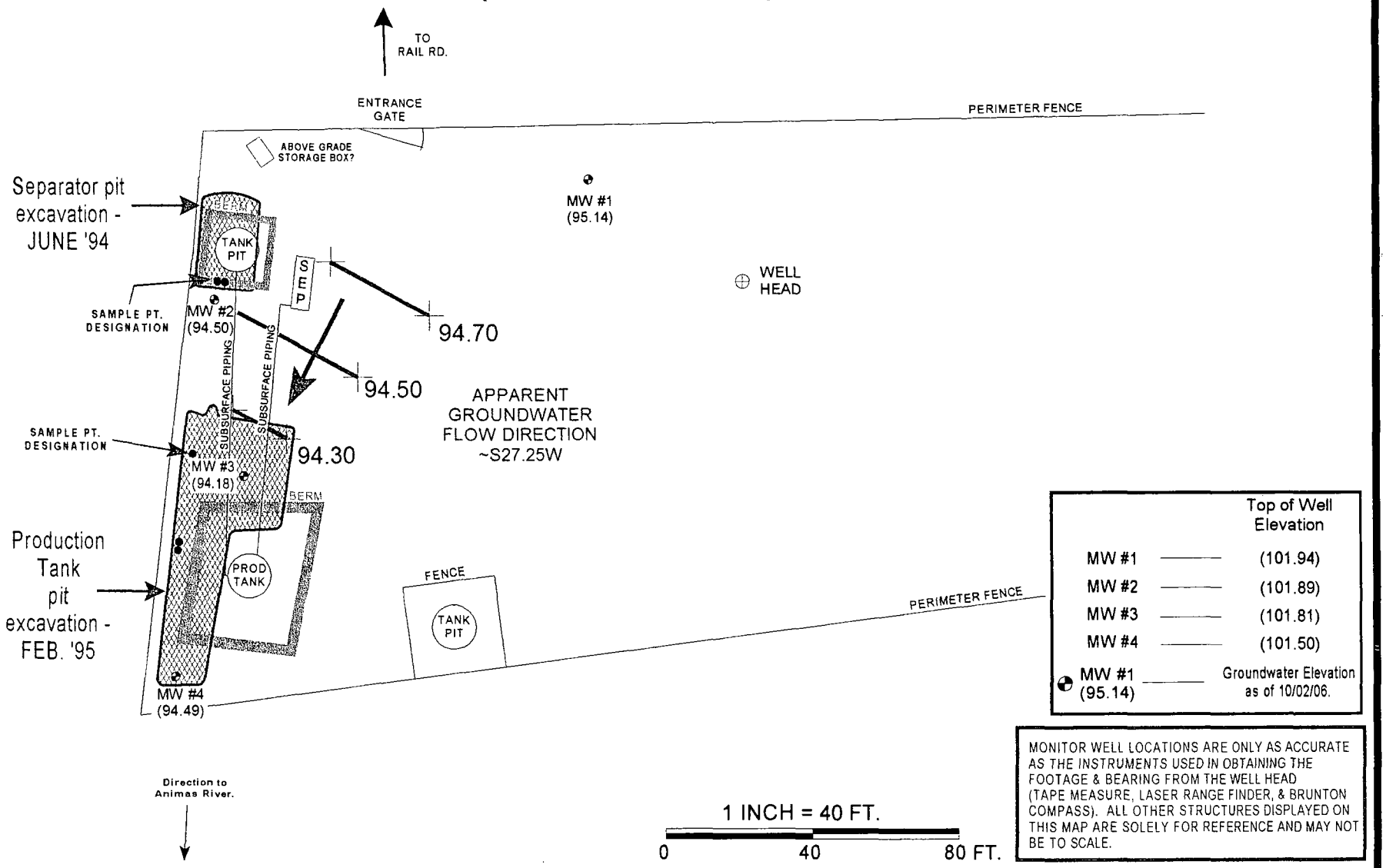
BP AMERICA PRODUCTION CO.
HUTTON GC # 1E
SE/4 NW/4 SEC. 6 T29N R12W
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW INSTALLATIONS
DRAWN BY: NJV
FILENAME: HUTTON GC 1E-SM.SKF
REVISED: 09-27-06 NJV

SITE MAP
09/06

FIGURE 2
(4th 1/4, 2006)



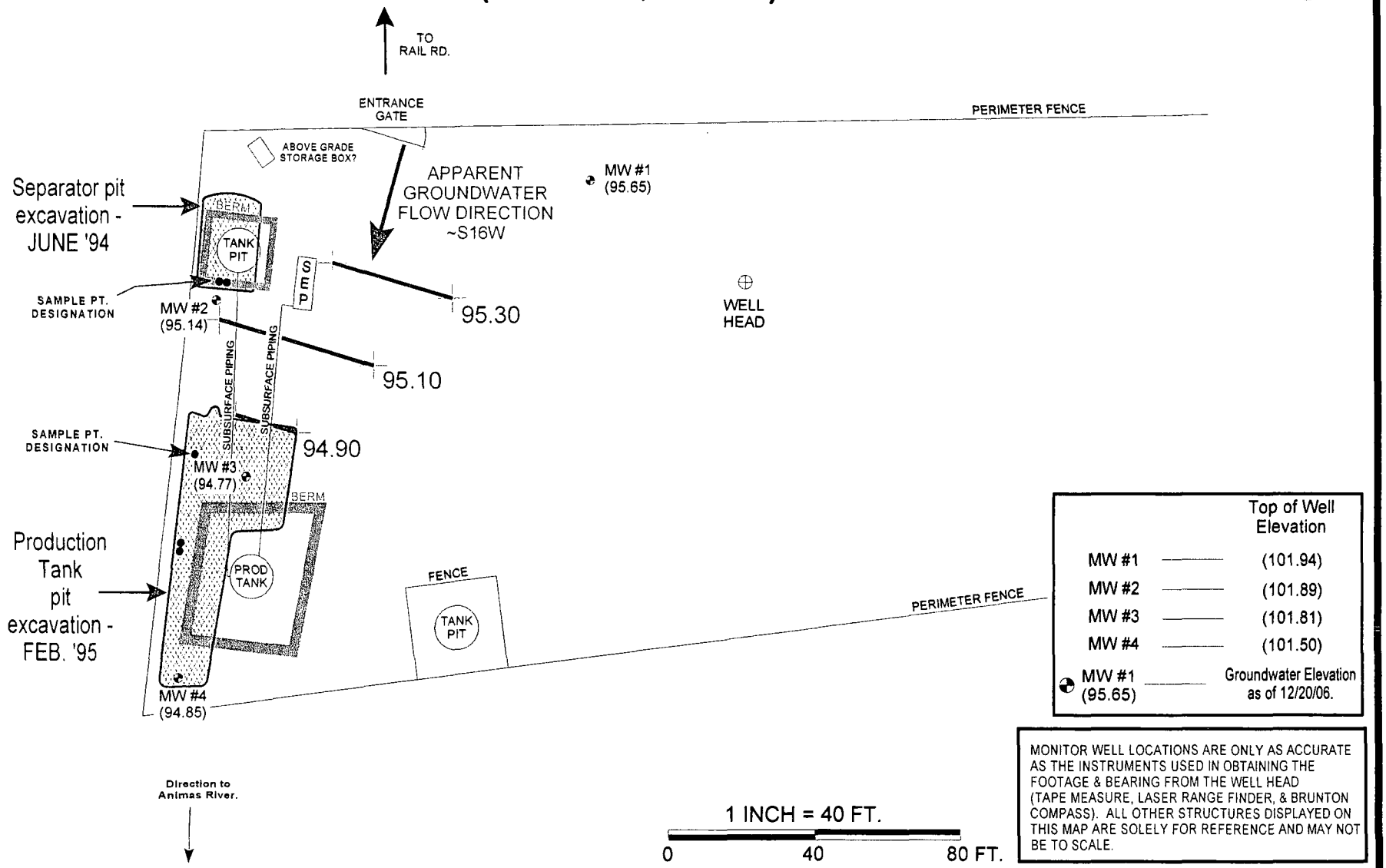
BP AMERICA PRODUCTION CO.
HUTTON GC # 1E
SE/4 NW/4 SEC. 6, T29N, R12W
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 10-02-06-GW.SKF
REVISED: 10-02-06 NJV

GROUNDWATER GRADIENT MAP
10/06

FIGURE 3
(4th 1/4, 2006)



	Top of Well Elevation
MW #1	(101.94)
MW #2	(101.89)
MW #3	(101.81)
MW #4	(101.50)
MW #1 (95.65)	Groundwater Elevation as of 12/20/06.

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

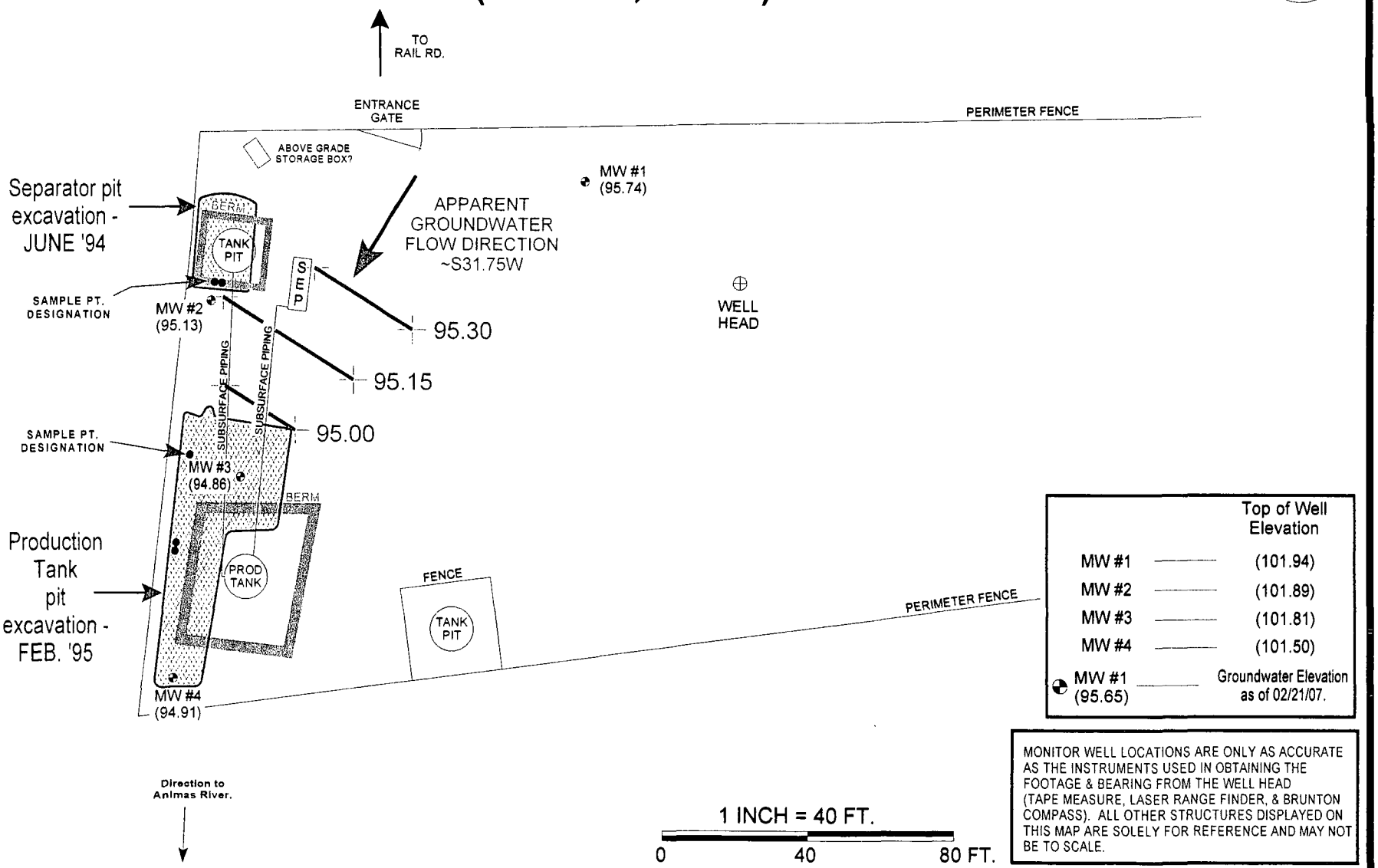
BP AMERICA PRODUCTION CO.
HUTTON GC # 1E
SE/4 NW/4 SEC. 6, T29N, R12W
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 12-20-06-GW.SKF
REVISED: 12-20-06 NJV

GROUNDWATER GRADIENT MAP
12/06

FIGURE 4
(1st 1/4, 2007)



	Top of Well Elevation
MW #1	(101.94)
MW #2	(101.89)
MW #3	(101.81)
MW #4	(101.50)
MW #1 (95.65)	Groundwater Elevation as of 02/21/07.

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

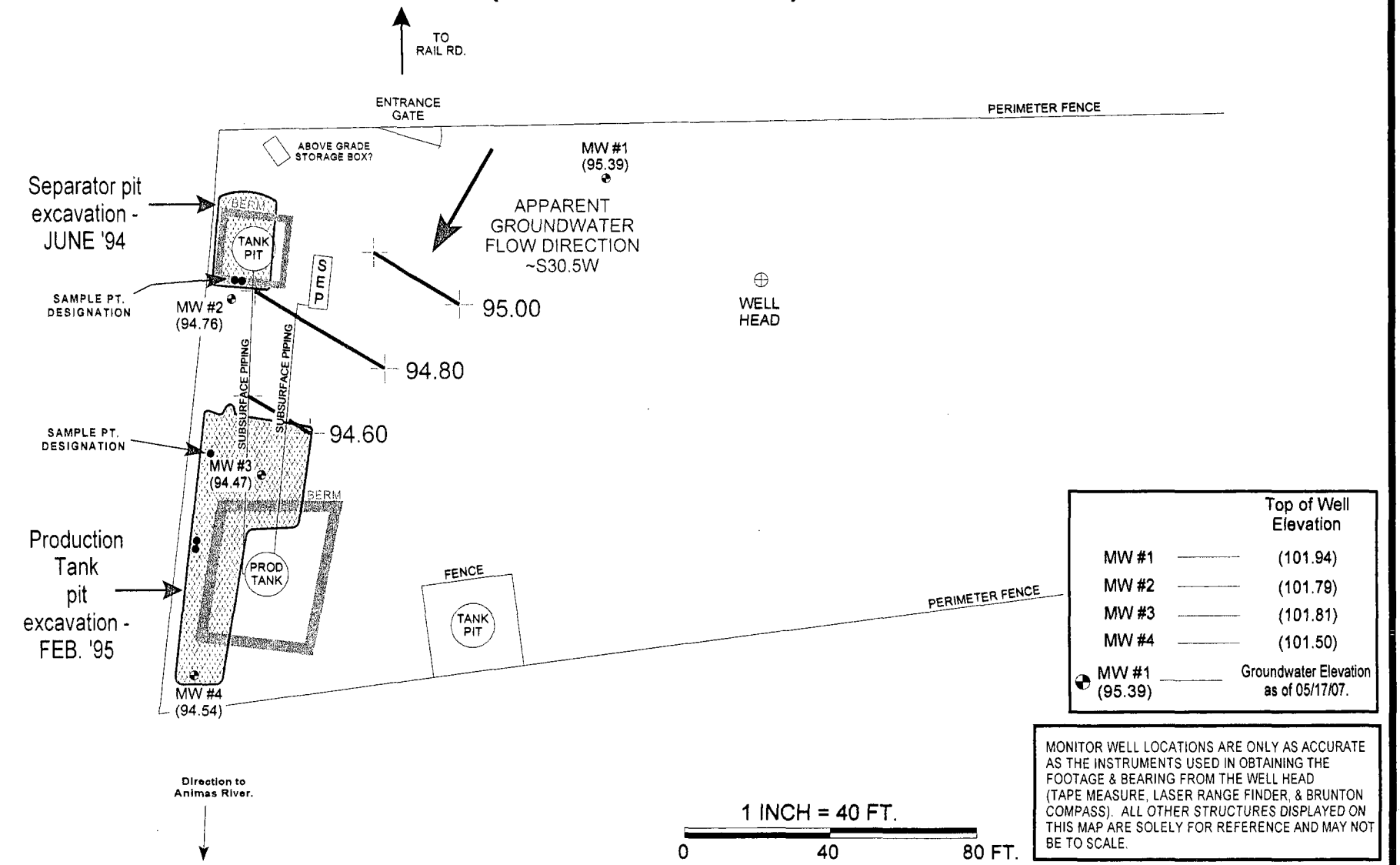
BP AMERICA PRODUCTION CO.
HUTTON GC # 1E
SE/4 NW/4 SEC. 6, T29N, R12W
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 02-21-07-GW.SKF
REVISED: 02-21-07 NJV

GROUNDWATER GRADIENT MAP
02/07

FIGURE 5
(2nd 1/4, 2007)



BP AMERICA PRODUCTION CO.
HUTTON GC # 1E
SE/4 NW/4 SEC. 6, T29N, R12W
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 05-17-07-GW.SKF
REVISED: 05-18-07 NJV

GROUNDWATER GRADIENT MAP
05/07

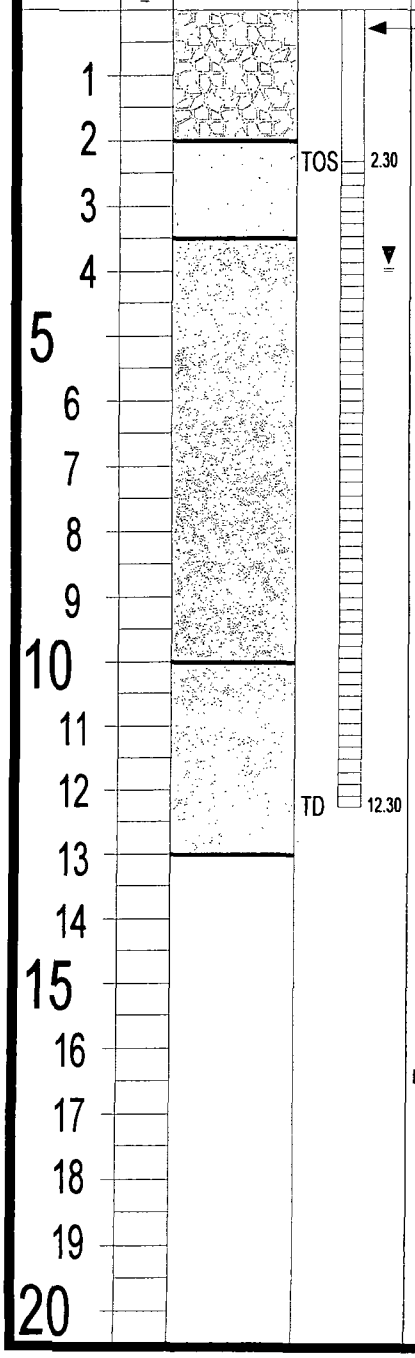
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #1

BORE / TEST HOLE REPORT

BORING #.....	BH-1
MW #.....	1
PAGE #.....	1
DATE STARTED	9/25/06
DATE FINISHED	9/25/06
OPERATOR.....	DP
PREPARED BY	NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: HUTTON GC #1E UNIT F, SEC. 6, T29N, R12W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75)
BORING LOCATION: 50.5 FT., N57W FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.70 FEET ABOVE GRADE.

MODERATE BROWN SAND AND GRAVEL, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 2.0 FT. BELOW GRADE).

MEDIUM GRAY TO BLACK SAND AND GRAVEL, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (2.0 - 3.5 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 3.99 FT. FROM GROUND SURFACE MEASURED ON 9/27/06.

OLIVE GRAY SAND, NON COHESIVE, WET TO SATURATED, LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (3.5 - 10.0 FT. BELOW GRADE).

OLIVE TO MEDIUM GRAY SAND, NON COHESIVE, SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (10.0 - 13.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SAND AND GRAVEL.

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

Monitor well consist of 2 inch PVC piping - casing from 2.70 ft. above grade to 2.30 ft. below grade, 0.010 slotted screen between 2.30 to 12.30 ft. below grade, sand packed annular to 1.5 ft. below grade, bentonite grout between 0.0 to 1.5 ft. below grade. Completed with concreting well protector encompassing above grade casing and secured with padlock.

DRAWING: Hutton GC 1E MW1-BH1. SKF | DATE: 9/28/06 | DWN BY: NJV

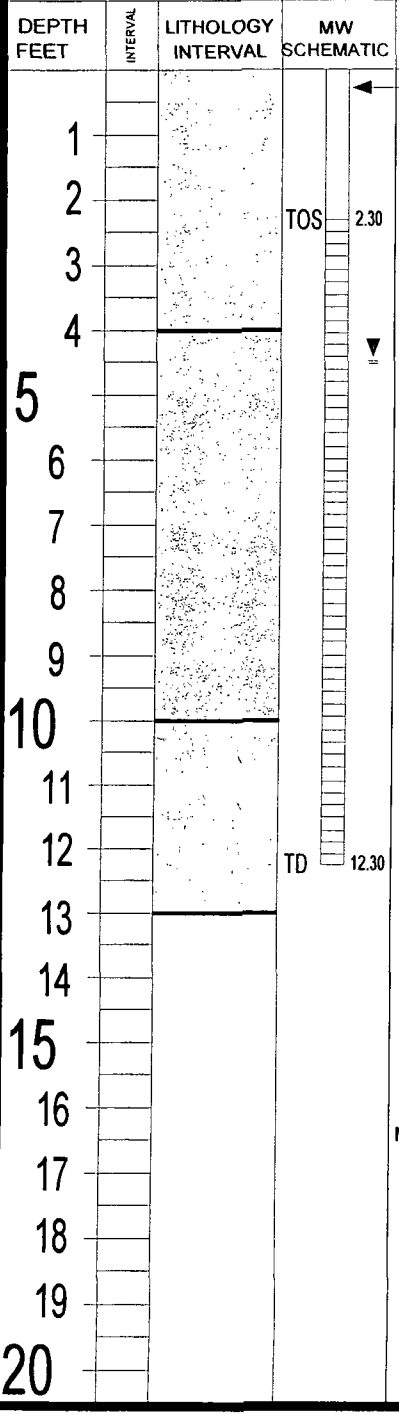
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #2

BORE / TEST HOLE REPORT

BORING #.....	BH-2
MW #.....	2
PAGE #.....	2
DATE STARTED	9/25/06
DATE FINISHED	9/25/06
OPERATOR.....	DP
PREPARED BY	NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: HUTTON GC #1E UNIT F, SEC. 6, T29N, R12W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75)
BORING LOCATION: 145.5 FT., N88W FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.70 FEET ABOVE GRADE.

DARK YELLOWISH ORANGE SAND WITH SOME GRAVEL, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 4.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 4.51 FT. FROM GROUND SURFACE MEASURED ON 9/27/06.

MEDIUM GRAY TO OLIVE BLACK SAND, NON COHESIVE, WET TO SATURATED, FIRM TO LOOSE, STRONG APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (4.0 - 10.0 FT. BELOW GRADE).

OLIVE GRAY TO OLIVE BLACK SAND AND GRAVEL, NON COHESIVE, SATURATED, FIRM, SLIGHT APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (10.0 - 13.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SAND AND GRAVEL.

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

Monitor well consist of 2 inch PVC piping - casing from 2.70 ft. above grade to 2.30 ft. below grade, 0.010 slotted screen between 2.30 to 12.30 ft. below grade, sand packed annular to 1.5 ft. below grade, bentonite grout between 0.0 to 1.5 ft. below grade. Completed with concreting well protector encompassing above grade casing and secured with padlock.

DRAWING: Hutton GC 1E MW2-BH2. SKF | DATE: 12/03/07 | DWN BY: NJV

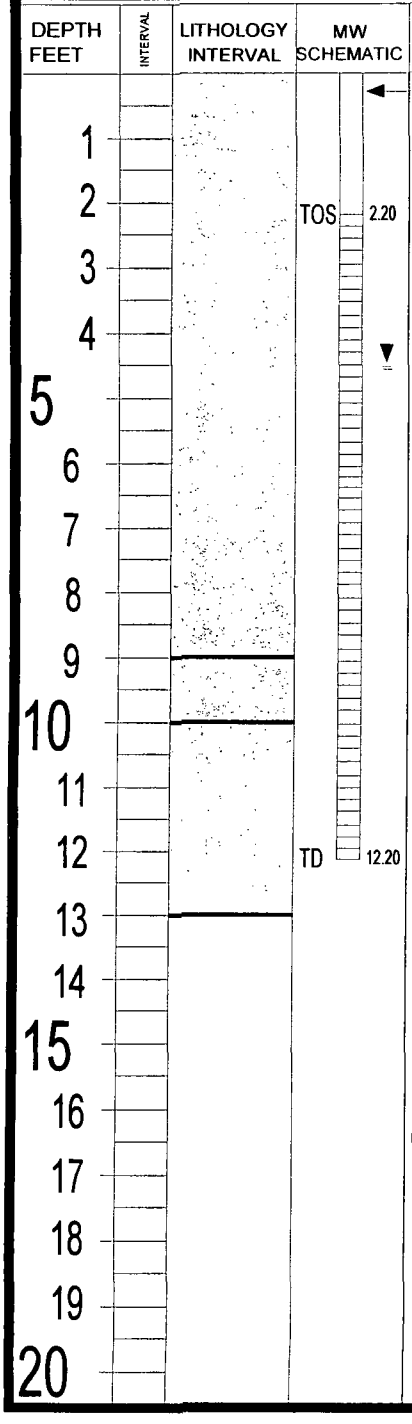
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #3

BORE / TEST HOLE REPORT

BORING #.....	BH-3
MW #.....	3
PAGE #.....	3
DATE STARTED	9/25/06
DATE FINISHED	9/25/06
OPERATOR.....	DP
PREPARED BY	NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: HUTTON GC #1E UNIT F, SEC. 6, T29N, R12W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75)
BORING LOCATION: 147.5 FT., S68W FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.80 FEET ABOVE GRADE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST TO WET, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 9.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 4.59 FT. FROM GROUND SURFACE MEASURED ON 9/27/06.

OLIVE GRAY TO OLIVE BLACK SAND, NON COHESIVE, SATURATED, LOOSE TO FIRM, SLIGHT APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (9.0 - 10.0 FT. BELOW GRADE).

OLIVE GRAY TO OLIVE BLACK SAND AND GRAVEL, NON COHESIVE, SATURATED, FIRM, SLIGHT TO NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (10.0 - 13.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SAND AND GRAVEL.

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

Monitor well consist of 2 inch PVC piping - casing from 2.80 ft. above grade to 2.20 ft. below grade, 0.010 slotted screen between 2.20 to 12.20 ft. below grade, sand packed annular to 1.5 ft. below grade, bentonite grout between 0.0 to 1.5 ft. below grade. Completed with concreting well protector encompassing above grade casing and secured with padlock.

DRAWING: Hutton GC 1E MW3-BH3. SKF | DATE: 12/03/07 | DWN BY: NJV

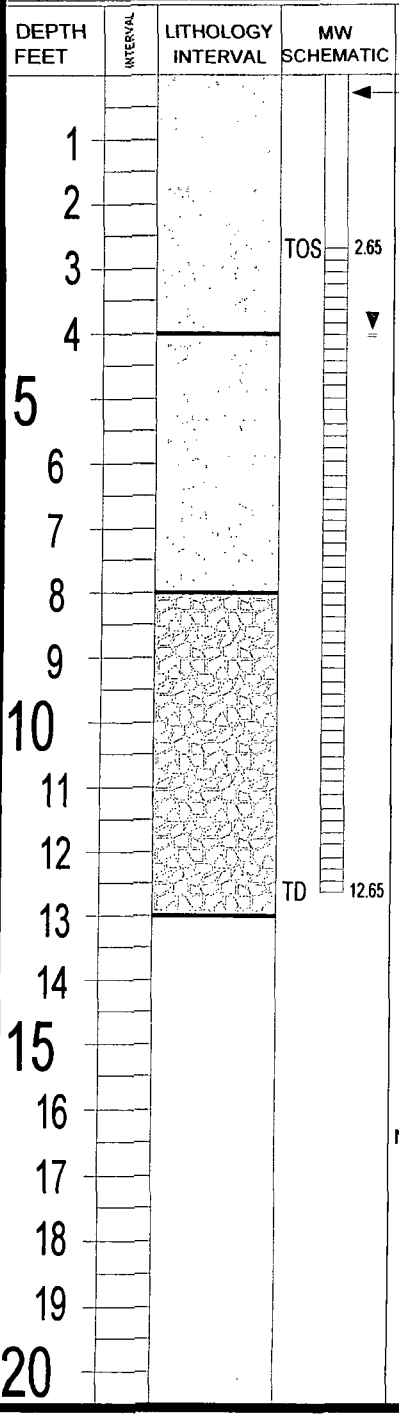
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #4

BORE / TEST HOLE REPORT

BORING #.....	BH-4
MW #.....	4
PAGE #.....	4
DATE STARTED	9/26/06
DATE FINISHED	9/26/06
OPERATOR.....	DP
PREPARED BY	NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: HUTTON GC #1E UNIT F, SEC. 6, T29N, R12W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75)
BORING LOCATION: 189 FT., S55.5W FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.35 FEET ABOVE GRADE.

DARK YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST TO WET, LOOSE TO FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 4.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 4.08 FT. FROM GROUND SURFACE MEASURED ON 9/27/06.

OLIVE GRAY TO OLIVE BLACK SAND AND GRAVEL, NON COHESIVE, WET TO SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (4.0 - 8.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SAND AND GRAVEL, NON COHESIVE, SATURATED, LOOSE TO FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (8.0 - 13.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SAND AND GRAVEL.

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

Monitor well consist of 2 inch PVC piping - casing from 2.35 ft. above grade to 2.65 ft. below grade, 0.010 slotted screen between 2.65 to 12.65 ft. below grade, sand packed annular to 1.5 ft. below grade, bentonite grout between 0.0 to 1.5 ft. below grade. Completed with concreting well protector encompassing above grade casing and secured with padlock.

DRAWING: Hutton GC 1E MW4-BH4. SKF | DATE: 12/03/07 | DWN BY: NJV

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A & 14676

HUTTON GC # 1E
UNIT F, SEC. 6, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL
ENVIROTECH , INC.

Date : October 2, 2006

SAMPLER : N J V

Filename : 10-02-06.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
MW - 1	101.94	95.14	6.80	15.00	0830	6.93	2,100	18.1	4.00
MW - 2	101.89	94.50	7.39	15.00	1110	7.14	2,000	21.8	3.75
MW - 3	101.81	94.18	7.63	15.00	1025	7.39	1,900	21.1	3.75
MW - 4	101.50	94.49	7.01	15.00	0920	7.17	2,200	18.5	4.00
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	10/02/06	0825		

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

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in all MW 's . Murky brown appearance in all MW 's . Physically detected HC odor in MW # 2 & slightly in MW # 3 . Collected major anions / cations & BTEX samples from all MW 's .

Top of casing MW # 1 ~ 2.70 ft., MW # 2 ~ 2.70 ft., MW # 3 ~ 2.80 ft., MW # 4 ~ 2.35 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Oct-06*

CLIENT: Blagg Engineering
Project: Hutton GC #1E
Lab Order: 0610011

Lab ID: 0610011-01 **Collection Date:** 10/2/2006 8:30:00 AM
Client Sample ID: MW #1 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	10/5/2006 6:34:55 PM
Toluene	ND	1.0		µg/L	1	10/5/2006 6:34:55 PM
Ethylbenzene	ND	1.0		µg/L	1	10/5/2006 6:34:55 PM
Xylenes, Total	ND	3.0		µg/L	1	10/5/2006 6:34:55 PM
Surr: 4-Bromofluorobenzene	97.9	72.2-125		%REC	1	10/5/2006 6:34:55 PM

Lab ID: 0610011-02 **Collection Date:** 10/2/2006 11:10:00 AM
Client Sample ID: MW #2 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	2.4	1.0		µg/L	1	10/10/2006 11:06:16 AM
Toluene	13	1.0		µg/L	1	10/10/2006 11:06:16 AM
Ethylbenzene	12	1.0		µg/L	1	10/10/2006 11:06:16 AM
Xylenes, Total	81	3.0		µg/L	1	10/10/2006 11:06:16 AM
Surr: 4-Bromofluorobenzene	136	72.2-125	S	%REC	1	10/10/2006 11:06:16 AM

Lab ID: 0610011-03 **Collection Date:** 10/2/2006 10:25:00 AM
Client Sample ID: MW #3 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	10/5/2006 8:04:38 PM
Toluene	ND	1.0		µg/L	1	10/5/2006 8:04:38 PM
Ethylbenzene	4.9	1.0		µg/L	1	10/5/2006 8:04:38 PM
Xylenes, Total	34	3.0		µg/L	1	10/5/2006 8:04:38 PM
Surr: 4-Bromofluorobenzene	115	72.2-125		%REC	1	10/5/2006 8:04:38 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *12-Oct-06*

CLIENT: Blagg Engineering
Project: Hutton GC #1E

Lab Order: 0610011

Lab ID: 0610011-04
Client Sample ID: MW #4

Collection Date: 10/2/2006 9:20:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	10/5/2006 8:33:29 PM
Toluene	ND	1.0		µg/L	1	10/5/2006 8:33:29 PM
Ethylbenzene	ND	1.0		µg/L	1	10/5/2006 8:33:29 PM
Xylenes, Total	ND	3.0		µg/L	1	10/5/2006 8:33:29 PM
Surr: 4-Bromofluorobenzene	93.5	72.2-125		%REC	1	10/5/2006 8:33:29 PM

Qualifiers:

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	MW #1	Date Reported:	10-03-06
Laboratory Number:	38683	Date Sampled:	10-02-06
Chain of Custody:	14676	Date Received:	10-02-06
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	10-03-06
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		
pH	**7.07**	s.u.		
Conductivity @ 25° C	**2,870**	umhos/cm		
Total Dissolved Solids @ 180C	**1,870**	mg/L		
Total Dissolved Solids (Calc)	**1,850**	mg/L		
SAR	**2.4**	ratio		
Total Alkalinity as CaCO3	**321**	mg/L		
Total Hardness as CaCO3	**1,060**	mg/L		
Bicarbonate as HCO3	**321**	mg/L	5.26	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**<0.1**	mg/L	0.00	meq/L
Nitrite Nitrogen	**0.007**	mg/L	0.00	meq/L
Chloride	**164**	mg/L	4.63	meq/L
Fluoride	**0.54**	mg/L	0.03	meq/L
Phosphate	**<0.1**	mg/L	0.00	meq/L
Sulfate	**920**	mg/L	19.15	meq/L
Iron	**0.731**	mg/L	0.03	meq/L
Calcium	**336**	mg/L	16.77	meq/L
Magnesium	**53.7**	mg/L	4.42	meq/L
Potassium	**2.9**	mg/L	0.07	meq/L
Sodium	**179**	mg/L	7.80	meq/L
Cations			29.06	meq/L
Anions			29.07	meq/L
Cation/Anion Difference			**0.03%**	

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

Comments: **Hutton GC #1E Grab Sample**

Analyst

Review

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	MW #2	Date Reported:	10-03-06
Laboratory Number:	38684	Date Sampled:	10-02-06
Chain of Custody:	14676	Date Received:	10-02-06
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	10-03-06
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		
pH	**7.32**	s.u.		
Conductivity @ 25° C	**2,810**	umhos/cm		
Total Dissolved Solids @ 180C	**1,740**	mg/L		
Total Dissolved Solids (Calc)	**1,790**	mg/L		
SAR	**1.4**	ratio		
Total Alkalinity as CaCO3	**388**	mg/L		
Total Hardness as CaCO3	**1,200**	mg/L		
Bicarbonate as HCO3	**388**	mg/L	6.36	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**<0.1**	mg/L	0.00	meq/L
Nitrite Nitrogen	**0.035**	mg/L	0.00	meq/L
Chloride	**168**	mg/L	4.74	meq/L
Fluoride	**<0.01**	mg/L	0.00	meq/L
Phosphate	**74.5**	mg/L	2.35	meq/L
Sulfate	**750**	mg/L	15.62	meq/L
Iron	**0.007**	mg/L	0.00	meq/L
Calcium	**388**	mg/L	19.36	meq/L
Magnesium	**56.2**	mg/L	4.62	meq/L
Potassium	**3.9**	mg/L	0.10	meq/L
Sodium	**115**	mg/L	5.00	meq/L
Cations			29.09	meq/L
Anions			29.07	meq/L
Cation/Anion Difference			**0.07%**	

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

Comments: **Hutton GC #1E Grab Sample**

Christine M Walters
Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	MW #3	Date Reported:	10-03-06
Laboratory Number:	38685	Date Sampled:	10-02-06
Chain of Custody:	14676	Date Received:	10-02-06
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	10-03-06
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		
pH	**7.52**	s.u.		
Conductivity @ 25° C	**2,780**	umhos/cm		
Total Dissolved Solids @ 180C	**1,740**	mg/L		
Total Dissolved Solids (Calc)	**1,770**	mg/L		
SAR	**0.8**	ratio		
Total Alkalinity as CaCO3	**400**	mg/L		
Total Hardness as CaCO3	**1,260**	mg/L		
Bicarbonate as HCO3	**400**	mg/L	6.56	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	**1.7**	mg/L	0.03	meq/L
Nitrite Nitrogen	**0.016**	mg/L	0.00	meq/L
Chloride	**128**	mg/L	3.61	meq/L
Fluoride	**0.90**	mg/L	0.05	meq/L
Phosphate	**2.8**	mg/L	0.09	meq/L
Sulfate	**861**	mg/L	17.93	meq/L
Iron	**0.051**	mg/L	0.00	meq/L
Calcium	**400**	mg/L	19.96	meq/L
Magnesium	**63.5**	mg/L	5.23	meq/L
Potassium	**3.55**	mg/L	0.09	meq/L
Sodium	**68.4**	mg/L	2.98	meq/L
Cations			28.25	meq/L
Anions			28.26	meq/L
Cation/Anion Difference			**0.02%**	

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

Comments: **Hutton GC #1E Grab Sample**

Christine M Walters
Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	MW #4	Date Reported:	10-03-06
Laboratory Number:	38686	Date Sampled:	10-02-06
Chain of Custody:	14676	Date Received:	10-02-06
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	10-03-06
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		
pH	**7.32**	s.u.		
Conductivity @ 25° C	**3,280**	umhos/cm		
Total Dissolved Solids @ 180C	**2,130**	mg/L		
Total Dissolved Solids (Calc)	**2,090**	mg/L		
SAR	**0.2**	ratio		
Total Alkalinity as CaCO3	**408**	mg/L		
Total Hardness as CaCO3	**1,630**	mg/L		
Bicarbonate as HCO3	**408**	mg/L	6.69	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**<0.1**	mg/L	0.00	meq/L
Nitrite Nitrogen	**0.010**	mg/L	0.00	meq/L
Chloride	**124**	mg/L	3.50	meq/L
Fluoride	**1.48**	mg/L	0.08	meq/L
Phosphate	**<0.1**	mg/L	0.00	meq/L
Sulfate	**1,110**	mg/L	23.11	meq/L
Iron	**0.668**	mg/L	0.02	meq/L
Calcium	**498**	mg/L	24.85	meq/L
Magnesium	**94.0**	mg/L	7.74	meq/L
Potassium	**4.30**	mg/L	0.11	meq/L
Sodium	**15.5**	mg/L	0.67	meq/L
Cations			33.37	meq/L
Anions			33.37	meq/L
Cation/Anion Difference			**0.01%**	

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

Comments: **Hutton GC #1E Grab Sample**

Christine M Walters
Analyst

Review

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CHAIN-OF-CUSTODY RECORD

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

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

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

Project Name: HUTTON GC #1E
Project #:
Project Manager: NV
Sampler: NV
Sample Temperature: 4°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No. 061011	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles or Headspace (Y or N)
10/2/06	0830	WATER	MW #1	2-40ml	✓		-1	✓												
10/2/06	1110	WATER	MW #2	2-40ml	✓		-2	✓												
10/2/06	1025	WATER	MW #3	2-40ml	✓		-3	✓												
10/2/06	0920	WATER	MW #4	2-40ml	✓		-4	✓												

Date: 10/2/06 Time: 1149 Relinquished By: (Signature) Received By: (Signature) 10/3/06 9:35
Date: Time: Relinquished By: (Signature) Received By: (Signature)

Remarks:

14676

CHAIN OF CUSTODY RECORD

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / BP	HUTTON EC #1E	

Sampler: NV

Client No.: 94034-010

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	MAJOR ANIONS / CATIONS						Remarks
												PRESERVED COOL
												GRAB SAMPLES
MW #1	10/2/06	0830	38683	WATER	1	✓						
MW #2	10/2/06	1110	38684	WATER	1	✓						
MW #3	10/2/06	1025	38685	WATER	1	✓						
MW #4	10/2/06	0920	38686	WATER	1	✓						

	Date	Time		Date	Time
Relinquished by: (Signature) Nelson Velez	10/2/06	1216	Received by: (Signature) Martine M Walter	10/2/06	1214
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

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

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Hutton GC #1E
Work Order: 0610011

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML REAGENT BLA		*MBLK*			Batch ID: **R20958**		Analysis Date:	10/5/2006 10:03:16 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 5ML REAGENT BLA		*MBLK*			Batch ID: **R20996**		Analysis Date:	10/10/2006 9:10:14 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: **R20958**		Analysis Date:	10/5/2006 1:42:53 PM	
Benzene	20.96	µg/L	1.0	105	85	115			
Toluene	20.53	µg/L	1.0	103	85	118			
Ethylbenzene	20.82	µg/L	1.0	104	85	116			
Xylenes, Total	63.12	µg/L	3.0	105	85	119			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: **R20996**		Analysis Date:	10/10/2006 12:04:23 PM	
Benzene	20.24	µg/L	1.0	101	85	115			
Toluene	20.35	µg/L	1.0	102	85	118			
Ethylbenzene	20.35	µg/L	1.0	102	85	116			
Xylenes, Total	62.37	µg/L	3.0	104	85	119			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID: **R20958**		Analysis Date:	10/5/2006 9:31:35 PM	
Benzene	21.14	µg/L	1.0	106	85	115	0.855	27	
Toluene	20.72	µg/L	1.0	104	85	118	0.892	19	
Ethylbenzene	20.79	µg/L	1.0	104	85	116	0.173	10	
Xylenes, Total	63.10	µg/L	3.0	105	85	119	0.0317	13	

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 10/3/2006

Work Order Number 0610011 | Received by BLM

Checklist completed by Bobby Morris (Signature) 10/3/06 (Date)

Matrix | Carrier name UPS

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

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

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

Hall Environmental Analysis Laboratory, Inc. **Date:** *12-Oct-06*

CLIENT: Blagg Engineering
Project: Hutton GC #1E
Lab Order: 0610011

CASE NARRATIVE

Analytical Comments for METHOD 8021BTEX_W, SAMPLE 0610011-02A: 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

HUTTON GC # 1E
UNIT F, SEC. 6, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **December 20, 2006**

SAMPLER : N J V

Filename : **12-20-06.WK4**

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
MW - 1	101.94	95.65	6.29	15.00	-	-	-	-	-
MW - 2	101.89	95.14	6.75	15.00	0945	7.25	2,100	9.1	4.25
MW - 3	101.81	94.77	7.04	15.00	0910	7.44	2,000	8.9	4.00
MW - 4	101.50	94.85	6.65	15.00	0840	7.49	1,900	8.6	4.25
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	12/20/06	0835		

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in all MW's. Dusky black in appearance in all MW's. Physically detected HC odor in MW # 2 & slightly in MW # 3 & # 4. Collected BTEX samples from all MW's except MW # 1.

Top of casing MW # 1 ~ 2.70 ft., MW # 2 ~ 2.70 ft., MW # 3 ~ 2.80 ft., MW # 4 ~ 2.35 ft. above grade.

Hall Environmental Analysis Laboratory, Inc.

Date: *02-Jan-07*

CLIENT: Blagg Engineering
Project: Hutton GC #1E
Lab Order: 0612241

Lab ID: 0612241-01 **Collection Date:** 12/20/2006 9:45:00 AM
Client Sample ID: MW#2 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BDH**
Benzene	1.7	1.0		µg/L	1	12/26/2006 3:51:02 PM
Toluene	24	1.0		µg/L	1	12/26/2006 3:51:02 PM
Ethylbenzene	58	1.0		µg/L	1	12/26/2006 3:51:02 PM
Xylenes, Total	1000	30		µg/L	10	12/27/2006 3:49:15 PM
Surr: 4-Bromofluorobenzene	94.3	70.2-105		%REC	1	12/26/2006 3:51:02 PM

Lab ID: 0612241-02 **Collection Date:** 12/20/2006 9:10:00 AM
Client Sample ID: MW#3 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BDH**
Benzene	ND	1.0		µg/L	1	12/26/2006 4:21:12 PM
Toluene	ND	1.0		µg/L	1	12/26/2006 4:21:12 PM
Ethylbenzene	ND	1.0		µg/L	1	12/26/2006 4:21:12 PM
Xylenes, Total	ND	3.0		µg/L	1	12/26/2006 4:21:12 PM
Surr: 4-Bromofluorobenzene	88.4	70.2-105		%REC	1	12/26/2006 4:21:12 PM

Lab ID: 0612241-03 **Collection Date:** 12/20/2006 8:40:00 AM
Client Sample ID: MW#4 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BDH**
Benzene	ND	1.0		µg/L	1	12/26/2006 4:51:19 PM
Toluene	ND	1.0		µg/L	1	12/26/2006 4:51:19 PM
Ethylbenzene	ND	1.0		µg/L	1	12/26/2006 4:51:19 PM
Xylenes, Total	ND	3.0		µg/L	1	12/26/2006 4:51:19 PM
Surr: 4-Bromofluorobenzene	90.0	70.2-105		%REC	1	12/26/2006 4:51:19 PM

Qualifiers:

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

CHAIN-OF-CUSTODY RECORD

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

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

Client: BLAGG ENGR. / BP AMERICA
Project Name: HUTTON GC #1E
Address: P.O. BOX 87 BLFD. NM 87413
Project #:
Project Manager: NV
Phone #: 632-1199
Sampler: NV
Fax #:
Sample Temperature: /

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No.	(BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
12/20/06	0945	WATER	MW #2	2-40ml	✓		0612241 1	✓																
12/20/06	0910	WATER	MW #3	2-40ml	✓		2	✓																
12/20/06	0840	WATER	MW #4	2-40ml	✓		3	✓																

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	
12/20/06	0955	Nelson Velez	[signature]	12-21-06 @ 1008
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Hutton GC #1E **Work Order:** 0612241

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R21941**		Analysis Date: 12/26/2006 10:13:56 AM		
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 5ML RB		*MBLK*			Batch ID: **R21946**		Analysis Date: 12/27/2006 11:04:44 AM		
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: **R21941**		Analysis Date: 12/26/2006 1:18:26 PM		
Benzene	18.69	µg/L	1.0	93.4	85.9	113			
Toluene	18.54	µg/L	1.0	92.7	86.4	113			
Ethylbenzene	18.05	µg/L	1.0	90.2	83.5	118			
Xylenes, Total	54.61	µg/L	3.0	91.0	83.4	122			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: **R21946**		Analysis Date: 12/27/2006 2:46:37 PM		
Benzene	18.27	µg/L	1.0	91.4	85.9	113			
Toluene	18.36	µg/L	1.0	91.8	86.4	113			
Ethylbenzene	17.98	µg/L	1.0	89.9	83.5	118			
Xylenes, Total	54.46	µg/L	3.0	90.8	83.4	122			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 12/21/2006

Work Order Number 0612241 | Received by GLS

Checklist completed by D Schleppe (Signature) 12-21-06 (Date)

Matrix | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	1°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

HUTTON GC # 1E
UNIT F, SEC. 6, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : **February 21, 2007**

SAMPLER : N J V

Filename : **02-21-07.WK4**

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
MW - 1	101.94	95.74	6.20	15.00	-	-	-	-	-
MW - 2	101.89	95.13	6.76	15.00	trace of free phase product				8.00
MW - 3	101.81	94.86	6.95	15.00	1400	7.31	1,900	16.1	4.00
MW - 4	101.50	94.91	6.59	15.00	1330	7.34	1,800	17.3	4.25
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	02/21/07	0845		

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

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

Comments or note well diameter if not standard 2 ".

Excellent recovey in MW # 2 , # 3 & # 4 . Collected BTEX samples from MW # 3 & # 4 only .
Dusky black appearance in MW # 3 & # 4 , physically detected hydrocarbon odor in MW # 2 ,
free phase product very evident in initial 4 gallons purged , then clearing toward end of purging .

Top of casing MW # 1 ~ 2.70 ft. , MW # 2 ~ 2.70 ft. , MW # 3 ~ 2.80 ft. , MW # 4 ~ 2.35 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *27-Feb-07*

CLIENT: Blagg Engineering
Project: Hutton GC #1E
Lab Order: 0702271

Lab ID: 0702271-01 **Collection Date:** 2/21/2007 2:00:00 PM
Client Sample ID: MW#3 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	2/26/2007 1:09:36 PM
Toluene	ND	1.0		µg/L	1	2/26/2007 1:09:36 PM
Ethylbenzene	ND	1.0		µg/L	1	2/26/2007 1:09:36 PM
Xylenes, Total	ND	2.0		µg/L	1	2/26/2007 1:09:36 PM
Surr: 4-Bromofluorobenzene	90.2	70.2-105		%REC	1	2/26/2007 1:09:36 PM

Lab ID: 0702271-02 **Collection Date:** 2/21/2007 1:30:00 PM
Client Sample ID: MW#4 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	2/26/2007 1:39:42 PM
Toluene	ND	1.0		µg/L	1	2/26/2007 1:39:42 PM
Ethylbenzene	ND	1.0		µg/L	1	2/26/2007 1:39:42 PM
Xylenes, Total	ND	2.0		µg/L	1	2/26/2007 1:39:42 PM
Surr: 4-Bromofluorobenzene	88.5	70.2-105		%REC	1	2/26/2007 1:39:42 PM

Qualifiers:

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

CHAIN-OF-CUSTODY RECORD

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

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

Client: BLAGG ENGR. / BP AMERICA
Project Name: HUTTON GC #1E
Address: P.O. BOX 87 BLFD., NM 87413
Project #: 96
Project Manager: NV
Phone #: 632-1199
Sampler: NV
Fax #:
Sample Temperature: 2°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No. 0702271
2/21/07	1400	WATER	MW #3	2-40ml	✓		-1
2/21/07	1330	WATER	MW #4	2-40ml	✓		-2

ANALYSIS REQUEST

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

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
2/22/07	0740			2/23/07 900
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Hutton GC #1E
Work Order: 0702271

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML REAGENT BLA		*MBLK*			Batch ID:	**R22594**	Analysis Date:	2/23/2007 8:08:20 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 5ML REAGENT BLA		*MBLK*			Batch ID:	**R22614**	Analysis Date:	2/26/2007 8:16:58 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R22594**	Analysis Date:	2/23/2007 8:14:12 PM	
Benzene	20.52	µg/L	1.0	103	85.9	113			
Toluene	20.30	µg/L	1.0	102	86.4	113			
Ethylbenzene	20.25	µg/L	1.0	101	83.5	118			
Xylenes, Total	61.56	µg/L	2.0	103	83.4	122			
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R22614**	Analysis Date:	2/26/2007 6:48:45 PM	
Benzene	20.37	µg/L	1.0	102	85.9	113			
Toluene	20.43	µg/L	1.0	102	86.4	113			
Ethylbenzene	20.39	µg/L	1.0	102	83.5	118			
Xylenes, Total	62.07	µg/L	2.0	103	83.4	122			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 2/23/2007

Work Order Number 0702271 | Received by TLS

Checklist completed by [signature] Signature | 2-23-07 Date

Matrix | Carrier name Greyhound

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

HUTTON GC # 1E
UNIT F, SEC. 6, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : May 17, 2007

SAMPLER : N J V

Filename : 05-17-07.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.94	95.39	6.55	15.00	-	-	-	-	-
2	101.79	94.76	7.03	15.00	-	-	-	-	8.00
DEPTH TO PRODUCT (FT.) =			7.02			PRODUCT THICKNESS (FT.) =			0.04
3	101.81	94.47	7.34	15.00	0845	7.28	2,100	15.7	3.75
4	101.50	94.54	6.96	15.00	0815	7.35	2,000	15.0	4.00
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	05/08/07	0740		

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovey in MW # 3 & # 4 . Collected BTEX samples from MW # 3 & # 4 only .

Dusky black appearance in MW # 3 & # 4 , physically detected hydrocarbon odor in MW # 2 .

Survey of MW tops conducted on 5 / 18 / 07 .

Top of casing MW # 1 ~ 2.70 ft. , MW # 2 ~ 2.60 ft. , MW # 3 ~ 2.80 ft. , MW # 4 ~ 2.35 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *22-May-07*

CLIENT: Blagg Engineering
Project: Hutton GC #1E
Lab Order: 0705284

Lab ID: 0705284-01 **Collection Date:** 5/17/2007 8:45:00 AM
Client Sample ID: MW #3 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	5/21/2007 1:40:41 PM
Toluene	ND	1.0		µg/L	1	5/21/2007 1:40:41 PM
Ethylbenzene	ND	1.0		µg/L	1	5/21/2007 1:40:41 PM
Xylenes, Total	ND	2.0		µg/L	1	5/21/2007 1:40:41 PM
Surr: 4-Bromofluorobenzene	85.2	70.2-105		%REC	1	5/21/2007 1:40:41 PM

Lab ID: 0705284-02 **Collection Date:** 5/17/2007 8:15:00 AM
Client Sample ID: MW #4 **Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	5/21/2007 2:10:47 PM
Toluene	ND	1.0		µg/L	1	5/21/2007 2:10:47 PM
Ethylbenzene	ND	1.0		µg/L	1	5/21/2007 2:10:47 PM
Xylenes, Total	ND	2.0		µg/L	1	5/21/2007 2:10:47 PM
Surr: 4-Bromofluorobenzene	83.3	70.2-105		%REC	1	5/21/2007 2:10:47 PM

Qualifiers:

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

CHAIN-OF-CUSTODY RECORD

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

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

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

Project Name: HUTTON GC #1E
Project #: NV
Project Manager: NV
Sampler: NV
Sample Temperature: 4°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No.	BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
5/17/07	0845	WATER	MW #3	2-40ml			070584 1	✓																
5/17/07	0815	WATER	MW #4	2-40ml			2	✓																

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	
5/18/07	0930			5/19/07 10:00
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Hutton GC #1E
Work Order: 0705284

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 5ML REAGENT BLA		*MBLK*			Batch ID:	**R23688**	Analysis Date:	5/21/2007 8:06:10 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R23688**	Analysis Date:	5/21/2007 3:41:06 PM	
Benzene	19.05	µg/L	1.0	95.3	85.9	113			
Toluene	19.31	µg/L	1.0	96.6	86.4	113			
Ethylbenzene	19.48	µg/L	1.0	97.4	83.5	118			
Xylenes, Total	58.11	µg/L	2.0	96.9	83.4	122			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID:	**R23688**	Analysis Date:	5/21/2007 4:11:08 PM	
Benzene	19.30	µg/L	1.0	96.5	85.9	113	1.28	27	
Toluene	19.47	µg/L	1.0	97.3	86.4	113	0.794	19	
Ethylbenzene	19.76	µg/L	1.0	98.8	83.5	118	1.44	10	
Xylenes, Total	58.94	µg/L	2.0	98.2	83.4	122	1.40	13	

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date and Time Received: 5/19/2007

Work Order Number 0705284 | Received by AMF

Checklist completed by Signature May 19,07 Date

Matrix | Carrier name Greyhound

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

COMMENTS:

Client contacted | Date contacted: | Person contacted

Contacted by: | Regarding

Comments:

Corrective Action