

3R – 463

GWMR

12 / 13 / 2007

BLAGG ENGINEERING, INC.

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

December 13, 2007

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

Re: BP America Production Company
Notice of Groundwater Impact
Usselman GC 1A
(E)Sec. 4 - T31N - R10W, San Juan County, NM

Dear Mr. von Gonten:

On behalf of BP America Production Company, Blagg Engineering, Inc. (BEI) is reporting a discovery of groundwater impacts at the subject location. BP conducted site equipment modifications in October 2007 and during this work three (3) steel tank pits were taken out of service. Shallow groundwater (3' - 5' below grade) was observed during removal of these tanks. BP directed BEI to install groundwater monitor wells at the location of each tank pit to confirm water quality. These monitor wells were installed in November 2007 following completion of surface equipment modifications. Well water samples were collected on November 28, 2007 and submitted to Hall Environmental Laboratories in Albuquerque for testing. Analytical results (attached) indicate that one monitor well, located at the location of a compressor steel pit tank, has benzene and xylenes in excess of New Mexico Water Quality Control Commission standards.

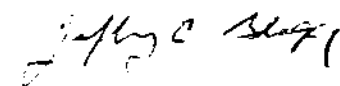
The Usselman GC 1A is located on private property near Cedar Hill, New Mexico. BP intends to address the impact discovery by conducting an investigation of the areal extent, identifying potential receptors and developing a groundwater remediation plan for submission to NMOCD. At this time there is no indication that any receptor, domestic well, public well or surface water either is or may be at risk.

Mr. Henry Villanueva of the NMOCD Aztec District office was notified of this impact via telephone on December 13, 2007. The private landowner will be appraised of the discovery and proposed remedial actions pursuant to the Landowner Notification Act.

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

Respectfully:

Blagg Engineering, Inc.



Jeffrey C. Blagg, P.E.
President

cc: Brandon Powell - NMOCD Aztec
Larry Schlotterback - BP SJ Op. Ctr.

Attachments: Lab Reports, Site Diagram

File: usselmangc1a.notification.wpd

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

USSELMAN GC # 1A

UNIT E, SEC. 4, T31N, R10W

REVISED DATE: December 19, 2008

FILENAME: (U1A-4Q08.WK4) NJV

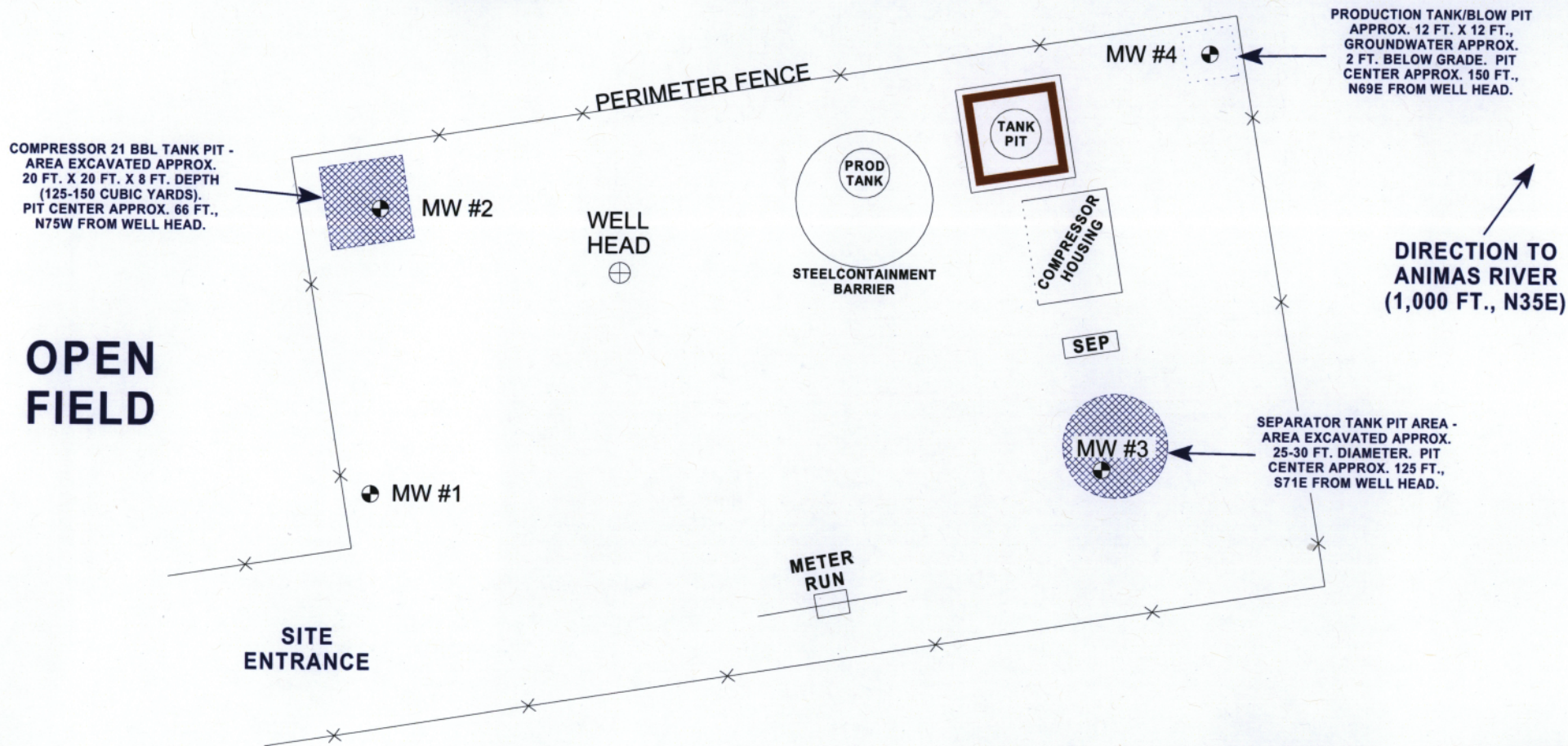
SAMPLE DATE	WELL NAME or No.	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	BTEX EPA METHOD 8021B (ppb)			
								Benzene	Toluene	Ethyl Benzene	Total Xylene
28-Nov-07	MW #1	10.25	18.00	1,100	1,200	7.38		ND	ND	ND	ND
28-Nov-07	MW #2	10.23	18.00	2,400	2,200	7.04		70	8.2	130	730
21-Feb-08		10.82			1,900	7.24		29	ND	24	61
11-Dec-08	MW #2R	10.59	12.00		1,800	7.38		ND	ND	ND	ND
28-Nov-07	MW #3	9.49	17.50	860	800	7.56		ND	ND	ND	ND
28-Nov-07	MW #4	9.83	16.00	880	700	7.91		ND	ND	ND	ND
11-Dec-08	MW #5	9.74	12.00		1,100	7.40		ND	ND	ND	ND
11-Dec-08	MW #6	9.43	12.50		1,000	7.57		ND	ND	ND	ND
11-Dec-08	MW #7	7.79	10.00		1,000	7.73		ND	ND	ND	ND
NMWQCC GROUNDWATER STANDARDS								10	750	750	620

- NOTES :
- 1) RESULTS IN BOLD RED TYPE INDICATE EXCEEDING NMWQCC STANDARDS .
 - 2) RESULTS IN BOLD BLUE TYPE INDICATE BELOW NMWQCC STANDARDS AFTER PREVIOUS RESULTS IN BOLD RED TYPE EXCEEDED .
 - 3) ND INDICATES NOT DETECTED AT THE REPORTING LIMITS (less than regulatory standards of at least a magnitude of 10) .
 - 4) NMWQCC INDICATES NEW MEXICO WATER QUALITY CONTROL COMMISSION.

FIGURE 1



**OPEN
FIELD**



0 40 80 FT.

BP AMERICA PRODUCTION CO.
USSELMAN GC # 1A
SW/4 NW/4 SEC. 4, T31N, R10W
SAN JUAN COUNTY, NEW MEXICO

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

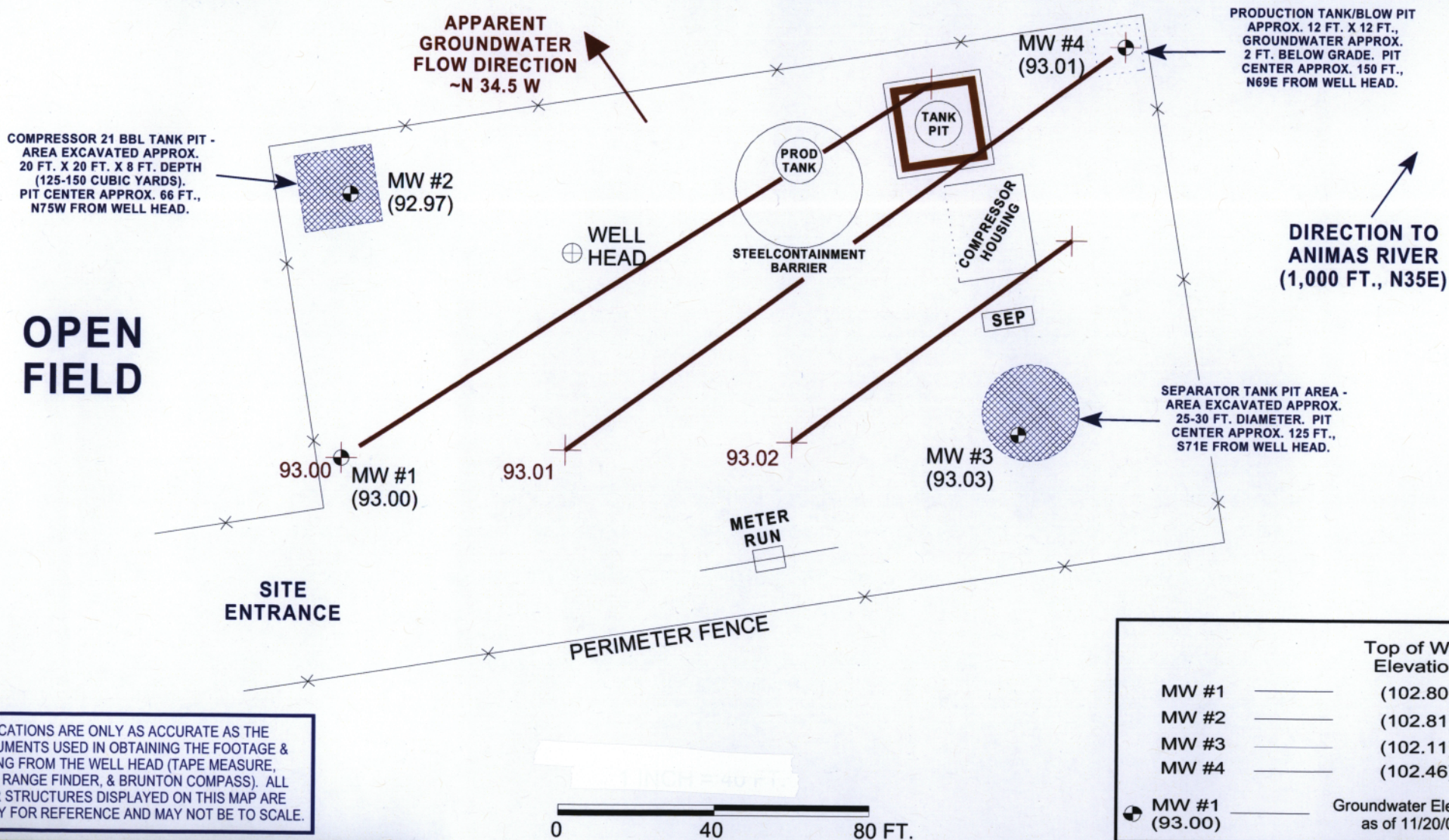
PROJECT: MW INSTALLATIONS
DRAWN BY: NJV
FILENAME: USSELMAN GC 1A-SM3.SKF
REVISED: 11-20-07

**SITE
MAP**
11/07

FIGURE 2
(4th 1/4, 2007)



**OPEN
FIELD**



BP AMERICA PRODUCTION CO.
USSELMAN GC # 1A
SW/4 NW/4 SEC. 4, T31N, R10W
SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SAMPLING
DRAWN BY: NJV
FILENAME: 11-20-07-GW.SKF
REVISED: 11-20-07

**GROUNDWATER
CONTOUR
MAP**
11/07

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & /OR SAMPLING DATA

CLIENT : **BP AMERICA PROD. CO.**

CHAIN-OF-CUSTODY # : **N / A**

USSELMAN GC # 1A

LABORATORY (S) USED : **HALL ENVIRONMENTAL**

UNIT E, SEC. 4, T31N, R10W

Date : **November 28, 2007**

SAMPLER : **N J V**

Filename : **11-28-07.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	102.80	92.55	10.25	18.00	1420	7.38	1,200	12.1	3.75
2	102.81	92.58	10.23	18.00	1440	7.04	2,200	12.2	3.75
3	102.11	92.62	9.49	17.50	1515	7.56	800	10.9	4.00
4	102.46	92.63	9.83	16.00	1500	7.91	700	11.4	3.00

INSTRUMENT CALIBRATIONS =

DATE & TIME =

7.00	2,800
11/28/07	1410

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 / good recovery in all MW 's . All showed murky brown appearance , slight hydrocarbon odor in MW #2 . Collected BTEX , anions , pH , TDS , and iron samples from all MW 's .

Top of casing MW #1 ~ 3.10 ft. , MW #2 ~ 2.85 ft. , MW #3 ~ 2.65 ft. , MW #4 ~ 2.40 ft.

Hall Environmental Analysis Laboratory, Inc.

Date: 11-Dec-07

CLIENT: Blagg Engineering
Lab Order: 0711461
Project: Usselman GC #1A
Lab ID: 0711461-01

Client Sample ID: MW #1
Collection Date: 11/28/2007 2:20:00 PM
Date Received: 11/29/2007
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/4/2007 9:01:32 PM
Toluene	ND	1.0		µg/L	1	12/4/2007 9:01:32 PM
Ethylbenzene	ND	1.0		µg/L	1	12/4/2007 9:01:32 PM
Xylenes, Total	ND	2.0		µg/L	1	12/4/2007 9:01:32 PM
Surr: 4-Bromofluorobenzene	80.8	70.2-105		%REC	1	12/4/2007 9:01:32 PM
EPA METHOD 300.0: ANIONS						Analyst: SMP
Fluoride	0.82	0.10		mg/L	1	11/29/2007 6:23:00 PM
Chloride	30	0.10		mg/L	1	11/29/2007 6:23:00 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/29/2007 6:23:00 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/29/2007 6:23:00 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/29/2007 6:23:00 PM
Sulfate	260	5.0		mg/L	10	11/29/2007 6:40:25 PM
FERROUS IRON						Analyst: SLB
Ferrous Iron	ND	0.10		mg/L	1	12/3/2007
SM4500-H+B: PH						Analyst: LMM
pH	7.40	0.1		pH units	1	11/29/2007
SM 2540C: TDS						Analyst: TAF
Total Dissolved Solids	1100	400		mg/L	1	12/3/2007

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: 11-Dec-07

CLIENT: Blagg Engineering
Lab Order: 0711461
Project: Usselman GC #1A
Lab ID: 0711461-02

Client Sample ID: MW #2
Collection Date: 11/28/2007 2:40:00 PM
Date Received: 11/29/2007
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	70	1.0		µg/L	1	12/4/2007 9:31:39 PM
Toluene	8.2	1.0		µg/L	1	12/4/2007 9:31:39 PM
Ethylbenzene	130	10		µg/L	10	12/5/2007 2:08:55 PM
Xylenes, Total	730	20		µg/L	10	12/5/2007 2:08:55 PM
Surrogate: 4-Bromofluorobenzene	96.0	70.2-105		%REC	10	12/5/2007 2:08:55 PM
EPA METHOD 300.0: ANIONS						Analyst: SMP
Fluoride	1.2	0.10		mg/L	1	11/29/2007 7:32:39 PM
Chloride	64	1.0		mg/L	10	11/29/2007 7:50:03 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/29/2007 7:32:39 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/29/2007 7:32:39 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/29/2007 7:32:39 PM
Sulfate	720	5.0		mg/L	10	11/29/2007 7:50:03 PM
FERROUS IRON						Analyst: SLB
Ferrous Iron	0.42	0.10		mg/L	1	12/3/2007
SM4500-H+B: PH						Analyst: LMM
pH	7.20	0.1		pH units	1	11/29/2007
SM 2540C: TDS						Analyst: TAF
Total Dissolved Solids	2400	400		mg/L	1	12/3/2007

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: 11-Dec-07

CLIENT: Blagg Engineering
Lab Order: 0711461
Project: Usselman GC #1A
Lab ID: 0711461-03

Client Sample ID: MW #3
Collection Date: 11/28/2007 3:15:00 PM
Date Received: 11/29/2007
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/5/2007 2:39:04 PM
Toluene	ND	1.0		µg/L	1	12/5/2007 2:39:04 PM
Ethylbenzene	ND	1.0		µg/L	1	12/5/2007 2:39:04 PM
Xylenes, Total	ND	2.0		µg/L	1	12/5/2007 2:39:04 PM
Surr: 4-Bromofluorobenzene	89.5	70.2-105		%REC	1	12/5/2007 2:39:04 PM
EPA METHOD 300.0: ANIONS						Analyst: SMP
Fluoride	1.2	0.10		mg/L	1	11/29/2007 8:07:27 PM
Chloride	25	0.10		mg/L	1	11/29/2007 8:07:27 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/29/2007 8:07:27 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/29/2007 8:07:27 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/29/2007 8:07:27 PM
Sulfate	23	0.50		mg/L	1	11/29/2007 8:07:27 PM
FERROUS IRON						Analyst: SLB
Ferrous Iron	0.12	0.10		mg/L	1	12/3/2007
SM4500-H+B: PH						Analyst: LMM
pH	7.61	0.1		pH units	1	11/29/2007
SM 2540C: TDS						Analyst: TAF
Total Dissolved Solids	860	400		mg/L	1	12/3/2007

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: 11-Dec-07

CLIENT: Blagg Engineering
Lab Order: 0711461
Project: Usselman GC #1A
Lab ID: 0711461-04

Client Sample ID: MW #4
Collection Date: 11/28/2007 3:00:00 PM
Date Received: 11/29/2007
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	12/4/2007 10:31:40 PM
Toluene	ND	1.0		µg/L	1	12/4/2007 10:31:40 PM
Ethylbenzene	ND	1.0		µg/L	1	12/4/2007 10:31:40 PM
Xylenes, Total	ND	2.0		µg/L	1	12/4/2007 10:31:40 PM
Surr: 4-Bromofluorobenzene	79.9	70.2-105		%REC	1	12/4/2007 10:31:40 PM
EPA METHOD 300.0: ANIONS						Analyst: SMP
Fluoride	0.83	0.10		mg/L	1	11/29/2007 8:42:16 PM
Chloride	16	0.10		mg/L	1	11/29/2007 8:42:16 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/29/2007 8:42:16 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/29/2007 8:42:16 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/29/2007 8:42:16 PM
Sulfate	120	5.0		mg/L	10	11/29/2007 8:59:41 PM
FERROUS IRON						Analyst: SLB
Ferrous Iron	ND	0.10		mg/L	1	12/3/2007
SM4500-H+B: PH						Analyst: LMM
pH	7.75	0.1		pH units	1	11/29/2007
SM 2540C: TDS						Analyst: TAF
Total Dissolved Solids	880	400		mg/L	1	12/3/2007

Qualifiers:

* Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
RL Reporting Limit

Client: BUSSE ENGR. BP AMERICA

Address: P.O. BOX 87

BLFD. NM 87413

Phone #: 632-1199

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)☐ Other _____

☐ EDD (Type) _____

Turn-Around Time: _ _ _ _ _

☒ Standard ☐ Rush_____

Project Name:

USSELMAN GC #1A

Project #:

Project Manager:

NV

Sampler: NV

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Date	Time	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTE	BTEX + MTE	TPH Method	TPH (Method)	EDB (Method)	EDC (Method)	8310 (PNA o	Anions (F, Cl,	8081 Pesticide	8260B (VOA	8270 (Semi-V	pH	TDS	Fe	Air Bubbles (
11/28/07	1420	MW #1	2-40ml	HgCl ₂	07114101	✓														
"	"	"	1-250ml	COOL	1								✓				✓	✓		
"	"	"	1-125ml	HCl	1														✓	
11/28/07	1440	MW #2	2-40ml	HgCl ₂	2	✓														
"	"	"	1-125ml	HCl	2														✓	
"	"	"	1-250ml	COOL	2								✓				✓	✓		
11/28/07	1515	MW #3	2-40ml	HgCl ₂	3	✓														
"	"	"	1-125ml	HCl	3														✓	
"	"	"	1-250ml	COOL	3								✓				✓	✓		
11/28/07	1500	MW #4	2-40ml	HgCl ₂	4	✓														
"	"	"	1-125ml	HCl	4														✓	
"	"	"	1-250ml	COOL	4								✓				✓	✓		

Date: 1/11/2011 Time: 11:00 Relinquished by: [Signature]

11/28/07 1620 e Nelson (M)

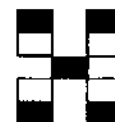
Date:	Time:	Relinquished by:
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Received by:

10-05 11/29/57

Received by: _____

Remarks:



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

[illegible]

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Usselman GC #1A

Work Order: 0711461

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions									
Sample ID: MBLK 112907B		MBLK							
Batch ID: R26340									Analysis Date: 11/29/2007 12:34:52 PM
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS ST300-07069 1		LCS							
Batch ID: R26340									Analysis Date: 11/29/2007 12:52:16 PM
Fluoride	0.5030	mg/L	0.10	101	90	110			
Chloride	4.807	mg/L	0.10	96.1	90	110			
Nitrogen, Nitrite (As N)	0.9233	mg/L	0.10	92.3	90	110			
Nitrogen, Nitrate (As N)	2.465	mg/L	0.10	98.6	90	110			
Phosphorus, Orthophosphate (As P)	4.883	mg/L	0.50	97.7	90	110			
Sulfate	9.870	mg/L	0.50	98.7	90	110			
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		MBLK							
Batch ID: R26348									Analysis Date: 12/4/2007 8:34:08 AM
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 5ML RB		MBLK							
Batch ID: R26381									Analysis Date: 12/5/2007 8:29:31 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: 100UL BTEX LCS		LCS							
Batch ID: R26348									Analysis Date: 12/4/2007 6:31:06 PM
Benzene	18.58	µg/L	1.0	92.9	85.9	113			
Toluene	18.15	µg/L	1.0	90.2	86.4	113			
Ethylbenzene	18.46	µg/L	1.0	92.3	83.5	118			
Xylenes, Total	54.76	µg/L	2.0	91.3	83.4	122			
Sample ID: 100NG BTEX LCS		LCS							
Batch ID: R26381									Analysis Date: 12/5/2007 11:44:35 PM
Benzene	19.64	µg/L	1.0	98.2	85.9	113			
Toluene	19.43	µg/L	1.0	96.6	86.4	113			
Ethylbenzene	19.64	µg/L	1.0	98.2	83.5	118			
Xylenes, Total	59.27	µg/L	2.0	98.8	83.4	122			
Sample ID: 100NG BTEX LCSD		LCSD							
Batch ID: R26381									Analysis Date: 12/6/2007 12:14:45 AM
Benzene	20.41	µg/L	1.0	102	85.9	113	3.85	27	
Toluene	20.15	µg/L	1.0	100	86.4	113	3.66	19	
Ethylbenzene	20.53	µg/L	1.0	103	83.5	118	4.42	10	
Xylenes, Total	61.86	µg/L	2.0	103	83.4	122	4.28	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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Usselman GC #1A

Work Order: 0711461

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SM 2540C: TDS									
Sample ID: MB-14542		MBLK							
Total Dissolved Solids	ND	mg/L	20						
Sample ID: LCS-14542		LCS							
Total Dissolved Solids	1024	mg/L	20	101	80	120			

Batch ID: 14542 Analysis Date: 12/3/2007

Batch ID: 14542 Analysis Date: 12/3/2007

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 Received:

11/29/2007

Work Order Number **0711461**

Received by: **ARS**

Checklist completed by:

Signature

Jamye Shorman

Date

11/29/07

Sample ID labels checked by

AS

Initials

Matrix

Carrier name **UPS**

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☒

No ☐

N/A ☐

Water - pH acceptable upon receipt?

Yes ☒

No ☐

N/A ☐

Container/Temp Blank temperature?

3°

<6° C 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

USSELMAN GC # 1A

LABORATORY (S) USED: HALL ENVIRONMENTAL

UNIT E, SEC. 4, T31N, R10W

Date: February 21, 2008

SAMPLER: NJV

Filename: 02-21-08.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.)
1	102.80	91.95	10.85	18.00	-	-	-	-	-
2	102.81	91.99	10.82	18.00	1350	7.24	1,900	10.7	2.00
3	102.11	91.99	10.12	17.50	-	-	-	-	-
4	102.46	91.99	10.47	16.00	-	-	-	-	-
INSTRUMENT CALIBRATIONS =						7.00	2,800		
DATE & TIME =						02/21/08	1200		

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".

Fair recovery in MW #2, showed murky brown appearance, no apparent hydrocarbon odor detected physically from MW #2 purged water. Collected BTEX from MW #2 only.

Top of casing MW #1 ~ 3.10 ft., MW #2 ~ 2.85 ft., MW #3 ~ 2.65 ft., MW #4 ~ 2.40 ft.

Hall Environmental Analysis Laboratory, Inc.

Date: 28-Feb-08

CLIENT: Blagg Engineering
Lab Order: 0802270
Project: Usselman GC #1A
Lab ID: 0802270-01

Client Sample ID: MW #2
Collection Date: 2/21/2008 1:50:00 PM
Date Received: 2/22/2008
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	29	1.0		µg/L	1	2/27/2008 4:48:17 PM
Toluene	ND	1.0		µg/L	1	2/27/2008 4:48:17 PM
Ethylbenzene	24	1.0		µg/L	1	2/27/2008 4:48:17 PM
Xylenes, Total	61	2.0		µg/L	1	2/27/2008 4:48:17 PM
Surr: 4-Bromofluorobenzene	92.5	68.9-122		%REC	1	2/27/2008 4:48:17 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Client: BRACE ENGR./BP AMERICA

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

Phone #: 632-1199

Fax #:

Std ☐ Level 4 ☐

Other:

Project Name: USSELMAN GC # 1A

Project #:

Project Manager: *NV*

Sampler: NV

Sample Temperature: 2°

Date _____

Time

Matrix

Sample I.D. No.

Number/Volume

Preservative

 HgCl_2 HNO_3

HEAL No.

0802270

BTEX + MTBE + TMBs (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 & Metals

Anions (F, Cl, NO₃)

3081 Pesticides

3260B (VOA)

3270 (Semi-VOA)

Air Bubbles or Headspace (Y or N)

ANALYSIS REQUEST

4901 Hawkins NE, Suite D

Albuquerque, New Mexico 87109

Tel. 505.345.3975 Fax 505.345.4107

www.hallenvironmental.com

Date: 2/24/08	Time: 1515	Relinquished By: (Signature) <i>William V. [unclear]</i>
Date:	Time:	Relinquished By: (Signature)

Received By: (Signature) [Signature] 9:45 2/22/08
Received By: (Signature)

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Usselman GC #1A

Work Order: 0802270

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	------	----------	-----------	------	----------	------

Method: EPA Method 8021B: Volatiles

Sample ID: 5ML RB

MBLK

Batch ID: R27511 Analysis Date: 2/27/2008 8:42:04 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: R27511 Analysis Date: 2/27/2008 7:49:31 PM

Benzene	19.14	µg/L	1.0	95.7	85.9	113
Toluene	19.01	µg/L	1.0	95.0	86.4	113
Ethylbenzene	19.12	µg/L	1.0	95.2	83.5	118
Xylenes, Total	57.87	µg/L	2.0	96.4	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 Received:

2/22/2008

Work Order Number **0802270**

Received by: **ARS**

Checklist completed by:

Signature



Sample ID labels checked by

Initials

AS

2/22/08

Date

Matrix

Carrier name **UPS**

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

N/A ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - Preservation labels on bottle and cap match?

Yes ☐

No ☐

N/A ☒

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

2°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding

Comments:

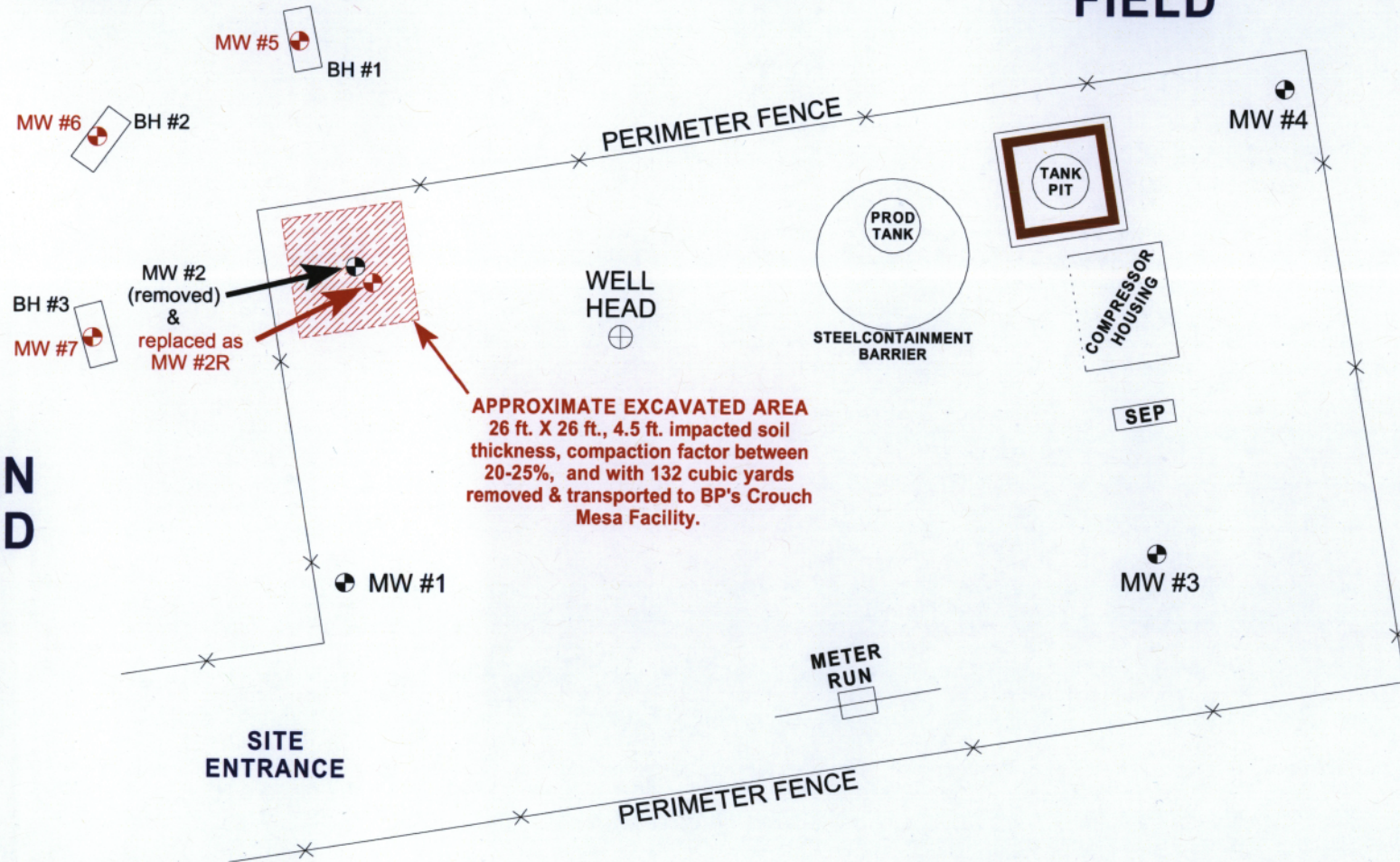
Corrective Action

FIGURE 3



OPEN
FIELD

OPEN
FIELD



DIRECTION TO
ANIMAS RIVER
(1,000 FT., N35E)

APPROXIMATE EXCAVATED AREA
26 ft. X 26 ft., 4.5 ft. impacted soil
thickness, compaction factor between
20-25%, and with 132 cubic yards
removed & transported to BP's Crouch
Mesa Facility.

SITE
ENTRANCE

METER
RUN

PERIMETER FENCE

PERIMETER FENCE

WELL
HEAD

PROD
TANK

STEEL CONTAINMENT
BARRIER

TANK
PIT

COMPRESSOR
HOUSING

SEP

MW #4

MW #3

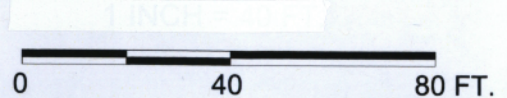
MW #1

MW #2
(removed)
&
replaced as
MW #2R

BH #3
MW #7

MW #6
BH #2

MW #5
BH #1



PIT 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.
USSELMAN GC # 1A
SW/4 NW/4 SEC. 4, T31N, R10W
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: REMEDIATION
DRAWN BY: NJV
FILENAME: Usselman GC 1A-RM-1A.SKF
REVISED: 08-20-09

SOIL/GROUNDWATER
REMEDATION
SCHEMATIC
03/08

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 11/19/07
DATE FINISHED 11/19/07
OPERATOR..... DP
PREPARED BY NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: USSELMAN GC #1A UNIT E, SEC. 4, T31N, R10W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM
BORING LOCATION: 80 FT., S48W FROM WELL HEAD.

FIELD CLASSIFICATION AND REMARKS

DEPTH
FEET

INTERVAL

LITHOLOGY
INTERVAL

MW
SCHEMATIC



GROUND SURFACE

TOP OF CASING APPROX. 3.10 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH BROWN SILTY SAND TO SILTY CLAY, NON COHESIVE TO COHESIVE, FIRM, SLIGHTLY MOIST TO SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (0.0 - 9.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 6.70 FT. FROM GROUND SURFACE MEASURED 11/20/07.

DUSKY BROWN SILTY SAND AND GRAVEL, NON COHESIVE, FIRM, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (9.0 - 15.0 FT. BELOW GRADE).

NOTE:  - SILTY SAND TO SILTY CLAY.
 - SILTY SAND AND GRAVEL.

TOS - TOP OF SCREEN FROM GROUND SURFACE.

TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

Monitor well consist of 2 inch PVC piping - casing from 3.10 ft. above grade to 1.90 ft. below grade, 0.010 slotted screen between 1.90 to 14.90 feet below grade, sanded annular from 1.0 to 15.0 feet below grade, bentonite chips from grade to 1.0 feet below grade, enclosed above grade casing with well protector and secured with padlock.

BLAGG ENGINEERING, INC.

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

MW #2

BORE / TEST HOLE REPORT

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: USSELMAN GC #1A UNIT E, SEC. 4, T31N, R10W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM
BORING LOCATION: 59.5 FT., N75.5W FROM WELL HEAD.

BORING #..... BH-2
MW #..... 2
PAGE #..... 2
DATE STARTED 11/19/07
DATE FINISHED 11/19/07
OPERATOR..... DP
PREPARED BY NJV

FIELD CLASSIFICATION AND REMARKS

DEPTH
FEET

INTERVAL

LITHOLOGY
INTERVAL

MW
SCHEMATIC

GROUND SURFACE

TOP OF CASING APPROX. 3.00 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH ORANGE SAND (BACKFILL), NON COHESIVE, FIRM, SLIGHTLY MOIST TO WET, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (0.0 - 8.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 6.99 FT. FROM GROUND SURFACE MEASURED 11/20/07.

GRAYISH BLACK SILTY CLAY, COHESIVE, FIRM, SATURATED, APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (8.0 - 10.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SILTY SAND AND GRAVEL, NON COHESIVE, FIRM, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (10.0 - 15.0 FT. BELOW GRADE).

NOTE:



- SAND.



- SILTY CLAY.



- SILTY SAND AND GRAVEL.

TOS - TOP OF SCREEN FROM GROUND SURFACE.

TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

Monitor well consist of 2 inch PVC piping - casing from 3.00 ft. above grade to 2.00 ft. below grade, 0.010 slotted screen between 2.00 to 15.00 feet below grade, sanded annular from 1.0 to 15.0 feet below grade, bentonite chips from grade to 1.0 feet below grade, enclosed above grade casing with well protector and secured with padlock.

BLAGG ENGINEERING, INC.

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

MW #3

BORE / TEST HOLE REPORT

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: USSELMAN GC #1A UNIT E, SEC. 4, T31N, R10W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM
BORING LOCATION: 124 FT., S68E FROM WELL HEAD.

BORING #..... BH-3
MW #..... 3
PAGE #..... 3
DATE STARTED 11/19/07
DATE FINISHED 11/19/07
OPERATOR..... DP
PREPARED BY NJV

DEPTH
FEET

INTERVAL

LITHOLOGY
INTERVAL

MW
SCHEMATIC

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.65 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH BROWN SILTY CLAY (BACKFILL), COHESIVE, FIRM, SLIGHTLY MOIST TO WET, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (0.0 - 7.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 6.43 FT. FROM GROUND SURFACE MEASURED 11/20/07.

DARK YELLOWISH BROWN SILTY SAND AND GRAVEL, NON COHESIVE, FIRM, WET TO SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (7.0 - 15.0 FT. BELOW GRADE).

NOTE:



- SILTY CLAY.



- SILTY SAND AND GRAVEL.

TOS - TOP OF SCREEN FROM GROUND SURFACE.

TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

Monitor well consist of 2 inch PVC piping - casing from 2.65 ft. above grade to 0.85 ft. below grade, 0.010 slotted screen between 0.85 to 14.85 feet below grade, sanded annular from 0.5 to 15.0 feet below grade, bentonite chips from grade to 0.5 feet below grade, enclosed above grade casing with well protector and secured with padlock.

BLAGG ENGINEERING, INC.

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

MW #4

BORE / TEST HOLE REPORT

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: USSELMAN GC #1A UNIT E, SEC. 4, T31N, R10W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM
BORING LOCATION: 152 FT., N69E FROM WELL HEAD.

BORING #..... BH-4
MW #..... 4
PAGE #..... 4
DATE STARTED 11/19/07
DATE FINISHED 11/19/07
OPERATOR..... DP
PREPARED BY NJV

DEPTH
FEET

INTERVAL

LITHOLOGY
INTERVAL

MW
SCHEMATIC

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.40 FT. ABOVE GROUND SURFACE.

DARK YELLOWISH ORANGE SAND (BACKFILL), NON COHESIVE, FIRM, SLIGHTLY MOIST, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (0.0 - 2.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SILTY SAND TO SILTY CLAY, NON COHESIVE TO COHESIVE, FIRM, SLIGHTLY MOIST, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (2.0 - 6.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 7.05 FT. FROM GROUND SURFACE MEASURED 11/20/07.

DARK YELLOWISH BROWN SILTY SAND AND GRAVEL, NON COHESIVE, FIRM, SLIGHTLY MOIST TO SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (6.0 - 10.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT GRAVEL SIZE LARGER AND SATURATED (10.0 - 14.0 FT. BELOW GRADE).

NOTE:



- SAND.



- SILTY CLAY.



- SILTY SAND AND GRAVEL.

TOS - TOP OF SCREEN FROM GROUND SURFACE.

TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

Monitor well consist of 2 inch PVC piping - casing from 2.40 ft. above grade to 0.60 ft. below grade, 0.010 slotted screen between 0.60 to 13.60 feet below grade, sanded annular from 0.5 to 14.0 feet below grade, bentonite chips from grade to 0.5 feet below grade, enclosed above grade casing with well protector and secured with padlock.

Hall Environmental Analysis Laboratory, Inc.

Date: 16-Dec-08

CLIENT: Blagg Engineering
Lab Order: 0812217
Project: Usselman GC #1A
Lab ID: 0812217-01

Client Sample ID: BH1 @ 8' (MW #5)
Collection Date: 12/9/2008 9:50:00 AM
Date Received: 12/10/2008
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	18	10		mg/Kg	1	12/14/2008
Surr: DNOP	107	61.7-135		%REC	1	12/14/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/13/2008 2:37:05 AM
Surr: BFB	98.4	58.8-123		%REC	1	12/13/2008 2:37:05 AM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	0.050		mg/Kg	1	12/13/2008 2:37:05 AM
Toluene	ND	0.050		mg/Kg	1	12/13/2008 2:37:05 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/13/2008 2:37:05 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/13/2008 2:37:05 AM
Surr: 4-Bromofluorobenzene	99.0	66.8-139		%REC	1	12/13/2008 2:37:05 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: 16-Dec-08

CLIENT: Blagg Engineering
Lab Order: 0812217
Project: Usselman GC #1A
Lab ID: 0812217-02

Client Sample ID: BH2 @ 10' (MW #6)
Collection Date: 12/9/2008 10:10:00 AM
Date Received: 12/10/2008
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/14/2008
Surr: DNOP	99.6	61.7-135		%REC	1	12/14/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/13/2008 8:41:24 AM
Surr: BFB	95.6	58.8-123		%REC	1	12/13/2008 8:41:24 AM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	0.050		mg/Kg	1	12/13/2008 8:41:24 AM
Toluene	ND	0.050		mg/Kg	1	12/13/2008 8:41:24 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/13/2008 8:41:24 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/13/2008 8:41:24 AM
Surr: 4-Bromofluorobenzene	97.6	66.8-139		%REC	1	12/13/2008 8:41:24 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: 16-Dec-08

CLIENT: Blagg Engineering
Lab Order: 0812217
Project: Usselman GC #1A
Lab ID: 0812217-03

Client Sample ID: BH3 @ 8' (MW #7)
Collection Date: 12/9/2008 10:25:00 AM
Date Received: 12/10/2008
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: SCC
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	12/14/2008
Surr: DNOP	98.7	61.7-135		%REC	1	12/14/2008
EPA METHOD 8015B: GASOLINE RANGE						Analyst: DAM
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	12/13/2008 9:11:42 AM
Surr: BFB	95.0	58.8-123		%REC	1	12/13/2008 9:11:42 AM
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	0.050		mg/Kg	1	12/13/2008 9:11:42 AM
Toluene	ND	0.050		mg/Kg	1	12/13/2008 9:11:42 AM
Ethylbenzene	ND	0.050		mg/Kg	1	12/13/2008 9:11:42 AM
Xylenes, Total	ND	0.10		mg/Kg	1	12/13/2008 9:11:42 AM
Surr: 4-Bromofluorobenzene	97.6	66.8-139		%REC	1	12/13/2008 9:11:42 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
RL Reporting Limit

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Address: P.O. Box 87
Bloomfield, NM 87413

Phone #: 632-1199

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

☐ Other☐ EDD (Type) _____

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

USSELMAN GC # 1A

Project #:

Project Manager:

NELSON VELEZ

Sampler: NELSON VELEZ

Sample Temperature

Date	Time	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTB	BTEX + MTB	TPH Method	TPH (Method	EDB (Method	EDC (Method	8310 (PNA or	Anions (F, Cl, N	8081 Pesticide	8260B (VOA)	8270 (Semi-V				
12/9/08	0950	BH1@8' (mw #5)	1-4oz	COOL	0812217 -1	✓		✓												6898 5H Air Bubbles (Y
12/9/08	1010	BH2@10' (mw #6)	1-4oz	COOL	-2	✓		✓												✓
12/9/08	1025	BH3@8' (mw #7)	1-4oz	COOL	-3	✓		✓												✓
Date:	Time:	Relinquished by:	Received by:			Remarks:														
12/10/08	0800	<i>Nelson Vef</i>	<i>Anna</i> 12/10/08 1650			GRD & DRD ONLY ON TPH ANALYSES.														
Date:	Time:	Relinquished by:	Received by:																	

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly noted on the analytical report.

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Usselman GC #1A

Work Order: 0812217

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range Organics									
Sample ID: MB-17840		MBLK							
					Batch ID: 17840	Analysis Date: 12/14/2008			
Diesel Range Organics (DRO)	ND	mg/Kg	10						
Sample ID: LCS-17840		LCS			Batch ID: 17840	Analysis Date: 12/14/2008			
Diesel Range Organics (DRO)	49.43	mg/Kg	10	98.9	64.6	116			
Sample ID: LCSD-17840		LCSD			Batch ID: 17840	Analysis Date: 12/14/2008			
Diesel Range Organics (DRO)	52.02	mg/Kg	10	104	64.6	116	5.11	17.4	
Method: EPA Method 8015B: Gasoline Range									
Sample ID: MB-17835		MBLK			Batch ID: 17835	Analysis Date: 12/13/2008 5:09:11 AM			
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0						
Sample ID: LCS-17835		LCS			Batch ID: 17835	Analysis Date: 12/13/2008 5:39:23 AM			
Gasoline Range Organics (GRO)	29.27	mg/Kg	5.0	117	69.5	120			
Method: EPA Method 8021B: Volatiles									
Sample ID: MB-17835		MBLK			Batch ID: 17835	Analysis Date: 12/13/2008 5:09:11 AM			
Benzene	ND	mg/Kg	0.050						
Toluene	ND	mg/Kg	0.050						
Ethylbenzene	ND	mg/Kg	0.050						
Xylenes, Total	ND	mg/Kg	0.10						
Sample ID: LCS-17835		LCS			Batch ID: 17835	Analysis Date: 12/13/2008 6:09:43 AM			
Benzene	1.075	mg/Kg	0.050	107	78.8	132			
Toluene	1.082	mg/Kg	0.050	106	78.9	112			
Ethylbenzene	1.072	mg/Kg	0.050	107	69.3	125			
Xylenes, Total	3.149	mg/Kg	0.10	105	73	128			

Qualifiers:

E	Estimated value	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 Received:

12/10/2008

Work Order Number **0812217**

Received by: **AT**

Checklist completed by:

Signature

Date

Sample ID labels checked by:

Initials

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°

<6° C 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

USSELMAN GC # 1A

LABORATORY (S) USED : HALL ENVIRONMENTAL

UNIT E, SEC. 4, T31N, R10W

Date : December 11, 2008

SAMPLER : N J V

Filename : 12-11-08.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	102.80	-	-	18.00	-	-	-	-	-
2R	-	-	10.59	12.00	1203	7.38	1,800	13.3	0.50
3	102.11	-	-	17.50	-	-	-	-	-
4	102.46	-	-	16.00	-	-	-	-	-
5	-	-	9.74	12.00	1155	7.40	1,100	12.5	1.25
6	-	-	9.43	12.50	1132	7.57	1,000	12.9	1.50
7	-	-	7.79	10.00	1127	7.73	1,000	12.3	1.25
INSTRUMENT CALIBRATIONS =							4.01/7.00/10.00	2,800	
DATE & TIME =							12/11/08	1115	

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 ".

Fair recovery in MW # 5 , # 6 , & # 7 , poor recovery in MW # 2R , all had murky brown appearance with no hydrocarbon odor detected physically or hydrocarbon sheen within purge bucket . Collected samples from MW # 2R , # 5 , # 6 , & # 7 for BTEX analysis .

Top of casing MW # 1 ~ 3.10 ft. , MW # 2R ~ 2.00 ft. , MW # 3 ~ 2.65 ft. , MW # 4 ~ 2.40 ft. ,
MW # 5 ~ 2.00 ft. , MW # 6 ~ 1.80 ft. , MW # 7 ~ 0.50 ft. above grade .

on-site	09:38	temp	37 F
off-site	12:20	temp	42 F
sky cond.	sunny		
wind speed	0 - 5	direct.	west

Hall Environmental Analysis Laboratory, Inc.

Date: 17-Dec-08

CLIENT: Blagg Engineering
Project: Usselman GC #1A**Lab Order:** 0812264**Lab ID:** 0812264-01**Collection Date:** 12/11/2008 12:03:00 PM**Client Sample ID:** MW #2R**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	1.0		µg/L	1	12/16/2008 11:53:17 PM
Toluene	ND	1.0		µg/L	1	12/16/2008 11:53:17 PM
Ethylbenzene	ND	1.0		µg/L	1	12/16/2008 11:53:17 PM
Xylenes, Total	ND	2.0		µg/L	1	12/16/2008 11:53:17 PM
Surr: 4-Bromofluorobenzene	86.5	65.9-130		%REC	1	12/16/2008 11:53:17 PM

Lab ID: 0812264-02**Collection Date:** 12/11/2008 11:55:00 AM**Client Sample ID:** MW #5**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	1.0		µg/L	1	12/17/2008 12:23:50 AM
Toluene	ND	1.0		µg/L	1	12/17/2008 12:23:50 AM
Ethylbenzene	ND	1.0		µg/L	1	12/17/2008 12:23:50 AM
Xylenes, Total	ND	2.0		µg/L	1	12/17/2008 12:23:50 AM
Surr: 4-Bromofluorobenzene	87.0	65.9-130		%REC	1	12/17/2008 12:23:50 AM

Lab ID: 0812264-03**Collection Date:** 12/11/2008 11:32:00 AM**Client Sample ID:** MW #6**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	1.0		µg/L	1	12/17/2008 12:54:16 AM
Toluene	ND	1.0		µg/L	1	12/17/2008 12:54:16 AM
Ethylbenzene	ND	1.0		µg/L	1	12/17/2008 12:54:16 AM
Xylenes, Total	ND	2.0		µg/L	1	12/17/2008 12:54:16 AM
Surr: 4-Bromofluorobenzene	81.0	65.9-130		%REC	1	12/17/2008 12:54:16 AM

Lab ID: 0812264-04**Collection Date:** 12/11/2008 11:27:00 AM**Client Sample ID:** MW #7**Matrix:** AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: DAM
Benzene	ND	1.0		µg/L	1	12/17/2008 1:24:47 AM
Toluene	ND	1.0		µg/L	1	12/17/2008 1:24:47 AM
Ethylbenzene	ND	1.0		µg/L	1	12/17/2008 1:24:47 AM
Xylenes, Total	ND	2.0		µg/L	1	12/17/2008 1:24:47 AM
Surr: 4-Bromofluorobenzene	88.4	65.9-130		%REC	1	12/17/2008 1:24:47 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
RL Reporting Limit

|Turn-Around Time:

☒ **Standard** ☐ **Rush**

Project Name: - USSELMA 6C #1A

Project #:

Project Manager:

NELSON VELEZ

Sampler: NELSON VELEZ

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If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Usselman GC #1A

Work Order: 0812264

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	------	----------	-----------	------	----------	------

Method: EPA Method 8021B: Volatiles

Sample ID: 5ML RB

MBLK

Batch ID: R31647 Analysis Date: 12/16/2008 10:41:58 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: R31647 Analysis Date: 12/16/2008 9:21:40 PM

Benzene	21.29	µg/L	1.0	106	85.9	113
Toluene	21.46	µg/L	1.0	107	86.4	113
Ethylbenzene	21.10	µg/L	1.0	106	83.5	118
Xylenes, Total	63.66	µg/L	2.0	106	83.4	122

Qualifiers:

E	Estimated value	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 Received:

12/12/2008

Work Order Number 0812264

Received by: **ARS**

Checklist completed by:

Signature

Sample ID labels checked by:

Initials

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°

<6° C Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding:

Comments:

Corrective Action