# BLAGG ENGINEERING, INC.

3R423

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

February 1, 2011

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

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

NMOCD Administrative/Environmental Order #: 3RP-423-0

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.

The last formal correspondence to NMOCD was conducted with letter dated, March 28, 2008. Since then, BP has followed its NMOCD approved groundwater management plan and continues to monitor the site. No permanent closure is requested at this time.

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

Respectfully submitted: *Blagg Engineering, Inc.* 

Aller of

Nelson J. Velez Staff Geologist

Attachment: Groundwater Report (2 copies)

cc: Mr. Brandon Powell, Environmental Specialist, NMOCD District III Office, Aztec, NM Mr. Jeff Peace, Environmental Advisor, BP, Farmington, NM

NJV/njv

Hutton GC 1E 02-01-11 CVL.DOC

# **BP AMERICA PRODUCTION CO.**

## **GROUNDWATER REMEDIATION REPORT**

# 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 87504

## **DECEMBER 2010**

## PREPARED BY: BLAGG ENGINEERING, INC.

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

# BP AMERICA PRODUCTION COMPANY Hutton GC #1E SW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub>, Sec. 6, T29N, R12W

Remediation via Excavation Date:	October 2008
Monitor Well Installation Dates:	September 2006, 10/20/09 (MW # 2R)
Monitor Well Sampling Dates:	9/12/08, 5/16/09, 10/26/09, 2/27/10, 5/11/10

#### Pit Closure & Background:

Site separator and production tank pit closures were conducted in June 1994 and February 1995 respectively by removing impacted soil via excavation. Groundwater impact was identified within the source area via installation of a monitor well in September 2006 (MW #2). Documentation for this work and subsequent groundwater monitoring data for the site has previously been submitted for New Mexico Oil Conservation Division (**NMOCD**) review. The reporting herein is for further site soil remediation, groundwater monitor well installation, and site monitoring conducted in 2008 and 2010.

## Soil Remediation and Groundwater Abatement:

In October 2008, excavation of a potential source area was conducted using a trackhoe (Figure 1A). Groundwater depth was recorded at approximately four (4) to five (5) feet below surface grade during the removal of apparent impacted soils. The excavation area was approximately 2,900 square feet with an average depth of approximately 5½ feet. A recorded 747 cubic yards of soil were removed and transported to BP's Crouch Mesa Facility.

MW #2R was installed on October 20, 2009 and quarterly sampling was initiated in January 2010. Boring log of MW #2R along with its well completion information is contained within this report.

Surface owner notification requesting approval of a down gradient groundwater monitor well be installed outside the site's western security perimeter fencing was denied by the landowner. It was communicated that future liability of groundwater impact confirmation data may be obligated by the landowner if such action is required by any authoritative regulatory agency.

## Groundwater Monitor Well Sampling Procedures:

Groundwater monitor well MW #2R was purged of its well bore using a new disposable bailer, then given a sufficient amount of time to allow recovery prior to sample collections. 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 for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by US EPA Method 8021B was conducted.

Fluids generated during monitor well development and purging were managed by discarding into the separator abovegrade tank (AGT) located on the well site. The AGT contents are eventually disposed through approved NMOCD operational procedures for removal of produced fluids.

#### Water Quality and Gradient Information:

Quarterly sampling of the groundwater monitor well MW #2R was conducted in September 2008 and quarterly in 2010. A historical summary of laboratory analytical BTEX results are included within the table on the following page. Field data sheets, laboratory reports, and laboratory quality assurance/quality control information are also included within this report.

Groundwater contour maps (Figure 2 through Figure 6) reveal the relative elevations from the site wells have shown an apparent south-southwest or southwest flow direction.

## Summary and/or Recommendations:

Hydrocarbon impacted soils and groundwater at the site appear to have been remediated via excavation. Continued site monitoring per BP's NMOCD approved Ground Water Management Plan is recommended. No additional remedial actions are indicated or suggested at this time.

## BP AMERICA PRODUCTION CO. GROUNDWATER LAB RESULTS SUBMITTED BY BLAGG ENGINEERING, INC.

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

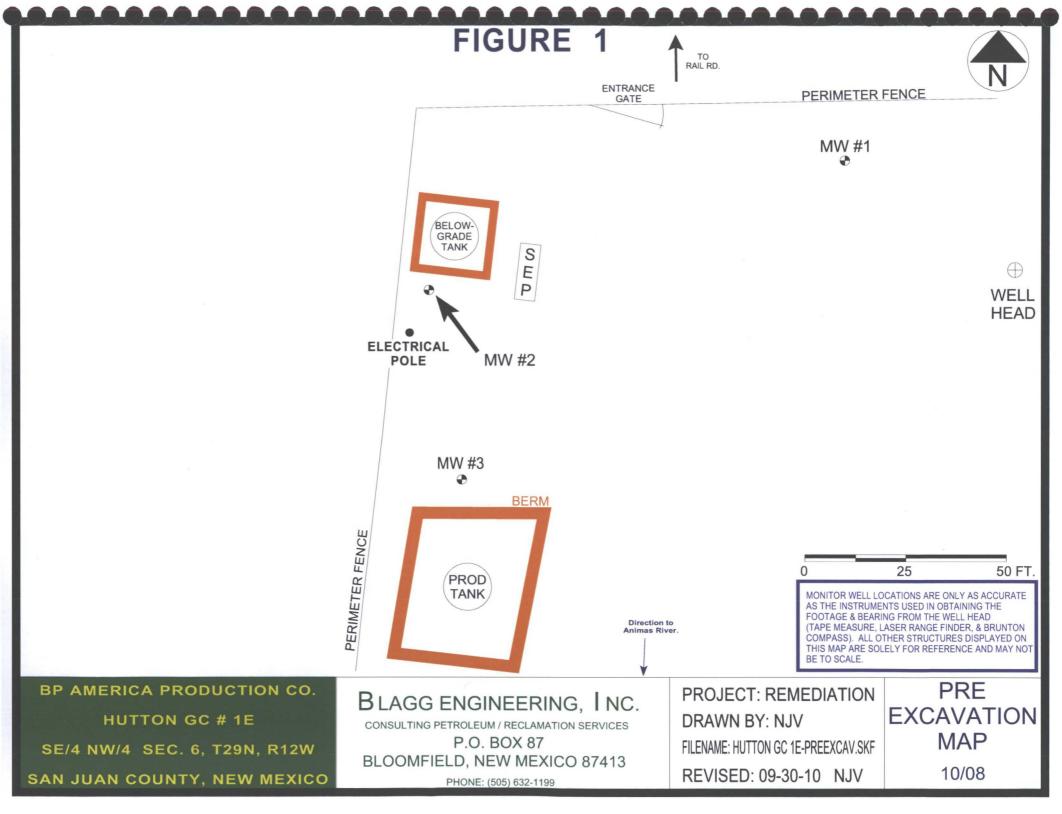
REVISED DATE: October 28, 2010

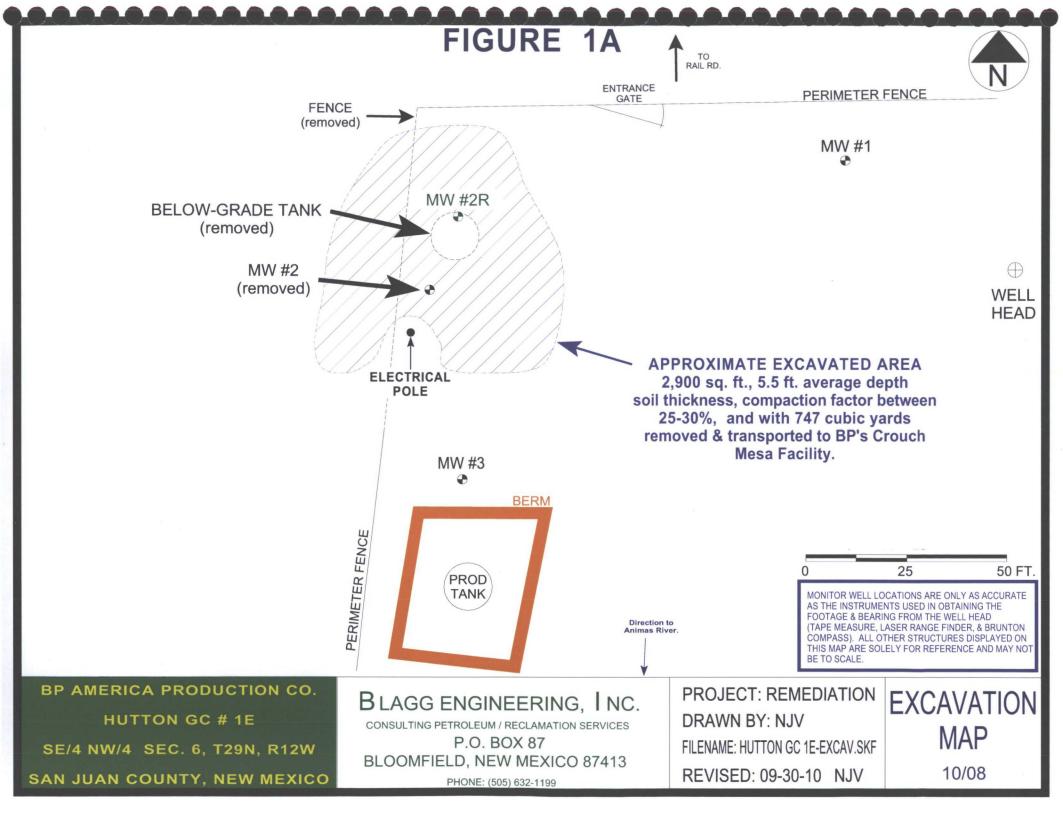
FILENAME: (Hut-4Q10.WK4) NJV

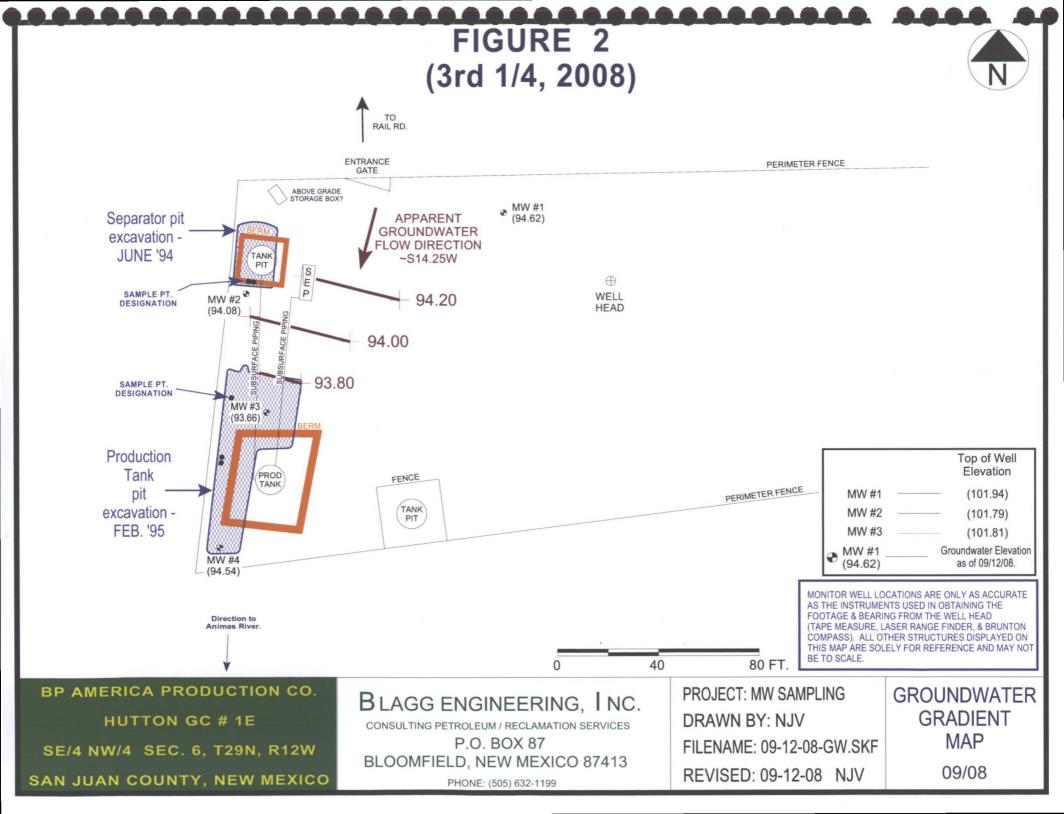
							1		_		
			,		1	,		BTEX	EPA METH	OD 8021B (	ppb)
SAMPLE	WELL	D.T.W.	T.D.	TDS	COND.	рН	PRODUCT	Benzene	Toluene	Ethyl	Total
DATE	NAME or No.	(ft)	(ft)	(mg/L)	umhos		(ft)			Benzene	Xylene
							· · · · · · · · · · · · · · · · · · ·		r	1	
02-Oct-06	MW #1	6.80	15.00		2,100	6.93		ND	ND	ND	ND
02-Oct-06	MW #2	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	. ·			
12-Sep-08		7.71			1,500	7.36		ND	ND	ND	ND
13-Jan-10	MW #2R	5.88			1,500	7.35		40	20	86	770
11	dup.	"				"		38.4	ND	92.0	816
29-Apr-10		5.87			1,600	7.18		20	5.3	13	110
21-Jul-10		7.31			2,100	7.08		37	5.4	61	100
12-Oct-10		6.56			1,800	7.11		1.9	ND	1.3	ND
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
<b>*</b>		NMW			VATER S		ARDS	10	750	750	620

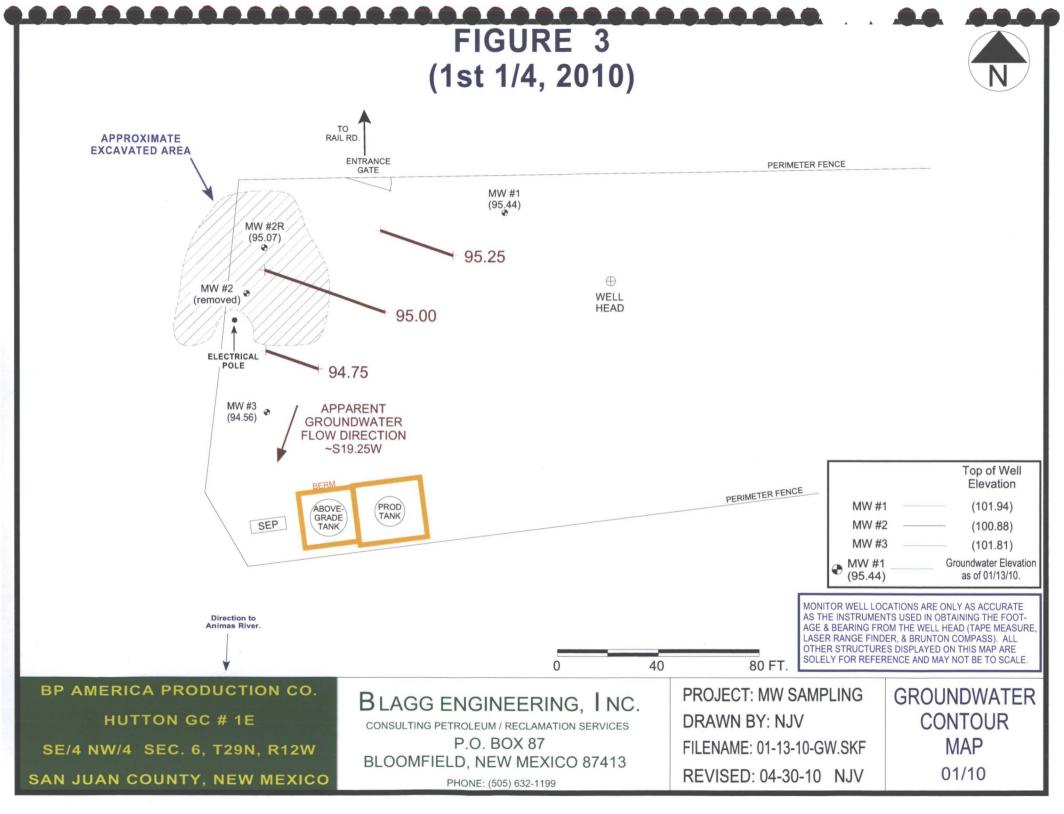
NOTES: 1) RESULTS IN BOLD RED TYPE INDICATE EXCEEDING NMWQCC STANDARDS.

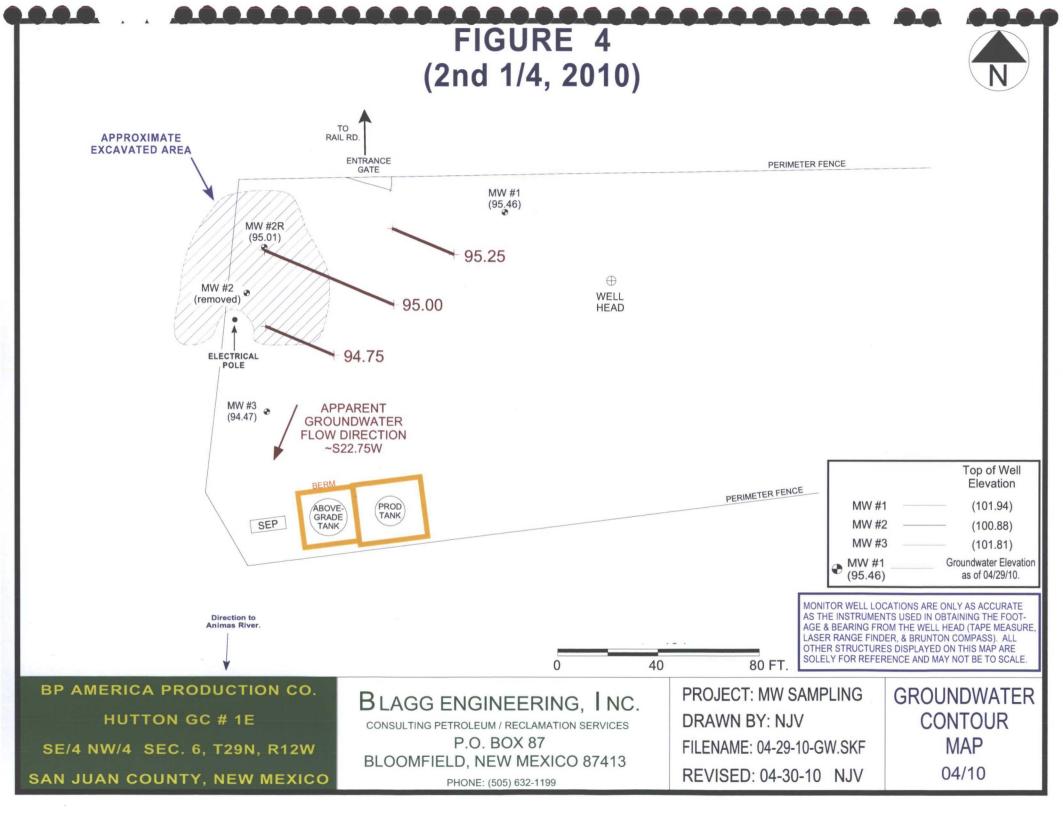
- 2) RESULTS IN BOLD BLUE TYPE INDICATE BELOW NMWQCC STANDARDS AFTER PREVIOUS RESULTS IN BOLD RED TYPE EXCEEDED.
- 3) ND INDICATES NOT DETECTED AT THE REPORTING LIMITS (less than regulatory standards of at least a magnitude of 10).
- 4) NMWQCC INDICATES NEW MEXICO WATER QUALITY CONTROL COMMISSION.

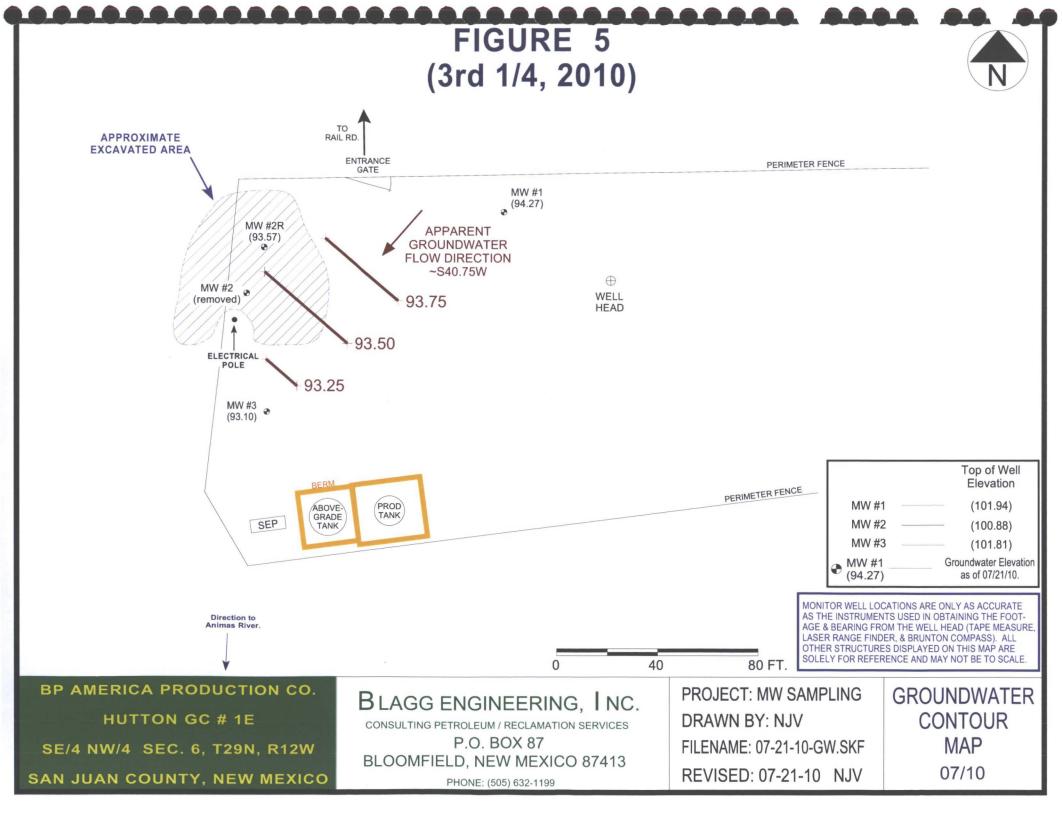


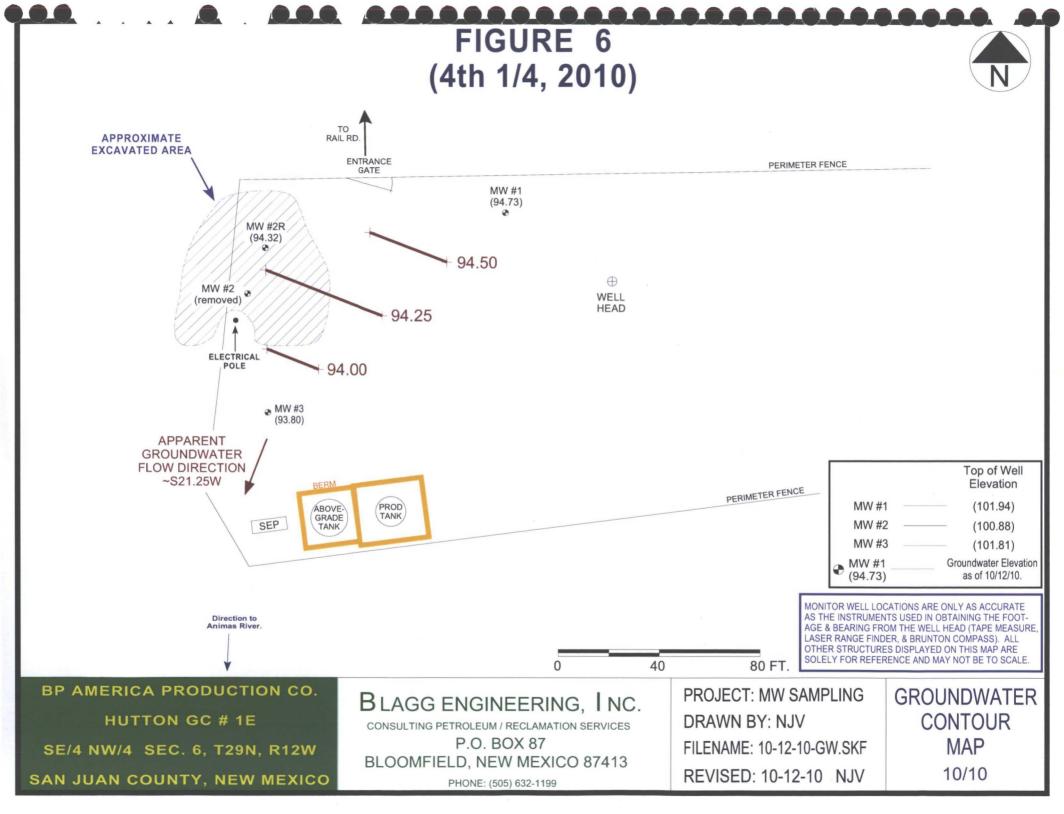


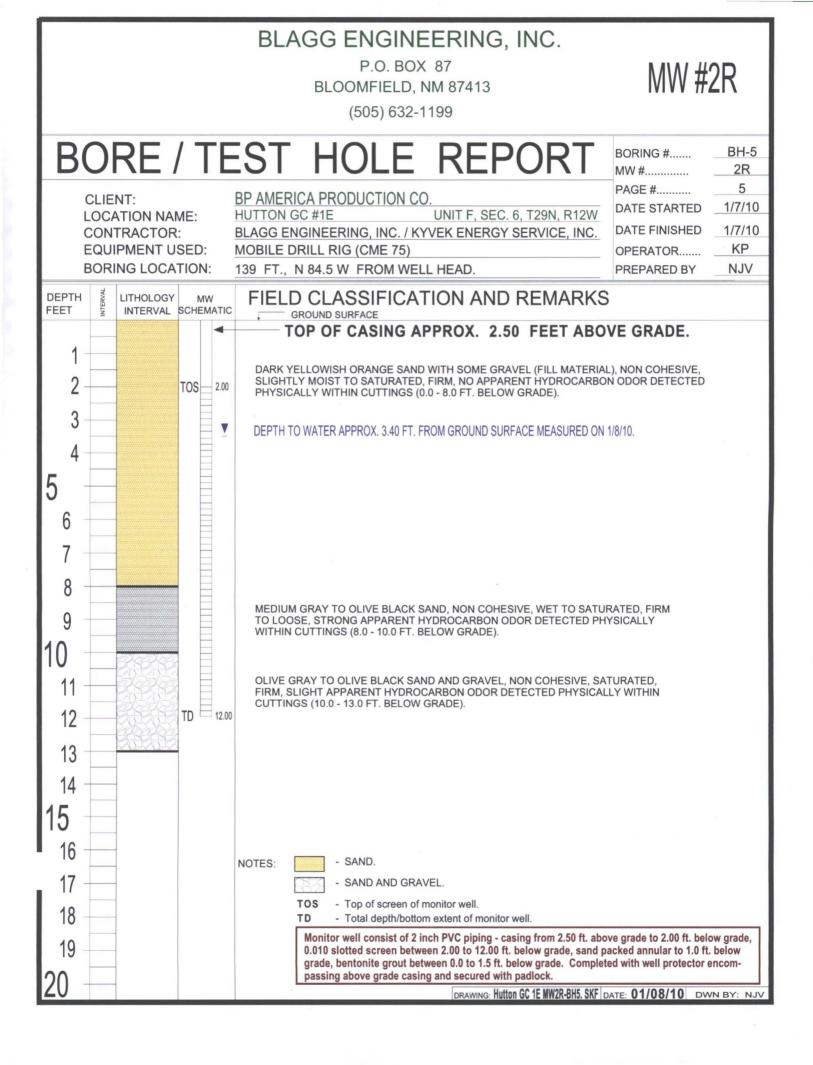












## BLAGG ENGINEERING, INC. MONITOR WELL DEVELOPMENT &/OR SAMPLING DATA

## CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

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

Filename : 09-12-08.WK4

Date : September 12, 2008

LABORATORY (S) USED : HALL ENVIRONMENTAL

SAMPLER: NJV

PROJECT MANAGER :

NJV

					•			11	
WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
1	101.94	94.62	7.32	15.00	-	-	-	-	-
2	101.79	94.08	7.71	15.00	1100	7.36	1,500	23.7	4.50
DEPTH	TO PRODUC	CT (FT.) =	n/a			PRODUC	CT THICKNES	SS(FT.) =	n/a
3	101.81	93.66	8.15	15.00	-	-	-	-	-
			INSTRUM	ENT CALIB	RATIONS =	4.01/7.00/10.00	2,800		
•				DATI	E & TIME =	09/12/08	1055		

NOTES: <u>Volume\_of\_water\_purged\_from\_well\_prior\_to\_sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores)</u>. (i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard\_2 ".

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

Dusky black appearance in MW #3 & #4, physically detected hydrocarbon odor in MW #2. MW #4 casing cut below surface grade to accomadate landowner's request and not resurveyed.

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

on-site	9:55	temp	71 F
off-site	11:21	temp	75 F
sky cond.	Sunny		
wind speed	0 - 5	direct.	W

# Hall Environmental Analysis Laboratory, Inc.

Date: 25-Sep-08

Analyses		Result	PQL Qual Units	DF	Date Analyzed
Lab ID:	0809321-01		Matrix:	AQUEOUS	• .
Project:	Hutton GC #1E		Date Received:	9/16/2008	
Lab Order:	0809321		<b>Collection Date:</b>	9/12/2008 1	1:00:00 AM
CLIENT:	Blagg Engineering		<b>Client Sample ID:</b>	MW #2	

		~ ~			
EPA METHOD 8021B: VOLATILES				•	Analyst: DAM
Benzene	ND	2.0	µg/L	2	9/23/2008 2:06:22 PM
Toluene	- ND	2.0	µg/L	2	9/23/2008 2:06:22 PM
Ethylbenzene	ND	2.0	µg/L	. 2	9/23/2008 2:06:22 PM
Xylenes, Total	ND	4.0	µg/L	2	9/23/2008 2:06:22 PM
Surr: 4-Bromofluorobenzene	102	65.9-130	%REC	2	9/23/2008 2:06:22 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

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Address:	P.O. 1	BOX 87	- Hutte	on ec	ĦE	· '		49	01 Ha	wkins	ww.ha NE				· · · ·		/109	. • •		
	RIFD.	NM 87412	Project #:	a ta a			1			5-345-			=ax							
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			Sample Tea	perantice /				BE	80	8	p po	ō	N'N	cide	(A	N-I	[ ]			ک ہ
Date	Time	Sample Request ID	Container Type and #	Preservative Type	HEAL	- No. 32)	BTEX) MEBE	BTEX + MTBE	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDC (Method 8260)	8310 (PNA or PAH)	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
9/12/08	1100	MW #2	2-400	HCI & COOL		~1						1					1. 			
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Date: 9/15/08 Date:	Time: 1620 Time:	Relinquished by Relinquished by:		Received by	13:15	9/16/0	Rer	nark	s:	<b>1</b>	<u>.                                    </u>		<u> </u>	L	<u>]                                     </u>	·	<u> </u>	· ·	LJ	1
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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.

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# **QA/QC SUMMARY REPORT**

Client: Project:	Blagg Engine Hutton GC #1	-	-	÷		,		Worl	<b>Order:</b> 0809321
Analyte		Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RF	'DLimit Quai
Method: EPA M	ethod 8021B: Vo	latiles				· · ·		· · ·	
Jample ID: 5ML	RB		MBLK			Batch II	D: <b>R30332</b>	Analysis Date:	9/22/2008 9:16:23 AM
<b>`enzene</b>		ND	µg/L	1.0		•	•		
Toluene		ND	µg/L	1.0					
≟thylbenzene		ND	µg/L	1.0					1
(ylenes, Total		ND	µg/L	2.0					
Sample ID: B	·.		MBLK			Batch IC	D: R30332	Analysis Date:	9/22/2008 11:18:17 AM
Benzene		ND	μg/L	1.0					
<i>ī</i> oluene	·	ND	μg/L	1,0					· .
<b>Ethylbenzene</b>		ND	µg/L	1.0					
Xylenes, Total		ND	µg/Ĺ	2.0			•		
Jample ID: 5ML I	RB		MBLK			Batch ID	): <b>R30349</b>	Analysis Date:	9/23/2008 9:31:50 AM
Jenzene		ND .	µg/L	1.0					
Toluene		ND	µg/L	1.0					
£thylbenzene		ND	µg/L	1.0		-			
lylenes, Total		ND	µg/L	2.0					
Sample ID: 100N	G BTEX LCS		LCS		,	Batch ID	): <b>R30332</b>	Analysis Date:	9/23/2008 1:01:38 AM
Senzene		19.05	µg/L	1.0	95.3	85. <del>9</del>	113	•	,
ioluene	· .	18.72	µg/L	1.0	93.6	86.4	113	-	i
Ithylbenzene		19.18	µg/L	1.0	95.9	83.5	118		
Yylenes, Total		57.91	µg/L	2.0	96.5	83.4	122		
Jample ID: LCS-I	BTEX 100NG		LCS			Batch ID	): <b>R30349</b>	Analysis Date:	9/23/2008 8:42:42 PM
Jenzene		18.28	µg/L	1.0	91.4	85.9	113		
oluene		17.89	µg/L	1.0	89.5	86.4	113		
Ethylbenzene		18.40	µg/L	1.0	92.0	83.5	118		
kylenes, Total		55.93	μg/L	2,0	93.2	83.4	122		

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1

Date: 25-Sep-08

Hall Environmental Analysis Laboratory, Inc
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Hall Environmental Analysis La	horatory Inc								
	-	<b>D</b>	- : <b>4</b> (	NH  -12 - 4					
	Sample	Rec	eipt (	Checklist					
Client Name BLAGG				Date Rece			9/16/2008		
Work Order Number 0809321				Received	-	ARS	-		
Checklist completed by:			91		D labels c	hecked by:	Initials	-	•
Signature			Dal						
Matrix:	Carrier name	UPS		<b>x</b> ,				·	
			•				· .		
Shipping container/cooler in good condition?		Yes		No 🗌	Not F	Present 🗌			
Custody seals intact on shipping container/coole	er?	Yes		No 🗌	Not F	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 subm	nitted		Yes 🗹		No 🗌			
Water - Preservation labels on bottle and cap m	atch?	Yes		No 🗋	N	1/A 🗹	,		
Water - pH acceptable upon receipt?		Yes		No 🗌	Ν	1/A 🗹			
Container/Temp Blank temperature?			1°	<6° C Accep	otable				
COMMENTS:				If given suffici	ient time t	o cool.			
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Client contacted	Date contacted:	····.		P	Person con	tacted	···· / ·····	<u> </u>	
Contacted by:	Regarding:	<b></b>				-			
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## BLAGG ENGINEERING, INC.

## MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

## CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

LABORATORY (S) USED : HALL ENVIRONMENTAL

PACE ANALYTICAL

NJV

*Date* : January 13, 2010

UNIT F, SEC. 6, T29N, R12W

DEVELOPER / SAMPLER : N J V

**PROJECT MANAGER :** 

*Filename* : 01-13-10.WK4

HUTTON GC #1E

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	pН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
1	101.94	95.44	6.50	15.00	-	-	-	-	-
2R	100.88	95.07	5.81	14.50	1320	7.37	1,500	10.8	4.50
3	101.81	94.56	7.25	15.00	-	-	_	-	-
			INSTRUM	ENT CALIB	RATIONS =	4.01/7.00/10.00	2,800		

DATE & TIME = 01/11/10 1510

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

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 ".

MW # 2R installed on 01 / 07 / 10 and initial development on 01 / 08 / 10. Excellent recovery in MW # 2R, grayish tint appearance and very slight hydrocarbon odor detected physically. Collected sample from MW # 2R only for BTEX per US EPA Method 8021B (duplicate collected). Surveyed monitor well tops on 4 / 30 / 10.

Top of casing MW #1 ~ 2.70 ft., MW #2R ~ 2.50 ft., MW #3 ~ 2.80 ft. above grade.

on-site	12:52	temp	39 F
off-site	2:08	temp	44 F
sky cond.	Sunny		
wind speed	0 - 5	direct.	SE - E

					·	· · · · · ·
CLIENT:	Blagg Engineering			Client Sample II	D: MW #2R	
Lab Order:	1001169	•	•	Collection Dat	e: 1/13/201	0 1:20:00 PM
Project:	Hutton GC #1E			Date Receive	<b>d:</b> 1/14/201	0
Lab ID:	1001169-01			Matri	x: AQUEO	US
Analyses	······································	Result	PQL	Qual. Units	DF	Date Analyzed
EPA METHOD	8021B: VOLATILES		· · · · · · · · · · · · · · · · · · ·	·····		Analyst: NSB
Benzene		40	10	µg/L	10	1/22/2010 11:46:57 AM
Toluene		20	10	µg/L	10	1/22/2010 11:46:57 AM
Ethylbenzene		86	10	µg/L	10	1/22/2010 11:46:57 AM
Xylenes, Total		770	20	µg/L	10	1/22/2010 11:46:57 AM

65.9-130

103

%REC

# Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

Date: 25-Jan-10

10

1/22/2010 11:46:57 AM

#### Qualifiers:

Value exceeds Maximum Contaminant Level
 Estimated value

- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- $\mathbf{B} = \mathbf{A} \mathbf{n} \mathbf{a} \mathbf{l} \mathbf{y} \mathbf{t}$  detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 1 of 1



### ANALYTICAL RESULTS

Project: HUTTON GC Pace Project No.: 6072335

Sample: MW #2R	Lab ID: 6072335001	Collected: 01/13/10	) 13:20	Received: 0'	1/14/10 09:00 N	latrix: Water	
Parameters	Results Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA	8260					
Benzene	<b>38.4</b> ug/L	5.0	5		01/23/10 18:08	71-43-2	
Ethylbenzene	92.0 ug/L	5.0	5		01/23/10 18:08	100-41-4	
Toluene	ND ug/L	5.0	5		01/23/10 18:08	108-88-3	
Xylene (Total)	<b>816</b> ug/L	15.0	5		01/23/10 18:08	1330-20-7.	
Dibromofluoromethane (S)	103 %	87-113	5		01/23/10 18:08	1868-53-7	
Toluene-d8 (S)	101 %	89-111	5		01/23/10 18:08	2037-26-5	
4-Bromofluorobenzene (S)	104 %	87-115	5		01/23/10 18:08	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %	81-121	5		01/23/10 18:08	17060-07-0	
Preservation pH	1.0	1.0	5		01/23/10 18:08		

Date: 01/25/2010 01:35 PM

#### **REPORT OF LABORATORY ANALYSIS**

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Date	Time	Matrix	Sample Request ID	Type and #	Туре		LINO		BTEX + MT	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
that	175 20	100700	MW #2R	2-40ml	Heir COOL		<u> </u>			1		Ш	_∞	œ	∢	8	<u>∞</u>	8		-+	$\rightarrow$	-   <
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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.

# CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. Altireleyant fields must be completed accurately.

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# **QA/QC SUMMARY REPORT**

Client: /roject:	Blagg Engineering Hutton GC #1E								Work	Order:	1001169
' Analyte	Result	Units	PQL	SPK Va S	SPK ref	%Rec L	owLimit Hi	ghLimit	%RPD	RPDLimit	Qual
lethod: EPA	Method 8021B: Volatiles								-		
Sample ID: 5ML	.RB	MBLK				Batch ID:	R37065	Anaiys	is Date:	1/21/2010	9:38:32 AM
denzene	ND	µg/L	1.0								
oluene	. ND	µg/L	1.0			•					
thylbenzene	ND	µg/L	1.0			. '					
Xylenes, Total	ND ·	µg/L	2.0	<u>.</u>							
Jampie ID: 5ML	RB	MBLK				Batch ID:	R37089	Analys	is Date:	1/22/2010	9:15:10 AM
Jenzene	ND.	µg/L	1.0								
*oluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L	1.0		• •						
lylenes, Total	ND	µg/L	. 2.0								
Sample ID: 100	NG BTEX LCS	LCS				Batch ID:	R37085	Analys	is Date:	1/21/2010	B:15:33 PM
Senzene	19.98	µg/L	1.0	20	0	99.9	85. <del>9</del>	113		•	
ioluene	19.44	µg/L	1.0	20	0	97.2	86.4	113			
Ethylbenzene	19.76	µg/L	1.0	20	0	98.8	83.5	118			
Yylenes, Total	60.05	µg/L	2.0	60	0	100	83.4	122	۰.		
Jample ID: 100N	G BTEX LCS	LCS				Batch ID:	R37089	Analys	is Date:	1/22/2010	8:52:53 PM
Jenzene	20.72	µg/L	1.0	20	0	104	85.9	113			
Toluene	20.44	µg/L	1.0	20	0	102	86.4	113			
Sthylbenzene	20.79	μg/L	1.0	20	Ō	104	83.5	118			
kylenes, Total	63.16	µg/L	2.0	60	0	105	83.4	122			

Qualifiers:

E Estimated value

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Page 1

# Hall Environmental Analysis Laboratory, Inc.

	Sample	e Rec	eipt Ch	necklist			
Client Name BLAGG		•		Date Receiv	ed:	1/14/2010	
Work Order Number 1001169				Received t	y: TLS	Δ.	
Checklist completed by:		.		Sample ID	labels checked b	y: US Initials	· · ·
Matrix	Carrier name:	<u>Grey</u>	<u>(hound</u>				
Shipping container/cooler in good condition?		Yes		No 🗌	Not Present		
Custody seals intact on shipping container/cool	er?	Yes		No 🗌	Not Present	Not Shipped	
Custody seals intact on sample bottles?	· ·	Yes		No 🗌	N/A [	$\checkmark$	
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 🗔		Number o	f preserved
Water - VOA vials have zero headspace?	No VOA vials sub	mitted		Yes 🗹	No 🗌	bottles ch pH:	ecked for
Water - Preservation labels on bottle and cap m	atch?	Yes		No 🗌	N/A 🗹		
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A 🗹	<2 >12 un	less noted
Container/Temp Blank temperature?		1.	<b>.8</b> °	<6° C Accepta	ble	below.	
COMMENTS:		•		If given sufficie	nt time to cool.	;	۲.,
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Client contacted	Date contacted:			Per	son contacted		
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#### CERTIFICATIONS

Project: HUTTON GC Pace Project No.: 6072335

#### **Kansas Certification IDs**

9608 Loiret Boulevard Lenexa, KS 66219 Washington Certification #: C2069 Utah Certification #: 9135995665 Texas Certification #: T104704407-08-TX Oregon Certification #: KS200001 Oklahoma Certification #: 9205/9935 Nevada Certification #: KS000212008A Louisiana Certification #: 03055 Kansas/NELAP Certification #: E-10116 Iowa Certification #: 118 Illinois Certification #: 001191 Arkansas Certification #: 05-008-0 A2LA Certification #: 2456.01

#### **REPORT OF LABORATORY ANALYSIS**

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Pace Package p. 2 of 12



#### SAMPLE SUMMARY

Project:	HUTTON GC
Pace Project No .:	6072335

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6072335001	MW #2R	Water	01/13/10 13:20	01/14/10 09:00
6072335002	TRIP BLANKS	Water	01/13/10 00:00	01/14/10 09:00

## **REPORT OF LABORATORY ANALYSIS**

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## SAMPLE ANALYTE COUNT

Project:	HUTTON GC		
Pace Project No.:	6072335		

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6072335001	MW #2R	EPA 8260	NLM	9
6072335002	TRIP BLANKS	EPA 8260	NLM	9

## **REPORT OF LABORATORY ANALYSIS**

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HUTTON GC

Project:

Pace Analytical Services, Inc. 9608 Loiret Blvd. Lenexa, KS 66219 (913)599-5665

#### **PROJECT NARRATIVE**

Method:	EPA 8260	
Description:	: 8260 MSV UST, Water	
Client:	BP-Blagg Engineering	
Date:	January 25, 2010	
	ere analyzed for EPA 8260. All samples were received in acceptable condition with any ex	
Hold Time:		
Th	were analyzed within the method required hold times with any exceptions noted below.	

#### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

#### **Internal Standards:**

All internal standards were within QC limits with any exceptions noted below.

#### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

#### Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

#### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

#### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

#### QC Batch: MSV/26365

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

#### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

#### Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

#### **REPORT OF LABORATORY ANALYSIS**

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#### ANALYTICAL RESULTS

Project: HUTTON GC

Pace Project No.: 6072335

Sample: TRIP BLANKS	Lab ID: 6072335002	Collected: 01/13/1	00:00	Received: 01	1/14/10 09:00 N	Aatrix: Water	
Parameters	Results Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 826	60 		,			
Benzene	ND ug/L	1.0	1		01/23/10 18:26	71-43-2	
Ethylbenzene	ND ug/L	1.0	1		01/23/10 18:26	100-41-4	
Toluene	ND ug/L	1.0	1		01/23/10 18:26	108-88-3	
Xylene (Total)	ND ug/L	3.0	1		01/23/10 18:26	1330-20-7	
Dibromofluoromethane (S)	102 %	87-113	1		01/23/10 18:26	1868-53-7	
Toluene-d8 (S)	98 %	89-111	1		01/23/10 18:26	2037-26-5	
4-Bromofluorobenzene (S)	102 %	87-115	1		01/23/10 18:26	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %	81-121	1		01/23/10 18:26	17060-07-0	
Preservation pH	1.0	1.0	1		01/23/10 18:26		

Date: 01/25/2010 01:35 PM

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Pace Package p. 7 of 12

naivi www.pacelahs.com

#### **QUALITY CONTROL DATA**

#### Project: HUTTON GC Pace Project No.: 6072335 QC Batch: MSV/26365 Analysis Method: EPA 8260 QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER Associated Lab Samples: 6072335001, 6072335002 METHOD BLANK: 594919 Matrix: Water Associated Lab Samples: 6072335001, 6072335002 Blank Reporting Parameter Units Result Limit Analyzed Qualifiers Benzeine ug/L ND 1.0 01/23/10 16:18 Ethylbenzene ug/L ND 1.0 01/23/10 16:18

,			1.0	01120/10 10:10
Toluene	ug/L	ND	1.0	01/23/10 16:18
Xylene (Total)	ug/L	ND	3.0	01/23/10 16:18
1,2-Dichloroethane-d4 (S)	%	100	81-121	01/23/10 16:18
4-Bromofluorobenzene (S)	%	101	87-115	01/23/10 16:18
Dibromofluoromethane (S)	%	100	87-113	01/23/10 16:18
Toluene-d8 (S)	%	95	89-111	01/23/10 16:18

#### LABORATORY CONTROL SAMPLE: 594920

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
zene	ug/L		9.3	93	81-114	
ylbenzene	ug/L	10	10.2	102	82-115	
iene	ug/L	10	9.7	97	82-114	
ene (Total)	ug/L	30	28.9	96	81-116	
Dichloroethane-d4 (S)	%			101	81-121	
omofluorobenzene (S)	%			97	87-115	
omofluoromethane (S)	%			103	87-113	
iene-d8 (S)	%			99	89-111	

Date: 01/25/2010 01:35 PM

#### **REPORT OF LABORATORY ANALYSIS**

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#### QUALIFIERS

#### Project: HUTTON GC Pace Project No.: 6072335

#### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate.

RPD - Relative Percent Difference

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

#### BATCH QUALIFIERS

Batch: MSV/26365

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Date: 01/25/2010 01:35 PM

#### **REPORT OF LABORATORY ANALYSIS**

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## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	HUTTON GC			
Pace Project No.:	6072335		· · ·	,
				-

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6072335001 6072335002	MW #2R TRIP BLANKS	EPA 8260 EPA 8260	MSV/26365 MSV/26365		· · · · · · · · · · · · · · · · · · ·

Date: 01/25/2010 01:35 PM

## **REPORT OF LABORATORY ANALYSIS**

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Project #	Sa			
Tracking #: 18664.8408.3922         Custody Seal on Cooler/Box Present:         Dyster 11:         Detains Material:         Dyster 11:         Dyster 11:      <	Pace Analytical Client Name	: BLACC		Project # 6072335
Thermometer Used       Image: Provide an analysis       Type of face: (Mine Blue None Blue None Blue Cooling process has begun Date and Initials deperson examplining contents:       Date and Initials deperson examplining contents:         Chain of Custody Present:       Image: Dres Diversity in the Dive	Tracking #: 8664 8408 3922	_		Proj. Dije Date
The transmitted result       Image: State of the transmitted result of transmi		Bags 🗍 None	Other	
Cooler Temperature       0.1       Disciplical fissue is proven; res no       contents:       Contents:<	Thermometer Used	Type of Ice: We	Blue None	
Chain of Custody Filed Out:       EVes       INo       INA 2.         Chain of Custody Relinquished:       EVes       INo       INA 3.         Sampler Name & Signature on COC:       EVes       INo       INA 4.         Samples Arrived within Hold Time:       EVes       INo       INA 5.         Short Hold Time Analysis (<72hr):	· · · · · · · · · · · · · · · · · · ·	Biological Tissue		
Chain of Custody Relinquished:       ØYee       INA       3.         Sampler Name & Signature on COC;       ØYee       INA       A.         Samples Arrived within Hold Time:       ØYee       INA       DNA         Samples Arrived within Hold Time:       ØYee       INA       DNA         Short Hold Time Analysis (<72hr):	Chain of Custody Present:		1.	
Sampler Name & Signature on COC: Diversity of the DNA 4. Samples Arrived within Hold Time: Diversity of DNA 5. Short Hold Time Analysis (<72hr): Diversity of DNA 5. Short Hold Time Analysis (<72hr): Diversity of DNA 5. Short Hold Time Analysis (<72hr): Diversity of DNA 5. Short Hold Time Analysis (<72hr): Diversity of DNA 6. Rush Turn Around Time Requested: Diversity of DNA 7. Sufficient Volume: Diversity of DNA 7. Sufficient Volume: Diversity of DNA 8. Correct Containers Used: Diversity of DNA 9Pace Containers Used: Diversity of DNA 10. Filtered volume received for Dissolved tests Diversity of DNA 11. Stample Labels match COC: Effect DNA 11. Stample Labels match COC: Effect DNA 11. Stample Labels match COC: Effect DNA 12Includes data/time/ID/Analysis Matrix: DVT All containers needing preservation have been checked. DVes DNA DIVA 13. All containers needing preservation are found to be in Owna 14. Headspace in VOA Vials (>60mm): DVes DNA DIVA 15. Trip Blank Custody Seals Present Diversity Divers	Chain of Custody Filled Out:	ØYes ONO ON/A	2.	
Samples Arrived within Hold Time: Øyes DNo DNA 5. Short Hold Time Analysis (<72h): Dve Øho DNA 6. Rush Turn Around Time Requested: Dve Øho DNA 6. Rush Turn Around Time Requested: Dve Øho DNA 6. Rush Turn Around Time Requested: Dve Øho DNA 8. Correct Containers Used: Øres DNo DNA 8. Correct Containers Used: Øres DNo DNA 9Pace Containers Used: Øres DNo DNA 10. Filtered volume received for Dissolved tests Dve Øho DNA 11. Sample Labels match COC: Øres DNo DNA 12Includes date/time/D/Analysis Matrix: DVC All containers needing preservation are found to be in Ores DNo ØhvA 13. All containers needing preservation are found to be in Ores DNo ØhvA 14. Headspace in VOA Vials (>6mm): Dves Øho DNA 15. Trip Blank Custody Seals Present Øves Øho DNA 16. Trip Blank Lot # (If purchased): <i>OS1208/-3</i> Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N Person Contacted: Date/Time:	Chain of Custody Relinquished:	ZYes DNo DN/A	3.	
Short Hold Time Analysis (<72hr):	Sampler Name & Signature on COC:	∠21Yes □No □N/A	4.	
Rush Turn Around Time Requested:       DYes       DNA       7.         Sufficient Volume:       DYes       DNA       8.         Correct Containers Used:       DYes       DNA       9.         -Pace Containers Used:       DYes       DNA       10.         Filtered volume received for Dissolved tests       Dres       DNA       11.         Sample Labels match COC:       Effes       DNo       DNA       12.         -Includes date/Time/ID/Analysis       Matrix:       Dres       DNA       13.         Atl containers needing preservation are found to be in compliance with EPA recommendation.       Dres       DNA       Initial when completed preservative         Samples checked for dechlorination:       Dres       DNA       DANA       14.         Headspace in VOA Vials ( >6MR):       Dres       DNA       15.       Trip Blank Custody Seals Present       Dres       DNA         Tip Blank Custody Seals Present       GYes       DNA       Date/Time:	Samples Arrived within Hold Time:	ØYes □No □N/A	5.	
Sufficient Volume:       Dres       DNA       8.         Correct Containers Used:       Dres       DNA       9.         -Pace Containers Used:       Dres       DNA       9.         -Pace Containers Used:       Dres       DNA       10.         Filtered volume received for Dissolved tests       Dres       DNA       10.         Filtered volume received for Dissolved tests       Dres       DNA       11.         Sample Labels match COC:       Dres       DNA       12.         -Includes date/time/ID/Analysis       Matrix:       Dres       DNA         All containers needing preservation have been checked.       Dres       DNA       13.         All containers meeding preservation are found to be in compliance with EPA recommendation.       Dres       DNA       Initial when completed       Lot # of added         gamples checked for dechlorination:       Dres       DNA       14.       Headspace in VOA Vials (>6mm):       Dres       DNA       16.         Trip Blank Present:       Dres       DNA       DNA       DNA       Parce Trip Blank Lot # (if purchased); <u>DS1208-7</u> Date/Time:	Short Hold Time Analysis (<72hr):		6.	
Correct Containers Used:       IVes       INo       INA       9.         Pace Containers Used:       Iffee INo       INA       INA         Containers Intact:       Iffee INo       INA       10.         Filtered volume received for Dissolved tests       Iffee INo       INA       11.         Sample Labels match COC:       Iffee INo       INA       12.         Includes data/time/ID/Analysis       Matrix:       Intit       Intit         All containers needing preservation have been checked.       Iffee INo       INA       13.         All containers needing preservation are found to be in compliance with EPA recommendation.       Iffee INo       Initial when completed       Initial when completed         Samples checked for dechlorination:       Iffee INo       IN/A       14.         Headspace in VOA Vials (>6mm):       Iffee INo       IN/A       16.         Trip Blank Present:       Iffee INo       IN/A       16.         Trip Blank Lot # (if purchased):       OS I2268-7       INO       IN/A         Comments/ Resolution:       Copy COC to Client?       Y / N       Field Data Required?       Y / N         Person Contacted:	Rush Turn Around Time Requested:	Oyes (21No On/A	7.	
-Pace Containers Used:       Effes       INA         Containers Intact:       Effered volume received for Dissolved tests       IVes       INA         Filtered volume received for Dissolved tests       IVes       Eno       INA         Sample Labels match COC:       Effered volume received for Dissolved tests       IVes       Eno       INA         -Includes data/time/(D/Analysis       Matrix:       ///       ///       ///         All containers needing preservation have been checked.       IVes       INO       Enva       13.         All containers needing preservation are found to be in compliance with EPA recommendation.       IVes       Intitial when completed       Lot # of added         exceptions:       Od cotion, TOC, O&G, W-DRO (water)       If ves       INo       Enva       Intitial when completed       preservative         Samples checked for dechtorination:       IVes       INo       Enva       Intitial when completed       preservative         Samples checked for dechtorination:       IVes       INo       Enva       IA       IA         Headspace in VOA Vials ( >6mm):       IVes       INo       Enva       IA       IA         Headspace in VOA Vials ( >6mm):       IVes       INo       INA       IA       IA         Pace Trip Blank Lot #	Sufficient Volume:	Dries DNo DN/A	8.	
Containers Intact:       EYes       INA       10.         Filtered volume received for Dissolved tests       EYes       INA       11.         Sample Labels match COC:       EYes       INA       12.         Includes data/time/ID/Analysis       Matrix:       Matrix:       Matrix:         All containers needing preservation have been checked.       EYes       INO       ZinA         All containers needing preservation are found to be in compliance with EPA recommendation.       EYes       INO       ZinA         All containers needing preservation are found to be in compliance with EPA recommendation.       EYes       INO       ZinA         exceptions:       OD collorm, TOC, O&G, W-DRO (water)       EYes       INO       ZinA         Samples checked for dechlorination:       EYes       INO       ZinA       14.         Headspace in VOA Vials (>6mm):       EYes       INO       ZinA       15.         Trip Blank Custody Seals Present       EYes       INO       INA       16.         Trip Blank Lot # (if purchased):       CSI 208-7       Exerce Trip Blank Lot # (if purchased):       CSI 208-7         Client Notification:       Copy COC to Client?       Y / N       Field Data Required?       Y / N         Person Contacted:	Correct Containers Used:	Øres □no □n/a	9.	,
Filtered volume received for Dissolved tests       Uves ZNo       UNA       11.         Sample Labels match COC:       Ø'res       No       UNA       12.         Includes data/time/ID/Analysis       Matrix:       WT       Ital         All containers needing preservation have been checked.       Uves       DNA       13.         All containers needing preservation are found to be in compliance with EPA recommendation.       Uves       DNA       13.         Samples checked for dechlorination:       Uves       DNO       DNA       14.         Headspace in VOA Vials (>6mm):       Uves       Zives       DNO       Initial when completed         Samples checked for dechlorination:       Uves       Zives       DNO       Initial when completed       Dreservative         Samples checked for dechlorination:       Uves       Zives       DNO       Initial when completed       Dreservative         Samples checked for dechlorination:       Uves       Zives       DNO       Initial when completed       Dreservative         Samples checked for dechlorination:       Uves       Zives       Zives       Initial when completed       Dreservative         Samples checked for dechlorination:       Uves       Zives       Dives       Initial when completed       Dives       Initial when c	-Pace Containers Used:	Øyes 🛛 No 🖾 N/A		-
Sample Labels match COC:       EYes       INO       INA       12.         Includes date/time/ID/Analysis       Matrix:       ///       ////       //////         All containers needing preservation have been checked.       IYes       INO       ZINA       13.         All containers needing preservation are found to be in compliance with EPA recommendation.       IYes       INO       ZINA       13.         exceptions:       VOR cotiform, TOC, 0&G, WI-DRO (water)       IYes       INO       ZINA       Initial when completed       Lot # of added         Samples checked for dechlorination:       IYes       INO       ZINA       14.         Headspace in VOA Vials (>6mm):       IYes       INO       INA       15.         Trip Blank Custody Seals Present:       ZYes       INO       INA       16.         Trip Blank Lot # (if purchased):       OS1248-7       OS1248-7       IVES       INO       INA         Client Notification/ Resolution:       Copy COC to Client?       Y       N       Field Data Required?       Y       N         Person Contacted:	Containers Intact:	Øyes Ono On/A	10.	
-Includes date/time//D/Analysis       Matrix:       //         All containers needing preservation have been checked.       Initial when checked.       Image: Im	Filtered volume received for Dissolved tests	DYes ZNo DN/A	11	
All containers needing preservation have been checked.       Image: Second	Sample Labels match COC:	ØYes □No □N/A	12.	
Image: Section and Sectin and Section and Section and Section and Secti		wt		
compliance with EPA recommendation.       Ertes Ente for the form         exceptions: YOA coliform, TOC, O&G, WI-DRO (water)       Eves Ente form         Samples checked for dechlorination:       Eves Ente form         Samples checked for dechlorination:       Eves Ente form         Eves Ente       Eves Ente form         Headspace in VOA Vials (>6mm):       Eves Ente         Eves Enter       Eves Enter         Ever Enter       Ever Enter         Ever En	All containers needing preservation have been checked.	□Yes □No ØN/A	13.	
exceptions: YOR coliform, TOC, O&G, WI-DRO (water) //Yes DNo completed preservative Samples checked for dechlorination: DYes DNo DNA 14. Headspace in VOA Vials (>6mm): DYes DNo DNA 15. Trip Blank Present: DYes DNo DNA 16. Trip Blank Custody Seals Present DYes DNo DNA Pace Trip Blank Lot # (if purchased): OSI208-7 Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N Person Contacted: Date/Time: Comments/ Resolution: Date/Time:		□yes □no Øn/A		
Headspace in VOA Vials (>6mm):       Ives INo       IN/A       15.         Trip Blank Present:       Ives       IN/A       16.         Trip Blank Custody Seals Present       Ives       IN/A       16.         Pace Trip Blank Lot # (if purchased):       OSI 208-3       IV/A         Client Notification/ Resolution:       Copy COC to Client?       Y / N       Field Data Required?       Y / N         Person Contacted:	exceptions: YOA, coliform, TOC, O&G, WI-DRO (water)			
Trip Blank Present:       Image: Signal Control of Signal Contrelatio Signal Control of Signal Control of Signal Con	Samples checked for dechlorination:	Dyes DNo ØN/A	14.	
Trip Blank Custody Seals Present       Image: Ores Ino Inv/A         Pace Trip Blank Lot # (if purchased): OS1208-3         Client Notification/ Resolution:       Copy COC to Client?       Y / N         Person Contacted:	Headspace in VOA Vials ( >6mm):	□Yes ØNo □N/A	15.	
Pace Trip Blank Lot # (if purchased): 051208-7 Client Notification/Resolution: Copy COC to Client? Y / N Person Contacted: Date/Time: Comments/Resolution: Sharren Horver at USS No Wreft and Cealter with PP Proof. MW 1/10/10		ZYes ONO ON/A	16.	
Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N Person Contacted: Date/Time: Comments/ Resolution: Ghammen Horover at USS no longer app cealed with BP Blogg. MW 1/10/10	Trip Blank Custody Seals Present			
Person Contacted: Date/Time: Comments/ Resolution: <u>Ghannen torover at URS no lireer and cealed with BP Blogg</u> <u>mw 1/10/10</u>	Pace Trip Blank Lot # (if purchased): 051208-3	· · ·		
Comments/Resolution: Shannen torover at uss no linger and cealed with BP Blogg. MW 1/10/10	Client Notification/ Resolution: Copy	COC to Client?	Y / N	Field Data Required? Y / N
Shannen torover at vers no lirger appcealed with BP Blogg. mw 1/10/10	Person Contacted:	Date/	Time:	· .
Project Manager Review: Date: 15710		res no lu	ryr and lea	tool with Dr Dbeg.
Project Manager Review: Date: V15710				
Project Manager Review: NW Date: 115710		·	·	
Project Manager Review: Date: VI5710		······································		
	Project Manager Review:	)		Date: 115710

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

F-KS-C-003-Rev.04, 04February2009

## BLAGG ENGINEERING, INC.

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

## CLIENT: BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

LABORATORY (S) USED : HALL ENVIRONMENTAL

HUTTON GC #1E

UNIT F, SEC. 6, T29N, R12W

Date : April 29, 2010

*Filename* : 04-29-10.WK4

DEVELOPER / SAMPLER : N J V

PROJECT MANAGER :

NJV

	-								
WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рН і	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)					(gal.)
1	101.94	95.46	6.48	15.00	-	-	-	-	-
2R	100.88	95.01	5.87	14.50	1240	7.18	1,600	15.0	4.25
3	101.81	94.47	7.34	15.00	-	-	-	-	-
INSTRUMENT CALIBRATIONS =						4.01/7.00/10.00	2,800		*
DATE & TIME =						04/29/10	1230		

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2R, Collected sample from MW # 2R only for BTEX per US EPA Method 8021B. Surveyed monitor well tops on 4/30/10.

Top of casing MW #1 ~ 2.70 ft., MW #2R ~ 2.50 ft., MW #3 ~ 2.80 ft. above grade.

on-site	1:10	temp	48 F
off-site	2:20	temp	51 F
sky cond.	Partly	cloudy	
wind speed	10-25 G 30	direct.	w

## Hall Environmental Analysis Laboratory, Inc.

Date: 06-May-10

**CLIENT: Blagg Engineering Client Sample ID:** MW #2R Lab Order: 1005036 Collection Date: 4/29/2010 12:40:00 PM **Project:** Hutton GC #1E Date Received: 5/4/2010 Matrix: AQUEOUS Lab ID: 1005036-01 Data Analyzad Analysee Decult TT-- 14 NE DAT

Result	IVI	Qual Units	DF	Date Analyzed
Marriana				Analyst: NSB
20	1.0	μg/L	1	5/6/2010 2:40:50 AM
5.3	1.0	μg/L	1	5/6/2010 2:40:50 AM
13	1.0	µg/L	1	5/6/2010 2:40:50 AM
110	2.0	µg/L	1	5/6/2010 2:40:50 AM
98.9	65.9-130	%REC	1	5/6/2010 2:40:50 AM
	20 5.3 13 110	20         1.0           5.3         1.0           13         1.0           110         2.0	20 1.0 μg/L 5.3 1.0 μg/L 13 1.0 μg/L 110 2.0 μg/L	20         1.0         μg/L         1           5.3         1.0         μg/L         1           13         1.0         μg/L         1           110         2.0         μg/L         1

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

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			1	Project Name			1 🗖								•						<b>&gt;</b>	
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		BLFL		Project #:			]	Τe	el. 508	5-34!	5-39	975	F	Fax	505-	345-	4107	7		•		
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email or	Fax#:			Project Mana	iger:	1 nr	6	( <u>y</u> l	sel)					<b>(</b> †)								٦
QA/QC F	-		Level 4 (Full Validation)		502 1/1		<del>TMB's</del> (80218)	TPH (Gas only)	(Gas/Diesel)					PO4,S(	PCB's							
		Othe	۲	Sampler: /	ELSON	(/ELEZ		Hd1 +		418.1)	04.1)	(HA)		0 <sub>3</sub> ,NO <sub>2</sub> ,	/ 8082		F		·		r N)	
	(Type)_			Sample Tem	perature	2.1 -			98 180	d 4	2 Q	Ч Ч	tals	Ň,	ides	7	Ş				Σ	-
Date	Time	Matrix	Sample Request ID	Type and #	Preservative Type	Hereitaning and an	BTEX)+MTBE	BTEX + MTBE	TPH Method 8015B	TPH (Method	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)	
129/10	1240	WATER	MW #ZR	2-40ml	HUF	1	$\overline{\mathcal{N}}$			<u> </u>	_			<u> </u>							+	Ϊ
				<u> </u>										· · ·								1
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1,0	-							$\square$			-	$\neg$										
Date:	1615	Relinquishe	Mar 17.	Received by Received by	5/4/05	Date Time	Ren	narks	 3:			4						4	<b>L</b>		l	-
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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: Project:	Blagg Engineering Hutton GC #1E								Work	Order:	1005036
Analyte	Result	Units	PQL	SPK Va SPK	ref	%Rec L	owLimit Hi	ghLimit	%RPD	RPDLimit	Qual
Method: EPA	Method 8021B: Volatiles										
Sample ID: 5ML	. RB	MBLK			•	Batch ID:	R38525	Analysis	B Date:	5/4/2010	9:52:23 AN
Benzene	ND	µg/L	1.0								
Toluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L	1.0			1			i	•	
Xylenes, Total	ND	µg/L	2.0					•			
Sample ID: 5ML	. RB	MBLK	· ·			Batch ID:	R38553	Analysis	Date:	5/5/2010	9:30:20 AN
Benzene	ND	µg/L	1.0			•				,	
Toluene	ND	µg/L	1.0								
Ethyibenzen <del>e</del>	ND	µg/L	1.0								•
Xylenes, Total	ND	µg/L	2.0								
Sample ID: 100	NG BTEX LCS	LCS				Batch ID:	R38525	Analysis	Date	5/5/2010	5: <b>34:55</b> AM
Benzene	21.22	μg/L	1.0	20	0	106	85.9	113			
Toluene	20.93	µg/L	1.0	20	0	105	86.4	113.			
Ethylbenzene	20.75	µg/L	1.0	20	0	104	83.5	118			
Xylenes, Total	62.80	µg/L	2.0	60	0	105	83.4	122			·
Sample ID: 100	NG BTEX LCS	LCS		~		Batch ID:	R38553	Analysis	Date:	5/5/2010	8:07:02 PM
Benzene	19.89	µg/L	1.0	20	0	99.5	85.9	113			
Toluene	19.79	µg/L	1.0	20	0	99.0	86.4	113			
Ethylbenzene	19.47	µg/L	1.0	20	0	97.4	83.5	118	•		
Xylenes, Total	58.94	µg/L	2.0	60	0	98.2	83.4	122			
Sample ID: 100	NG BTEX LCSD	LCSD				Batch ID:	R38553	Analysis	Date:	5/5/2010	8:37:27 PM
Benzene	21.56	µg/L	1.0	20 0	0	108	85.9	113	8.04	27	
Toluene	21.12	µg/L	1.0	20 0	0	106	86.4	113	6.47	19	
Ethylbenzene	20.53	µg/L	1.0	20 .	0	103	83.5	118	5.26	10	
Xylenes, Total	60.73	μg/L	2.0	60 (	0	101	83.4	122	3.00	13	•

Qualifiers:

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits

Page 1

	Sample	Rec	eipt Cł	necklist		
Client Name BLAGG				Date Receiv	ed:	5/4/2010
Work Order Number 1005036				Received b	y: TLS	<sup>1</sup> N
Checklist completed by:	<u> </u>		5/4 Date	Sample ID	labels checked by: _	
Matrix:	Carrier name:	Grey	<u>/hound</u>			
Shipping container/cooler in good condition?	•	Yes		No 🗌	Not Present	
Custody seals intact on shipping container/c	ooler?	Yes		No 🗔	Not Present	Not Shipped
Custody seals intact on sample bottles?		Yes		No 🗔	N/A 🗹	
Chain of custody present?		Yes		- No 🗌	ï	
Chain of custody signed when relinquished a	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 🗌	(	Number of preserved
Water - VOA vials have zero headspace?	No VOA vials subr	nitted	Ĺ	Yes 🔽	No 🗔	bottles checked for pH:
Water - Preservation labels on bottle and cap	p match?	Yes		No 🗌	N/A 🗹	· .
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A 🗹	<2 >12 unless noted below.
Container/Temp Blank temperature?		2	.1°	<6° C Accepta		bolon.
COMMENTS:				If given sufficier	nt time to cool.	•
		•				
·						
			-			
Client contacted	Date contacted:			Per	son contacted	
Contacted by:	Regarding:	•				
Comments:			,			
	•••••					
		<u> </u>			· · · · · · · · · · · · · · · · · · ·	
				<u> </u>		
Corrective Action					:	
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### BLAGG ENGINEERING, INC.

#### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: B	P AME	rica p	ROD.	<u>CO.</u>
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CHAIN-OF-CUSTODY # : N/A

LABORATORY (S) USED : HALL ENVIRONMENTAL

HUTTON GC #1E

UNIT F, SEC. 6, T29N, R12W

Date : July 21, 2010

DEVELOPER / SAMPLER : N J V

Filename : 07-21-10.WK4

PROJECT MANAGER :

NI	т	<b>X</b> 7	
		v	

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	pН	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)				·	(gal.)
1	101.94	94.27	7.67	15.00	-	-	-	-	
2R	100.88	93.57	7.31	14.50	1245	7.08	2,100	23.6	3.50
3	101.81	93.10	8.71	15.00	-	-	-		-
			INSTRUM	4.01/7.00/10.00	2,800				
				E & TIME =	07/20/10	0800			

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW #2R, Collected sample from MW #2R only for BTEX per US EPA Method 8021B.

Top of casing MW #1 ~ 2.70 ft., MW #2R ~ 2.50 ft., MW #3 ~ 2.80 ft. above grade.

on-site	12:00	temp	83 F
off-site	1:00	temp	87 F
sky cond.	Sunny		
wind speed	0 - 5	direct.	SE

CLIENT: Lab Order: Project: Lab ID:	Blagg Engineering 1007845 Hutton GC #1E 1007845-01			Date Receive	te: 7/21/2010	0 12:45:00 PM 0
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene		37	1.0	µg/L	1	7/30/2010 2:16:41 PM
Toluene		5.4	1.0	µg/L	1	7/30/2010 2:16:41 PM
Ethylbenzene		61	1.0	µg/L	1	7/30/2010 2:16:41 PM
Xylenes, Total		100	2.0	µg/L	1	7/30/2010 2:16:41 PM
Surr: 4-Brom	ofluorobenzene	121	65.9-130	%REC	1	7/30/2010 2:16:41 PM

Date: 04-Aug-10

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level

E Estimated value

J Analyte detected below quantitation limits

NC Non-Chlorinated

PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

C	hain	-ot-Cu	istody Record	urn-Arouna	rime:		<b>- - -</b>	1											_			
Client:	BLAGE	FENG	R. / BP AMERICA	Standard	🗆 Rush	L														EN7 AT(		
				Project Name															<b>N</b> A	414		
Mailing	Address	: PC	0. BOX 87	HUTT	ion fc	FIE	-		40	01 H			v.hai						7100			
			D., NM 87413	Project #:																		
Phone	#: (	505/	632-1199	-						el. 50	10-04	-0-01					uesi	410				
email o				Project Mana	iger:	1	プレー	6)	ily)	(lə					(4)						T	
	Package: dard		Level 4 (Full Validation)	NG Sampler: A	issond Vi	/ ELE Z		<del>TMB's</del> (8021 <b>§</b>	TPH (Gas only)	(Gas/Diesel)					O4,SC	PCB's					-	
Accredi				Sampler:	Lewson 1	ELE Z			) H		_	<u> </u>			0 <sub>2</sub> ,F	982				i		
	AP	Othe	٢	Oplice	<b>D</b> IVIES			I III	+ TF	15B	18.1	504.1)	PAH)		3,N	/ 80	-	٩)				S S
	(Type)			Sample Tem				H H	ВЩ	80	d 4	q 2(	or P	tals	NC,	ides	2	Ŋ,				Σ
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type		AE North	ETENH WIBE	BTEX + MTBE	TPH Method 8015B	TPH (Method 418.1)	EDB (Method	8310 (PNA	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
Vielio	1245	WATER	mul #2R	40m/-2	Heit		1															
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zz/10 Date:	7530 Time:	Relinquishe	the V2	Received by:	7 7 29	1.	7:35 Time	Ken	nark	5:												
			V		-														i			

#### **Client: Blagg Engineering** Hutton GC #1E roject: Work Order: 1007845 SPK Va SPK ref Units PQL %Rec LowLimit HighLimit %RPD **RPDLimit** Qual Analyte Result lethod: EPA Method 8021B: Volatiles Batch ID: Sample ID: 5ML RB MBLK R40133 Analysis Date: 7/30/2010 9:20:23 AM denzene ND µg/L 1.0 oluene ND µg/L 1.0 **Thylbenzene** ND µg/L 1.0 Kylenes, Total ND µg/L 2.0 Batch ID: Analysis Date: 7/30/2010 7:50:21 PM ample iD: 100NG BTEX LCS LCS R40133 94.2 3enzene 18.83 µg/L 1.0 20 0 87.9 121 Toluene 18.38 µg/L 1.0 20 0 91.9 83 124 *ithylbenzene* 0 81.7 122 18.23 µg/L 20 91.2 1.0 lylenes, Total 55.63 2.0 60 0 92.7 85.6 121 µg/L

#### Qualifiers:

Ε Estimated value

Analyte detected below quantitation limits J

ND Not Detected at the Reporting Limit

- Holding times for preparation or analysis exceeded Н NC
  - Non-Chlorinated
  - R RPD outside accepted recovery limits

Page 1

Date: 04-Aug-10

	Sample	Rec	eipt Ch	ecklist				
Client Name BLAGG				Date Recei	ved:		7/23/2010	
Work Order Number 1007845			i	Received	by: ARS			
		•	1/27	Sample ID	D labels checked	l by:	-55 Intélata	
Checklist completed by:				0110	·		Initials	
	<u> </u>	,						
Matrix:	Carrier name:	Grey	/hound					
Shipping container/cooler in good condition?		Yes		No 🗔	Not Present	t 🗆		
Custody seals intact on shipping container/coole	er?	Yes		No 🗌	Not Present	t 🗆	Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗌	N/A			
Chain of custody present?		Yes		Νο				
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 🗌			Number o bottles ch	f preserved
Water - VOA vials have zero headspace?	No VOA vials subr	nitted		Yes 🗹	No 🗌	]	pH:	eckeu ioi
Water - Preservation labels on bottle and cap m	atch?	Yes		No 🗔	N/A 🗹			<u></u>
Water - pH acceptable upon receipt?		Yes		No 🗔	N/A 🗹		<2 >12 unl below.	less noted
Container/Temp Blank temperature?		0	. <b>7</b> °	<6° C Accept			501011.	
COMMENTS:				ir given sumici	ent time to cool.			
-								
					1			
	Data anatasia da			D				
Client contacted	Date contacted:			Pi	erson contacted	·		
Contacted by:	Regarding:							
Comments:						•		
·····								
	- ··							
Corrective Action	1							
	· · ·			·				

### BLAGG ENGINEERING, INC.

### MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT: BP AMERICA PRO	<u>)D. CO.</u>
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CHAIN-OF-CUSTODY # : N / A

HUTTON GC #1E

UNIT F, SEC. 6, T29N, R12W

Date : October 12, 2010

*Filename* : **10-12-10.WK4** 

LABORATORY (S) USED : HALL ENVIRONMENTAL

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DEVELOPER / SAMPLER : N J V

PROJECT MANAGER :

N J V

WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	рH	CONDUCT	TEMP.	VOLUME
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED
	(ft)	(ft)	(ft)	(ft)				_	(gal.)
1	101.94	94.73	7.21,	15.00	-		-	-	-
2R	100.88	94.32	6.56	14.50	1515	7.11	1,800	21.8	4.00
3	101.81	93.80	8.01	15.00	-	-	-	-	-
			INSTRUM	4.01/7.00/10.00	2,800		1		
				E & TIME =	10/12/10	0900			

NOTES: <u>Volume\_of\_water\_purged\_from\_well\_prior\_to\_sampling; V = pi X r2 X h\_X 7.48 gal./ft3) X 3 (wellbores)</u>. (i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2".

Excellent recovery in MW #2R, Collected sample from MW #2R only for BTEX per US EPA Method 8021B.

Top of casing MW #1 ~ 2.70 ft., MW #2R ~ 2.50 ft., MW #3 ~ 2.80 ft. above grade.

on-site	2:35	temp	71 F
off-site	3:30	temp	73 F
sky cond.	Sunn	у ̈	
wind speed	0 - 5	direct.	W

Date: 25-Oct-10

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10/19/2010 3:23:48 AM

10/19/2010 3:23:48 AM

				•							
CLIENT:	Blagg Engineering	Client Sample ID: MW# 2R									
Lab Order: 1010604				10 3:15:00 PM							
Project:	Hutton GC #1E		10								
Lab ID:	1010604-01			Matri	x: AQUEO	US .					
Analyses		Result	PQL	Qual Units	DF	Date Analyzed					
EPA METHOD	8021B: VOLATILES			· · ·		Analyst: NSB					
Benzene	,	1.9	1.0	µg/L	1	10/19/2010 3:23:48 AM					
Toluene		ND	1.0	μg/L	1	10/19/2010 3:23:48 AM					
Ethylbenzene	· ·	1.3	1.0	µg/L	· 1	10/19/2010 3:23:48 AM					

2.0

81.3-151

µg/L

%REC

ND

105

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level

E Estimated value

Xylenes, Total

Surr: 4-Bromofluorobenzene

J Analyte detected below quantitation limits

NC Non-Chloringted

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

ND Not Detected at the Reporting I imit

L	, nan	-01-Cu	stody Record	i dri Arouna	rime:			1			_			_								-
Client:	g2AC	f Engr	BP AMERICA	- Standard																		
				Project Name	э:																	
Mailing	Address	: P.O.	BOX 87	Hutto	on bc	#1E			49	ก1 ผ	awki		v.hal JF -						109			
		BLFD	. NM 87413	Project #:	· · · · · ·			1			) 5-34							-410				
Phone #	#: (5	05) 6	32 -1199	1		•				1. 00				-			uesi					
email o				Project Mana	iger:		AU	8)	j, j	(lei	T				(4)							
QA/QC Package:			1 ster	57-1 1/2	, <b>=</b> 7		021	s on	Dies					4,SC	PCB's			1				
💆 Stan	dard	·	Level 4 (Full Validation)	NEC Sampler: /				MB's-(80218	¿ ġ	r (Gas/Diesel) (Gas/Diesel)					Q.	2 PC						
Accredi		🗆 Öthei	r	Sampler:	VELSON	VELEZ	-	-TMB	TPH (Gas only)		418.1)	4.1)	(H		3,NO2	/ 808		7				Î
	(Type)			On Ice and Sample Tem	perakure	<u> </u>		Ц Н	+ 201	80	d 41	d 50	P P	tals	N <sup>N</sup>	des		٥ ۲				ō ∕
Date	Time	Matrix	Sample Request ID		Preservative	die A		BTEX)+MTBE	BTEX + MTBE	TPH Method 8015B	TPH (Method	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
P/12/10	1515	WATER	MWH2R	40m1-2	HC( +		-1	$\overline{\mathbf{x}}$			-											
<u>+. 1.6</u>				+ <u>·</u> ·····				<b>–</b>												•	$\neg$	
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Date:  12  10	1605	7/1	Her UL	MWaltons 10/13/10 1130																		
Date:	Time:	Relinquishe	ed by: V	Received by:		Date	Time															
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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.

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# **QA/QC SUMMARY REPORT**

ient: Ject:	Blagg Enginee Hutton GC #1	-					•			Work	Order:	1010604
nalyte	F	Result	Units	PQL	SPK Val	SPK ref	%Rec L	owLimit Hi	ghLimit	%RPD	RPDLimi	t Qual
hod: EPA	Method 8021B: Vola	atiles										
mple ID: 5M	L RB		MBLK				Batch ID:	R41614	Analys	is Date:	10/18/2010	9:37:01 AM
-nzene		ND	µg/L	1.0								
Jene		ND	μg/L	1.0							• •	
ylbenzene		ND	µg/L	1.0								
'enes, Total	· ·	ND	μg/L	2.0								
aple ID: 100	NG BTEX LCS		LCS				Batch ID:	R41614	Analysi	s Date:	10/18/2010	1:10:34 PM
zene		19.57	µg/L	1.0	20	0.16	97.1	84,7	118			
iene		19.27	μ <b>g/L</b>	1.0	20	0.1 <b>96</b>	95.4	82	123			
-iylbenzene		19.30	µg/L	1.0	20	0.276	95.1	83	118			
anes, Total		58.89	µg/L	2.0	60	0	98.2	85.4	1 <b>19</b>			

malifiers:

Estimated value

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

- H Holding times for preparation or analysis exceeded
- NC Non-Chlorinated
  - R RPD outside accepted recovery limits

Page 1

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	Sample	Rec	eipt Ch	ecklist		
Client Name BLAGG				Date Receive	əd:	10/13/2010
Nork Order Number 1010604				Received b	y: MLW	
	10	12	10	Sample ID	abels checked by	
-hecklist completed by:			Date		-	11111010
atrix:	Carrier name:	<u>Prio</u>	rity US M	<u>ail</u>		
nipping container/cooler in good condition?		Yes		No 🗆	Not Present	<b>]</b>
ustody seals intact on shipping container/cool	er?	Yes		No 🗔	Not Present	Not Shipped
ustody seals intact on sample bottles?		Yes		No 🗌	N/A	
∩ain of custody present?		Yes		No 🗌		
∩ain of custody signed when relinquished and	received?	Ýes		No 🗔		
nain of custody agrees with sample labels?		Yes		No 🗌	,	
_amples in proper container/bottle?		Yes		No 🗖		
_ample containers intact?		Yes		No 🗌		
ufficient sample volume for indicated test?		Yes		No 🗔		· ·
"I samples received within holding time?		Yes		No 🗔		Number of preserved
water - VOA vials have zero headspace?	No VOA vials subm	itted		Yes 🗹	No 🗌	bottles checked for pH:
Water - Preservation labels on bottle and cap m	atch?	Yes		No 🗌	N/A 🗹	
Water - pH acceptable upon receipt?		Yes		No 🗔	N/A 🗹	<2 >12 unless noted below.
ontainer/Temp Blank temperature?		2.	•	<6° C Acceptat		Delow.
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-vient contacted	Date contacted:		(	Pers	ion contacted	
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vmments:				·		
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Corrective Action						······································
Jorrective Action						· · · · · · · · · · · · · · · · · · ·