# bp



**BP America Production Company** 200 Energy Court Farmington, NM 87401 Phone: (505) 326-9200

November 12, 2015

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

Re: Request for Permanent Closure Martinez Gas Com G 001 API No. 3004512172; Unit letter A, Section 24, T29N, R10W; GPS: 36.714499°, -107.829341°

Dear Mr. Von Gonten :

BP America Production Company has retained Blagg Engineering, Inc. to conduct environmental monitoring of groundwater at the Martinez GC G # 1 currently operated by Cross Timbers Oil Company (CTOC). CTOC acquired the well site in January, 1998, however, BP has accepted the environmental obligation associated with soil and groundwater contamination that occurred prior to the change of well ownership. The site is located on private property.

After the initial pit closure cleanup efforts at the site, an air sparge/vacuum extraction system was utilized in aggressively remediating on-site hydrocarbon contamination in groundwater. The system was designed to treat soils and groundwater that had not been remediated by excavation. A replacement air sparge system was installed in February, 1999 to address groundwater contamination previously identified at other areas on the well pad.

The attached report requesting site closure demonstrates groundwater contaminants below the New Mexico Water Quality Control Commission's standards for all required constituents for four consecutive quarters per the BP and NMOCD agreed Groundwater Management Plan of May 2013.

If you have any questions concerning this document, please contact either John Ritchie (john.ritchie@bp.com) or myself (steven.moskal@bp.com) at the address or phone number listed above. Thank you for your cooperation and assistance.

Sincerely,

Con Mus

Steve Moskal Field Environmental Coordinator

cc: Mr. Cory Smith, Environmental Specialist, NMOCD District III Office, 1000 Rio Brazos Road Aztec, NM

**BP AMERICA PRODUCTION CO.** 

**GROUNDWATER REMEDIATION REPORT** 

# MARTINEZ GC G # 1 (A) SECTION 24, T29N, R10W, NMPM SAN JUAN COUNTY, NEW MEXICO

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

### NOVEMBER 2015

### PREPARED BY: BLAGG ENGINEERING, INC.

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

# BP AMERICA PRODUCTION COMPANY Martinez Gas Com G # 1 - Abandoned Pit NE<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub>, Sec. 24, T29N, R10W

Pit Closure Date:	July-August 1994
Monitor Well Installation Date:	October 2012
Monitor Well Sampling Dates:	5/28/13, 8/31/13, 12/17/13, 3/10/14, 6/25/14, 8/23/14, 11/24/14, 3/12/15

### Pit Closure and Background:

The site's abandoned pit is located off-site and on private property. The closure was conducted during July and August 1994 by removing impacted soils via excavation. Groundwater impact was identified within the source area during the pit closure activity and was reported to the New Mexico Oil Conservation Division's (**NMOCD**) Santa Fe office. Documentation for this work and subsequent groundwater monitoring data for the site has been previously submitted for NMOCD review. The reporting herein is for site monitoring of four (4) groundwater monitor wells (Bore Logs attached) from May 2013 to March 2015 to address the off-site abandoned pit area (Figure 1). This pit was acknowledged by NMOCD in its June 6, 2001 correspondence letter under section B which can be reviewed online at NMOCD's Administrative/Environmental Order number 3RP-38-0 (filename: penv000003rp38\_0001.pdf).

### **Groundwater Monitor Well Sampling Procedures:**

A two (2) inch submersible electrical pump with new, clear vinyl tubing was utilized during all eight (8) quarterly sampling events. 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 BTEX per US EPA Method 8021B was conducted.

Fluids generated during monitor well purging was managed by discarding into the nearest BP below-grade tank (**BGT**) located at the Sammons Gas Com F 001 well site (Unit letter A, Section 18, T29N, R9W). The BGT contents are eventually disposed through approved NMOCD operational procedures for removal of produced water and/or fluids.

### Water Quality and Gradient Information:

BP initiated quarterly sampling and testing pursuant to BP's NMOCD approved Groundwater Management Plan (**GMP**) in May 2013. 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.

An aerial map (Figure 1) shows the four (4) monitor wells relative position to the previously excavated pit perimeter. Groundwater contour maps generated during previous site monitoring and sampling had predominantly demonstrated a southeast flow direction.

### Summary and/or Recommendations:

Hydrocarbon impacted soils and groundwater at the site appear to have been remediated via excavation and natural attenuation. Upon review of the overall lab results, the benzene level revealed in MW #1A of 13 micrograms/Liter (ug/L) from the March 10, 2014 sampling event does not appear to necessitate an additional down gradient well relative to its position and is anomalous to the majority of the previous and subsequent lab results for benzene.

Monitor wells MW #1A and MW #2A tested at non-detectable or below the New Mexico Water Quality Controls Commission's groundwater BTEX standards for four (4) consecutive sampling events and met the requirements of section 2.1 of BP's GMP. MW #3A and MW #4A met the GMP requirements pursuant to section 2.3. All monitor wells met section 2.2 of the GMP for anion constituents. Permanent closure of the abandoned pit is recommended. Site monitor wells are scheduled to be abandoned 60 days following receipt by NMOCD of this final report. Monitor well abandonment will adhere to section 6.2 of the GMP.

# **BP AMERICA PRODUCTION COMPANY**

#### GROUNDWATER FIELD DATA & LAB BTEX / GENERAL CHEMISTRY RESULTS

MARTINEZ GC G #1 UNIT A, SEC. 24, T29N, R10W

### REVISED DATE: August 6, 2015 Submitted by Blagg Engineering, Inc.

							•	BTEX	US EPA METH	OD 8021B or	8260B
SAMPLE	WELL NAME	DEPTH TO	WELL	TDS	CONDUCT.	рН	FREE PHASE	BENZENE	TOLUENE	ETHYL	TOTAL
DATE	/ NUMBER	WATER	DEPTH				PRODUCT			BENZENE	XYLENES
		(ft)	(ft)	(mg/L)	(umhos)		(ft)	(ppb)	(ppb)	(ppb)	(ppb)
05/28/13	MW #1A	1.96	11.50	see below	800	7.44		3.6	ND	2.6	8.4
08/31/13		0.00			900	7.60		ND	ND	ND	ND
12/17/13		1.80			700	7.43		5.4	ND	1.1	16
03/10/14		3.20			900	7.48		13	ND	5.7	45
06/27/14		0.58			700	7.39		ND	ND	ND	ND
08/23/14		0.10			800	7.30		ND	ND	ND	ND
11/24/14		1.75			700	7.53		ND	ND	ND	ND
03/13/15		3.42			800	7.11		10	ND	ND	4.0
05/28/13	MW #2A	0.51	11.00	see below	700	7.54		ND	ND	ND	ND
08/31/13		0.00			800	7.60		ND	ND	ND	ND
12/17/13		0.32			700	7.49		ND	ND	ND	ND
03/10/14		1.72			800	7.56		ND	ND	ND	ND
05/28/13	MW #3A	1.14	14.15	see below	800	7.38		ND	ND	ND	ND
05/28/13	MW #4A	1.39	14.05	see below	700	7.32		ND	ND	ND	ND
03/10/14		2.45			800	7.51		ND	ND	ND	ND
							 Г				

NMWQCC GROUNDWATER STANDARDS 10 750 750 620

	SAMPLE DATE	WELL NAME /NUMBER	Fluoride (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Nitrate-N (mg/L)	Iron (mg/L)	TDS (mg/L)
	05/28/13	MW #1A	ND	9.0	56	8.7	3.9	460
	05/28/13	MW #2A	0.50	6.8	70	1.5	3.0	440
	05/28/13	MW #3A	0.39	5.2	100	ND	ND	428
	05/28/13	MW #4A	0.40	8.1	100	ND	0.48	484
NMWQCC GROUN	<b>NDWATER ST</b>	<b>FANDARDS</b>	1.60	250	600	10	1.0	1,000

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.

5) pH NMWQCC standards range between 6 -9

5) pH NWWQCC standards range between 6 -

6) TDS - Total Dissolved Solids
 7) ppb - Parts per billion

8) mg/L - Milligrams per liter











# **BLAGG ENGINEERING, INC.**

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT :	BP AMERICA PROD. CO. CHAIN-					USTODY # :		N / A	
Martinez Unit a, se	GC G # 1 EC. 24, T29N	, R10W			LABORATOR	RY (S) USED	:	HALL ENVIF	RONMENTAL
Date : Filename :	May 28, 2 Martinez GC	2013 G 1 mw log	05-28-13.xls		C	DEVELOPER PROJECT	/ SAMPLER : MANAGER :	<u> </u>	l V l V
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1A 2A 3A 4A	100.00 98.46 98.55 98.79	98.04 97.95 97.41 97.40	1.96 0.51 1.14 1.39	11.50 11.00 14.15 14.05	1225 1140 1055 1015	7.44 7.54 7.38 7.32	800 700 800 700		4.75 5.25 6.50 6.25
NOTES	Volume of		INSTRUMENT DATE & TIMI	CALIBRATIO	DNS =	4.01/7.00/10.00 05/28/13	2,800 0600	2) X 2 (wallb	oroo)
NOTES .	(i.e. 2" MW	r = (1/12)  ft	:. h = 1 ft.) three (3) we	(i.e. 4" MW	r = (2/12) ft. mes:	h = 1  ft. 2.00 " well	diameter =	0.49 gal. / f	t. of water.

Comments or note well diameter if not standard 2 ".

Surveyed monitor well tops on 10/17/12. Installed # 2A & # 4A on 10 / 11 / 12, # 1A & # 3A on 10 / 12 / 12.

All wells initially developed on 05 / 24 / 13. Excellent recovery in all. Collected samples from all wells for BTEX, fluoride, chloride, sulfate, nitrate, iron, & total dissolved solids. Purged wells using 2 inch submersible electrical pump, new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing.

Top of casings : MW # 1A ~ 1.00 ft. , MW # 3A ~ 2.50 ft. , MW # 4A ~ 2.60 ft. above grade ; MW # 2A ~ 0.25 ft. below grade .

on-site	9:15 AM	temp.	62 F
off-site	12:35 PM	temp.	73 F
sky cond.		Sunny	
wind speed	0 - 10	direct.	ESE - E

# Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/10/2013

EPA METI	HOD 8021B: VOLATILES				Analyst	NSB
Analyses		Result	RL Qual	Units	DF Date Analyzed	Batch
Lab ID:	1305B21-001	Matrix:	AQUEOUS	Received	Date: 5/30/2013 10:00:00 AM	
Project:	Martinez GC G#1			Collection 1	Date: 5/28/2013 12:25:00 PM	
CLIENT:	Blagg Engineering		C	lient Sampl	le ID: MW # 1A	

Benzene	3.6	1.0	Ρ	µg/L	1	5/31/2013 3:05:20 PM	R11006
Toluene	ND	1.0	Ρ	µg/L	1	5/31/2013 3:05:20 PM	R11006
Ethylbenzene	2.6	1.0	Ρ	µg/L	1	5/31/2013 3:05:20 PM	R11006
Xylenes, Total	8.4	2.0	Р	µg/L	1	5/31/2013 3:05:20 PM	R11006
Surr: 4-Bromofluorobenzene	95.4	69.4-129	Ρ	%REC	1	5/31/2013 3:05:20 PM	R11006
EPA METHOD 300.0: ANIONS						Analyst	JRR
Fluoride	ND	0.50		mg/L	5	5/31/2013 1:04:30 AM	R11002
Chloride	9.0	2.5		mg/L	5	5/31/2013 1:04:30 AM	R11002
Sulfate	56	2.5		mg/L	5	5/31/2013 1:04:30 AM	R11002
Nitrate+Nitrite as N	8.7	1.0		mg/L	5	5/31/2013 3:33:22 AM	R11002
EPA METHOD 200.7: DISSOLVED M	ETALS					Analyst	ELS
Iron	3.9	0.10	*	mg/L	5	5/31/2013 2:49:40 PM	R11014
SM2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst	KS
Total Dissolved Solids	460	40.0		mg/L	1	6/5/2013 2:53:00 PM	7717

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	Е	Value above quantitation range	Н	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit Page 1 of 8
	0	RSD is greater than RSDlimit	Р	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/10/2013

CLIENT:	Blagg Engineering		C	lient San	nple ID: MW # 2A		
Project:	Martinez GC G#1	Collection Date: 5/28/2013 11:40:00 AM					
Lab ID:	1305B21-002	Matrix:	AQUEOUS	Receive	ed Date: 5/30/2013 10:00:00 AM		
Analyses		Result	RL Qual	Units	DF Date Analyzed	Batch	
EPA MET	HOD 8021B: VOLATILES				Analyst:	NSB	
Benzene		ND	1.0	µg/L	1 5/31/2013 3:35:39 PM	R11006	

ND	1.0		µg/L	1	5/31/2013 3:35:39 PM	R11006
ND	1.0		µg/L	1	5/31/2013 3:35:39 PM	R11006
ND	1.0		µg/L	1	5/31/2013 3:35:39 PM	R11006
ND	2.0		µg/L	1	5/31/2013 3:35:39 PM	R11006
90.9	69.4-129		%REC	1	5/31/2013 3:35:39 PM	R11006
					Analyst	JRR
0.50	0.50		mg/L	5	5/31/2013 1:29:18 AM	R11002
6.8	2.5		mg/L	5	5/31/2013 1:29:18 AM	R11002
70	2.5		mg/L	5	5/31/2013 1:29:18 AM	R11002
1.5	1.0		mg/L	5	5/31/2013 3:45:47 AM	R11002
ETALS					Analyst	ELS
3.0	0.10	*	mg/L	5	5/31/2013 3:01:56 PM	R11014
SOLIDS					Analyst	KS
440	40.0		mg/L	1	6/5/2013 2:53:00 PM	7717
	ND ND 90.9 0.50 6.8 70 1.5 ETALS 3.0 SOLIDS 440	ND         1.0           ND         1.0           ND         1.0           ND         2.0           90.9         69.4-129           0.50         0.50           6.8         2.5           70         2.5           1.5         1.0           ETALS         3.0         0.10           SOLIDS         440         40.0	ND         1.0           ND         1.0           ND         1.0           ND         2.0           90.9         69.4-129           0.50         0.50           6.8         2.5           70         2.5           1.5         1.0           ETALS         3.0         0.10           3.0         0.10         *	ND         1.0         μg/L           ND         1.0         μg/L           ND         1.0         μg/L           ND         2.0         μg/L           90.9         69.4-129         %REC           0.50         0.50         mg/L           6.8         2.5         mg/L           70         2.5         mg/L           1.5         1.0         mg/L           SOLIDS         440         40.0         mg/L	ND         1.0         μg/L         1           ND         1.0         μg/L         1           ND         1.0         μg/L         1           ND         2.0         μg/L         1           ND         2.0         μg/L         1           90.9         69.4-129         %REC         1           0.50         0.50         mg/L         5           6.8         2.5         mg/L         5           70         2.5         mg/L         5           1.5         1.0         mg/L         5           SOLIDS         440         40.0         mg/L         1	ND         1.0         μg/L         1         5/31/2013 3:35:39 PM           ND         1.0         μg/L         1         5/31/2013 3:35:39 PM           ND         1.0         μg/L         1         5/31/2013 3:35:39 PM           ND         2.0         μg/L         1         5/31/2013 3:35:39 PM           90.9         69.4-129         %REC         1         5/31/2013 3:35:39 PM           90.9         69.4-129         %REC         1         5/31/2013 3:35:39 PM           0.50         0.50         mg/L         1         5/31/2013 3:35:39 PM           0.50         0.50         mg/L         5         5/31/2013 3:35:39 PM           0.50         0.50         mg/L         5         5/31/2013 3:35:39 PM           6.8         2.5         mg/L         5         5/31/2013 1:29:18 AM           6.8         2.5         mg/L         5         5/31/2013 1:29:18 AM           70         2.5         mg/L         5         5/31/2013 3:45:47 AM           ETALS         Analyst:           3.0         0.10         * mg/L         5         5/31/2013 3:01:56 PM           SoLIDS           440         40.0         mg/L

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	Е	Value above quantitation range	Н	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit Page 2 of 8
	0	RSD is greater than RSDlimit	Р	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

### Hall Environmental Analysis Laboratory, Inc.

Benzene

Toluene

Fluoride

Chloride

Sulfate

Iron

Nitrate+Nitrite as N

**Total Dissolved Solids** 

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

**EPA METHOD 200.7: DISSOLVED METALS** 

SM2540C MOD: TOTAL DISSOLVED SOLIDS

**EPA METHOD 300.0: ANIONS** 

Date Reported: 6/10/2013

5/31/2013 4:05:44 PM

5/31/2013 1:54:07 AM

5/31/2013 1:54:07 AM

5/31/2013 2:06:31 AM

5/31/2013 3:58:12 AM

5/31/2013 3:04:10 PM

6/5/2013 2:53:00 PM

R11006

R11006

R11006

R11006

R11006

R11002

R11002

R11002

R11002

R11014

7717

Analyst: JRR

Analyst: ELS

Analyst: KS

Analyses		Result	RL Qual	Units	DF Date Analyzed	Batch
A						
Lab ID: 1	1305B21-003	Matrix:	AQUEOUS	<b>Received Dat</b>	e: 5/30/2013 10:00:00 AM	
Project: N	Martinez GC G#1			<b>Collection Dat</b>	e: 5/28/2013 10:55:00 AM	
CLIENT: E	Blagg Engineering		C	lient Sample II	<b>D:</b> MW # 3A	

1.0

1.0

1.0

2.0

0.10

0.50

10

1.0

0.020

40.0

69.4-129

Ρ

Ρ

Ρ

Ρ

Р

µg/L

µg/L

µg/L

µg/L

%REC

mg/L

mg/L

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mg/L

mg/L

1

1

1

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5

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428

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Refer to the C	<b>n</b> Summary	report and	sample loc	лп спеският	τος πάσσεο τ	л	dara and	nreservation	information
Trefer to the Q	y o building	report und	Sumple 10g	_m encernot	ioi iiuggeu (	$\sim$	autu una	preservation	mormation

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	Е	Value above quantitation range	Н	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit Page 3 of 8
	0	RSD is greater than RSDlimit	Р	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

5/31/2013 4:35:57 PM

5/31/2013 2:18:56 AM

5/31/2013 2:18:56 AM

5/31/2013 2:56:09 AM

5/31/2013 4:10:37 AM

5/31/2013 3:09:20 PM

6/5/2013 2:53:00 PM

R11006

R11006

R11006

R11006

R11006

R11002

R11002

R11002

R11002

R11014

7717

Analyst: JRR

Analyst: ELS

Analyst: KS

### Hall Environmental Analysis Laboratory, Inc.

Benzene

Toluene

Fluoride

Chloride

Sulfate

Iron

Nitrate+Nitrite as N

**Total Dissolved Solids** 

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

**EPA METHOD 200.7: DISSOLVED METALS** 

SM2540C MOD: TOTAL DISSOLVED SOLIDS

**EPA METHOD 300.0: ANIONS** 

Date Reported: 6/10/2013

EPA MET	HOD 8021B: VOLATILES				Analyst	NSB
Analyses		Result	RL Qual	Units	DF Date Analyzed	Batch
Lab ID:	1305B21-004	Matrix:	AQUEOUS	Received	Date: 5/30/2013 10:00:00 AM	
Project:	Martinez GC G#1			Collection	Date: 5/28/2013 10:15:00 AM	
CLIENT:	Blagg Engineering		C	lient Sam	ole ID: MW # 4A	

1.0

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69.4-129

Ρ

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Ρ

Р

µg/L

µg/L

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µg/L

%REC

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5

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20

ND

ND

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ND

91.2

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100

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484

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Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	Е	Value above quantitation range	Н	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit Page 4 of 8
	0	RSD is greater than RSDlimit	Р	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

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		BLOOM	FIELD, NM 87413	Project #:			:	Te	el. 50	)5-34	45-3	975	F	ax	505-	345	-410	)7			
Phone #:	·	(505) 63	2-1199									Þ	Analy	/sis	Rec	ues	t				
email or F	ax#:			Project Manag	er:		(							4)							Τ
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	ion:			Sampler:	NELSON VE			H (G	/ DR(	L8.1	04.1	202		3,NC	Solic	lter	te N			caπ	5
	 			Sample Temp	erature: 7.0	S INC	L	+ TP	SRO /	d 41	d 5(	or 82	als	Đ,	ved	s (fi	बारम			cite	
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 1905BZ1	BTEX <del>- MTB</del>	BTEX + MTBE	D) 8015B (G	TPH (Metho	EDB (Metho	PAH (8310 c	RCRA 8 Met	Anions (F,CI	Total Dissol	Iron, Ferrou	Nitrate N H			יועווואל טאדט העד רחשחח	- he -
5/28/13	1225	WATER	MW # 1A	40 ml VOA - 2	HCI & Cool	-001	۷												1	1	
5/28/13	1225	WATER	MW # 1A	500 ml - 1	Cool									۷	۷				,	1	
5/28/13	1225	WATER	MW # 1A	250 ml - 1	HNO <sub>3</sub> & Cool											۷			1	1	
5/28/13	1225	WATER	MW # 1A	250 ml - 1	H <sub>2</sub> SO <sub>4</sub>												۷		!	1	
5/28/13	1140	WATER	<b>MW # 2A</b>	40 ml VOA - 2	HCI & Cool	-09_	۷												1	1	
5/28/13	1140	WATER	MW # 2A	500 ml - 1	Cool									۷	۷				, I	/	
5/28/13	1140	WATER	MW # 2A	250 ml - 1	HNO₃ & Cool											۷				/	
5/28/13	1140	WATER	MW # 2A	250 ml - 1	H <sub>2</sub> SO <sub>4</sub>												۷		T	/	
5/28/13	1055	WATER	MW # 3A	40 ml VOA - 2	HCl & Cool	-003	۷												1	/	
5/28/13	1055	WATER	MW # 3A	500 ml - 1	Cool									۷	۷					/	
5/28/13	1055	WATER	MW # 3A	250 ml - 1	HNO3 & Cool											۷			<b>_</b>	/	$\perp$
5/28/13	1055	WATER	MW # 3A	250 mi - 1	H <sub>2</sub> SO <sub>4</sub>												۷			/	
Date: 29/B Date: 5/19/12	Time: 815 Time: 1742	Relinquish	ed by: he h	Received by:	Walter "	Date Time 5/29/13 $815Date Time1/2$ $1/20$	Rer Se	nark end i	s: nvoi	ce to	: Bla P.( Blo	agg E D. Bo Domi	ingin ox 87 field,	eerii NM	ng, Ir 874:	nc. L3	P	g g	1 0	₽° c	2
<u> </u>	L	H IVA							·		·	·····							<del></del>	<u> </u>	

C	hain-o	of-Cus	stody Record	Tum-Around T	inie.					F	44		F	NV	/TE	20	N	MF	NT	ΔI	
Client:	BLAG	G ENGR.	/ BP AMERICA	1 I√I Standard	🗌 Rush					Ĺ			ν. Υ	5TS	S L		BO	RA	TC		7
				Project Name:				<u></u>	i	-		w ha	allen	viro	nme	ntal	.con	n			
Mailing A	ddress:	P.O. BO	X 87	М/	ARTINEZ GO	G#1		49	01 F	lawk	ins	NE -	- Alk	ouqu	ierqu	ue, N	IM 8	3 <b>710</b> 9	)		
	<u>-</u>	BLOOM	FIELD, NM 87413	Project #:	, , , , , , , , , , , , , , , , , , ,		1	Te	el. 50	)5-34	45-3	975		Fax	505-	345	-410	)7			
Phone #:		(505) 63	2-1199									ļ	Anal	ysis	Rec	ques	st				
email or F	ax#:			Project Manag	er:		<u></u>							(4)							Т
QA/QC Pa	ckage: ard		Level 4 (Full Validation)		NELSON VI	ELEZ	(8021E	only)	MRO)			s)		or,so			- M 1/				
Accreditat	tion:			Sampler:	NELSON VI	ELEZ 911	Ĩ	Gas	RO /	<b>(</b>	1)	SIM	яV	Ē	lids	red)	Ł			am	-
	)	D Other	and the second	On Ice:	¶⁄ Yes	🖾 No		H	a/c	418.	504.	3270		a la	d So	filte	i i i			e Sa	
🗆 EDD (1	Гуре)			Sample Tempe	erature: Z.S	5		ן שיי	(GRC	por	pot	or 8	etals	2	olve(	) sno	ŧ		-	ole Posit	:
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX +**	BTEX + MTE	TPH 8015B	TPH (Meth	EDB (Metł	PAH (8310	RCRA 8 M	Anions (F,	Total Disso	lron, Ferrc	Nitrate N ,			F nt. comp	
5/28/13	1015	WATER	MW # 4A	40 ml VOA - 2	HCI & Cool	-704f	V												7	1	Τ
5/28/13	1015	WATER	MW # 4A	500 mi - 1	Cool									V	V				۲	/	
5/28/13	1015	WATER	MW # 4A	250 ml - 1	HNO <sub>3</sub> & Cool											۷			,	1	
5/28/13	1015	WATER	WW # 4A	250 ml - 1	H <sub>2</sub> SO <sub>4</sub>												V		<u>'</u>	/	$\bot$
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																		$\bigsqcup$		$\bot$	$\bot$
															<u></u>					$\bot$	
Date:	Time:	Relinquish	ed by:	Received by:	. 1	Date Time	Rer	nark	s:									pg	12	07	- 
29/13	815	911	mut	/ Mustra	Walter 5	1/29/13 815	S	end i	nvoi	ce to	: Bl:	agg F	Ingin	eeri	ng. Ir	1C.		ŗĴ			
Date:	Time:	Relinquish	ed by: V	Received by:		Date Time					P.(	0. Bo	ox 87								
2/29/13	1742	mri	the Walters	r th	> not	a/12,000					Ble	oom	field,	, NM	874	13		<u> </u>			

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.

# **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

Client: Project:		Blagg Engineering Martinez GC G#1									
Sample ID	MB	Samp	Гуре: М	<b>//BLK</b>	Tes	tCode: El	PA Method	200.7: Dissol	ved Metal	s	
Client ID:	PBW	Batc	h ID: F	R11014	F	RunNo: 1	1014				
Prep Date:		Analysis [	Date:	5/31/2013	S	SeqNo: 3	11277	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		ND	0.02	0							
Sample ID	LCS	Samp	Гуре: L	CS	Tes	tCode: El	PA Method	200.7: Dissol	ved Metal	s	
Client ID:	LCSW	Batc	h ID: F	R11014	F	RunNo: 1	1014				
Prep Date:		Analysis [	Date:	5/31/2013	S	SeqNo: 3	11278	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron		0.51	0.02	0 0.5000	0	102	85	115			

#### **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

# QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:	Bl M	agg Engineering artinez GC G#1									
Sample ID MI	в	SampT	ype: MI	BLK	Tes	tCode: EF	PA Method	300.0: Anions	6		
Client ID: PE	BW	Batch	n ID: <b>R1</b>	1002	F	RunNo: 1	1002				
Prep Date:		Analysis D	ate: 5	/30/2013	S	SeqNo: 3	11062	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride		ND	0.10								
Chloride		ND	0.50								
Sulfate		ND	0.50								
Nitrate+Nitrite as N	N	ND	0.20								
Sample ID LC	cs	SampT	ype: LC	cs	Tes	tCode: EF	PA Method	300.0: Anions	6		
Client ID: LC	csw	Batch	n ID: <b>R1</b>	1002	F	RunNo: 1	1002				
Prep Date:		Analysis D	ate: 5	/30/2013	S	SeqNo: 3	11063	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride		0.52	0.10	0.5000	0	103	90	110			
Chloride		4.6	0.50	5.000	0	92.6	90	110			
Sulfate		9.4	0.50	10.00	0	93.7	90	110			
Nitrate+Nitrite as N	J	3.3	0.20	3.500	0	94.7	90	110			

#### **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Page 6 of 8

WO#: 1305B21 10-Jun-13

QC SUMMARY REPORT	
Hall Environmental Analysis Laboratory, Inc.	

	1000021
	10-Jun-13

Client: Project:	Blagg En Martinez	gineering GC G#1									
Sample ID 5M	/L RB	SamoT	vpe: ME	3LK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PB	3W	Batch	1D: <b>R1</b>	1006	F	RunNo: 1	1006				
Prep Date:		Analysis D	ate: 5/	31/2013	S	SeqNo: 3	11533	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Bromoflu	iorobenzene	19		20.00		92.7	69.4	129			
Sample ID 10	ONG BTEX LCS	SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LC	sw	Batch	n ID: <b>R1</b>	1006	F	RunNo: 1	1006				
Prep Date:		Analysis D	ate: 5/	31/2013	S	SeqNo: 3	11534	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		19	1.0	20.00	0	96.9	80	120			
Toluene		19	1.0	20.00	0	96.3	80	120			
Ethylbenzene		20	1.0	20.00	0	97.9	80	120			
Xylenes, Total		59	2.0	60.00	0	99.1	80	120			
Surr: 4-Bromoflu	iorobenzene	19		20.00		96.7	69.4	129			

#### **Qualifiers:**

- Value exceeds Maximum Contaminant Level. \*
- Е Value above quantitation range
- Analyte detected below quantitation limits J
- 0 RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Р Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Page 7 of 8

1305B21 WO#: -13

# **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

Client: Project:	Blag Mar	gg Engineering tinez GC G#1										
Sample ID	<b>//B-7717</b>	SampType	e: M	BLK	Tes	tCode: SI	M2540C MC	DD: Total Diss	solved So	lids		
Client ID: F	PBW	Batch ID	: 77	'17	F	RunNo: 1	1094					
Prep Date:	6/3/2013	Analysis Date	: 6	/5/2013	S	SeqNo: 3	13923	Units: <b>mg/L</b>				
Analyte		Result F	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Dissolved S	Solids	ND	20.0									
Sample ID	_CS-7717	SampType	e: L(	cs	Tes	tCode: SI	M2540C MC	DD: Total Diss	solved So	lids		
Client ID: L	CSW	Batch ID	: 77	'17	F	RunNo: 1	1094					
Prep Date:	6/3/2013	Analysis Date	: 6	/5/2013	S	SeqNo: 3	13924	Units: mg/L				
Analyte		Result P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Dissolved S	Solids	1020	20.0	1000	0	102	80	120				

#### **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Page 8 of 8

HALL Environmental Analysis Laboratory	Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87105 TEL: 505-345-3975 FAX: 505-345-410; Website: www.hallenvironmental.con	
Client Name: BLAGG	Work Order Number: 1305B21	
Received by/date:	05/30/15	-
Logged By: Lindsay Mangin 5	5/30/2013 10:00:00 AM	2
Completed By: Lindsay Mangin 5	5/30/2013 10:11:56 AM	2
Reviewed By:	05/30/2013	
Chain of Custody		-
1. Custody seals intact on sample bottles?	Yes	
2. Is Chain of Custody complete?	Yes 🔽	
3. How was the sample delivered?	Courier	
Log In		
4. Was an attempt made to cool the samples?	Yes 🔽	
5. Were all samples received at a temperature o	f >0° C to 6.0°C Yes ✔	
6. Sample(s) in proper container(s)?	Yes 🔽	
7. Sufficient sample volume for indicated test(s)?	Yes 🗹	

Sample	l og-ln	Check	l ist
Sample	LUY-III	CHECK	LISL

Client Name: BL	AGG	Work Order Numbe	er: 1305B21		RcptNo:	1
Received by/date:		05 30/15				
Logged By: Li	ndsay Mangin	5/30/2013 10:00:00 A	M	JunkijHlego		
Completed By: Li	ndsay Mangin	5/30/2013 10:11:56 A	M	Junky Hougo		
Reviewed By:	TO	05/30/201	3			
Chain of Custod	<u>lv</u>	) /				
1. Custody seals in	tact on sample bottles?		Yes 🗌	No 🗌	Not Present 🗹	
2. Is Chain of Custo	ody complete?		Yes 🗹	No 🗌	Not Present	
3. How was the sar	mple delivered?		<u>Courier</u>			
<u>Log In</u>						
4. Was an attempt	made to cool the samp	les?	Yes 🗹	No 🗌	na 🗆	
5. Were all sample	s received at a tempera	ture of >0° C to 6.0°C	Yes 🗹	No 🗌	NA	
6. Sample(s) in pro	oper container(s)?		Yes 🗹	No 🗀		
7. Sufficient sample	e volume for indicated to	est(s)?	Yes 🗹	No 🗌		
8. Are samples (ex	cept VOA and ONG) pro	operly preserved?	Yes 🗹	No 🗌		
9. Was preservative	e added to bottles?		Yes 🗌	No 🗹	NA 🗌	
10.VOA vials have a	zero headspace?		Yes 🗹	No 🗌	No VOA Vials 🗌	
11. Were any samp	le containers received b	roken?	Yes 🗀	No 🗹 🏻	# of preserved	
12.Does paperwork (Note discrepand	match bottle labels? cies on chain of custody	)	Yes 🔽	No 🗆	for pH:	r >12 unless noted)
13. Are matrices cor	rectly identified on Chai	n of Custody?	Yes 🔽	No 🗆	Adjusted?	
14. Is it clear what a	nalyses were requested	?	Yes 🗹	No 🗌		
15. Were all holding (If no. notify cust	times able to be met? omer for authorization.)		Yes 🗹	No	Checked by:	
(,,	,					σ
Special Handling	<u>a (if applicable)</u>					
16. Was client notifie	ed of all discrepancies v	rith this order?	Yes	No 🗌	NA 🗹	_
Person No	tified:	Date:				

🗌 eMail 📋 Phone 🛄 Fax 🔛 In Person By Whom: Via: Regarding: Client Instructions:

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Yes			

# **BLAGG ENGINEERING, INC.**

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT :	LIENT : BP AMERICA PROD. CO. CHAIN-OF-CUSTODY # :							N / A				
MARTINEZ UNIT A, SE	MARTINEZ GC G # 1 UNIT A, SEC. 24, T29N, R10W				LABORATOR	RY (S) USED	:	HALL ENVIR	ONMENTAL			
Date :	August 31,	2013			C	EVELOPER	/ SAMPLER :	N	JV			
Filename :	Martinez GC	Martinez GC G 1 mw log 08-31-13.xl				PROJECT	MANAGER :	N .	JV			
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)			
1A	100.00		~0.00	11.50	1025	7.60	900	20.1	5.00			
2A	98.46		~0.00	11.00	0945	7.60	800	18.9	5.00			
3A	98.55	97.43	1.12	14.15	-	-	-	-	-			
4A	98.79	98.47	0.32	14.05	-	-	-	-	-			
			INSTRUMENT DATE & TIMI	CALIBRATIC E =	DNS =	4.01/7.00/10.00 08/20/13	2,800 0600					
NOTES :	<u>Volume_of</u> (i.e. 2" MW	<u>water_purge</u> r = (1/12) ft	<u>ed from well</u> . h = 1 ft.)	<u>prior to sa</u> (i.e. 4" MW	<u>ampling: V =</u> r = (2/12) ft.	<u>pi X r2 X h</u> h = 1 ft.)	<u>X 7.48 gal./ft</u>	<u>3) X 3 (wellb</u>	<u>ores)</u> .			
	Ideally a m	inimum of	three (3) we	llbore volu	mes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.			
Comments	or note wel	I diameter	if not standa	ırd 2".								

Excellent recovery in MW #1A & #2A. Collected samples from #1A & #2A for BTEX using US EPA Method 8021B. Purged wells using 2 inch submersible electrical pump, new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing.

Top of casings : MW # 1A ~ 1.00 ft. , MW # 3A ~ 2.50 ft. , MW # 4A ~ 2.60 ft. above grade ; MW # 2A ~ 0.25 ft. below grade .

on-site	8:45 AM	temp.	69 F
off-site	10:30 AM	temp.	75 F
sky cond.		Sunny	
wind speed	0 - 5	direct.	East

**Analytical Report** Lab Order 1309152 Date Reported: 9/12/2013

CLIENT: Blagg Engineering	Client Sample ID: MW # 1A Collection Date: 8/31/2013 9:45:00 AM											
<b>Project:</b> MARTINEZ GC G # 1												
Lab ID: 1309152-001	Matrix: AQUEOUS Received Date: 9/5/2013 10:00:00 AM											
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch						
EPA METHOD 8021B: VOLATILES					Analys	t: NSB						
Benzene	ND	1.0	μg/L	1	9/6/2013 4:43:24 PM	R13166						
Toluene	ND	1.0	µg/L	1	9/6/2013 4:43:24 PM	R13166						
Ethylbenzene	ND	1.0	µg/L	1	9/6/2013 4:43:24 PM	R13166						
Xylenes, Total	ND	2.0	µg/L	1	9/6/2013 4:43:24 PM	R13166						
Surr: 4-Bromofluorobenzene	103	85-136	%REC	1	9/6/2013 4:43:24 PM	R13166						

### Hall Environmental Analysis Laboratory, Inc.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	Е	Value above quantitation range
	J	Analyte detected below quantitation limits
	0	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits

- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Н
- ND Not Detected at the Reporting Limit Not Detected at the Reporting Limit Page 1 of 3 Sample pH greater than 2 for VOA and TOC only.
- Р
- RL Reporting Detection Limit
- Spike Recovery outside accepted recovery limits S

Analytical Report Lab Order 1309152 Date Reported: 9/12/2013

9/6/2013 5:13:41 PM

9/6/2013 5:13:41 PM

1

1

R13166

R13166

CLIENT: Blagg Engineering	Client Sample ID: MW # 2A											
<b>Project:</b> MARTINEZ GC G # 1	Collection Date: 8/31/2013 10:25:00 AM											
Lab ID: 1309152-002	Matrix: A	Matrix: AQUEOUS Received Date: 9/5/2013 10:00:00 AM										
Analyses	Result	RL Qua	al Units	DF	Date Analyzed	Batch						
EPA METHOD 8021B: VOLATILES					Analys	t: NSB						
Benzene	ND	1.0	µg/L	1	9/6/2013 5:13:41 PM	R13166						
Toluene	ND	1.0	µg/L	1	9/6/2013 5:13:41 PM	R13166						
Ethylbenzene	ND	1.0	µg/L	1	9/6/2013 5:13:41 PM	R13166						

2.0

85-136

ND

103

µg/L

%REC

### Hall Environmental Analysis Laboratory, Inc.

Xylenes, Total

Surr: 4-Bromofluorobenzene

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	Е	Value above quantitation range
	J	Analyte detected below quantitation limits
	0	RSD is greater than RSDlimit

- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Page 2 of 3
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

C	Chain-of-Custody Record			ram-Around	rime:								_								_
Client:	BLA	GG ENGR	/ BP AMERICA	Standard	Rush						HA An		LY:	SI	VI S I	RC LA	DN BC	ME )R/	רא. <b>\T</b>	FA DF	L ZY
Mailing A	ddress:	P.O. BO	X 87	M	ARTINE7 G	CG#1					ww	/w.h	allei	nviro	onme	enta	l.cor	n			
·		BLOOM	FIELD. NM 87413	Project #:			-	49		Haw	kins	NE	- Ali	buq -	uerq	ue, l	NM 8	37109	)		
Phone #		(505) 63	32-1199						el. 5	05-3	45-3	3975	Anal	Fax	505	-345	5-41(	)7			
email or l	Fax#:			Project Manag	ger:	• <u></u>								ly Sis		que	51 	l i		-	
QA/QC Pa	ackage: lard		Level 4 (Full Validation)		NELSON V	ELEZ	8021B)	(yluc	MRO)			()		O4,SO4)							
Accredita	ition:			Sampler:	NELSON V	ELEZ AND		Gas (	) 0	_		SIM		02,0	ds S	ed)					nple
	P	D Other	·····	On Ice:	Ves	⊡ No	Ĭ₽	Hd	10	18.	8	270		N.S.	Soli	ilter	ite N				san
	Type)	<u> </u>		Sample Temp	erature: [, (	0		н + Ш	GRO	od 4	od 5	or 8	tals	N,	Ved	us (f	Nitr			e	osite
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 1309(152	BTEX + AA	BTEX + MTB	FPH 8015B	IPH (Meth	EDB (Meth	PAH (8310	SCRA 8 Me	Anions (F,C	Total Disso	ron, Ferroi	Vitrate N /			Brab sampl	pt. compo
8/31/13	0945	WATER	MW # 1A	40 ml VOA - 2	HCI & Cool	-001	V				_						-		-	v T	<u></u>
																			$\top$	Ť	7
8/31/13	1025	WATER	MW # 2A	40 ml VOA - 2	HCI & Cool	-002	V													v	Ť
			· · · · · · · · · · · · · · · · · · ·																T		-
<u> </u>	<b></b> _	<b></b>																			
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·			<u> </u>																		Τ
														]							
Date:	Time	Relinquisha	d hv:	Received her																	
9/4/13	1516	M	ny	Mantra	(1)cola	9/4/13 1516	Rem BIL	narks L DIF	:: RECT	'LY TO	) BP:	:		_							
Date:	Time:	Relinquishe	d by: U	Received by:	A survey of the second	Date / Time	Jeff Peace, 200 Energy Court, Farmington, NM 87401														
7413	1717	hrut	ulicelar.		D91	105/13 100	Find Purchase Order in email from BP.														

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 most

QC SU Hall En	JMMAH Ivironme	RY REPORT ntal Analysis La	boratory, Inc.				WO#:
Client: Project:	Blag MAR	g Engineering TINEZ GC G # 1					
Sample ID	5ML RB	SampType: MBLI	K Tes	tCode: EPA Meth	od 8021B: Volat	iles	
Client ID:	PBW	Batch ID: R131	<b>66</b> F	RunNo: <b>13166</b>			
Prep Date:		Analysis Date: 9/6/2	2013	SeqNo: <b>375561</b>	Units: µg/L		
Analyte		Result PQL S	PK value SPK Ref Val	%REC LowLin	nit HighLimit	%RPD	RPDLimit

ND

ND

ND

1.0

1.0

1.0

Xylenes, Total Surr: 4-Bromofluorobenzene	ND 22	2.0	20.00		108	85	136			
Sample ID 100NG BTEX LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSW	Batch	ID: <b>R1</b>	3166	R	lunNo: 1	3166				
Prep Date:	Analysis D	ate: <b>9/</b>	6/2013	S	eqNo: 3	75562	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	80	120			
Toluene	20	1.0	20.00	0	101	80	120			
Ethylbenzene	20	1.0	20.00	0	102	80	120			
Xylenes, Total	62	2.0	60.00	0	104	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		110	85	136			

#### **Qualifiers:**

Benzene

Toluene

Ethylbenzene

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Qual

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Albi TEL: 505-345-3975 Website: www.ha	Analysis Labo 4901 Hawki uquerque, NM FAX: 505-345 illenvironmenta	ratory ins NE 87109 <b>Sam</b>   -4107 ul.com	ple Log-In Ch	eck List
Client Name: BLAGG	Work Order Number:	1309152		RcptNo: 1	
Received by/date: Logged By: Lindsay Mangin	09/05/13 9/5/2013 10:00:00 AM		Jonahy Morry D		
Completed By: Lindşay Mangin	9/5/2013 12:41:23 FM		Ametry Hopes		
Reviewed By	nalpell	3	$V \circ V$		
Chain of Custody					
1, Custody seals intact on sample bottles?		Yes	No	Not Present 🗸	
2. Is Chain of Custody complete?		Yes 🗸	No	Not Present	
3. How was the sample delivered?		<u>Courier</u>			
Log In					
4. Was an attempt made to cool the sample	s?	Yes 🗸	No	NA	
5. Were all samples received at a temperatu	re of >0° C to 6.0°C	Yes 🗸	No	NA	
6. Sample(s) in proper container(s)?		Yes 🗸	No		
7. Sufficient sample volume for indicated tes	t(s)?	Yes 🗸	No		
8. Are samples (except VOA and ONG) prop	erly preserved?	Yes 🗸	No		
9. Was preservative added to bottles?		Yes	No 🗸	NA	
10.VOA vials have zero headspace?		Yes 🗸	No	No VOA Vials	
11. Were any sample containers received bro	oken?	Yes	No 🗸	# of preserved	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗸	No	bottles checked for pH: (<2 or	>12 unless noted)
13 Are matrices correctly identified on Chain	of Custody?	Yes 🗸	No	Adjusted?	
14. Is it clear what analyses were requested?		Yes 🗸	No		
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🔽	No	Checked by:	
Special Handling (if applicable)					
16. Was client notified of all discrepancies wit	h this order?	Yes	No	NA 🗸	
Person Notified:	Date:				
By Whom:	via:	eMail	Phone Fax	In Person	
Regarding:					

17. Additional remarks:

18. Cooler Information

Client Instructions:

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes	1		
						he e e e e e e e e e e e e e e e e e e

Page 1 of 1

# **BLAGG ENGINEERING, INC.**

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT :	CLIENT : BP AMERICA PROD. CO. CHAIN-OF-CUSTODY #: N/A								
MARTINEZ GC G # 1       LABORATORY (S) USED :       HALL ENVIRONMENTAL         UNIT A, SEC. 24, T29N, R10W									
Date :	December	17, 2013			C	EVELOPER	/ SAMPLER :	Ν.	JV
Filename :	Martinez GC	G 1 mw log	12-17-13.xls			PROJECT	MANAGER :	<u> </u>	JV
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
					1			1	
1A	100.00	98.20	1.80	11.50	1250	7.43	700	12.3	5.00
2A	98.46	98.14	0.32	11.00	1150	7.49	700	12.1	5.00
3A	98.55	97.38	1.17	14.15	-	-	-	-	-
4A	98.79	97.59	1.20	14.05	-	-	-	-	-
INSTRUMENT CALIBRATIONS =       4.01/7.00/10.00       2,800         DATE & TIME =       12/16/13       0600									
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 gal. / ft. of water.									
Comments	or note wel	I diameter	if not standa	rd 2".					
Excellent red	covery in MW	/ #1A & #2A.	Collected sar	mples from	#1A & #2A for	BTEX using	US EPA Meth	od 8021B.	

Purged wells using 2 inch submersible electrical pump, new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing.

Top of casings : MW # 1A ~ 1.00 ft. , MW # 3A ~ 2.50 ft. , MW # 4A ~ 2.60 ft. above grade ; MW # 2A ~ 0.25 ft. below grade .

on-site	11:00 AM	temp.	33 F
off-site	1:00 PM	temp.	41 F
sky cond.		Sunny	
wind speed	0 - 5	direct.	SE

**Analytical Report** Lab Order 1312988

Hall Environmental	Analysis Laboratory.	Inc.
	a filling sis Laboratory	

Date Reported: 12/23/2013

CLIENT:	Blagg Engineering			<b>Client Samp</b>	le ID: MV	W #1A	
Project:	MARTINEZ GC G #1			Collection	Date: 12/	17/2013 12:50:00 PM	
Lab ID:	1312988-001	Matrix: A	AQUEOUS	Received	<b>Date:</b> 12/	18/2013 10:00:00 AM	
Analyses		Result	RL Qua	d Units	DF	Date Analyzed	Batch
EPA MET	HOD 8021B: VOLATILES					Analyst:	NSB
Benzene		5.4	1.0	µg/L	1	12/22/2013 1:00:46 AM	R15667
Toluene		ND	1.0	µg/L	1	12/22/2013 1:00:46 AM	R15667
Ethylben	zene	1.1	1.0	µg/L	1	12/22/2013 1:00:46 AM	R15667
Xylenes,	Total	16	2.0	µg/L	1	12/22/2013 1:00:46 AM	R15667
Surr: 4	l-Bromofluorobenzene	101	85-136	%REC	1	12/22/2013 1:00:46 AM	R15667

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	Б	Value above quantitation range

- Value above quantitation range Е
- J Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- RPD outside accepted recovery limits R
- Spike Recovery outside accepted recovery limits S
- В Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Page 1 of 3 Р Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

**Analytical Report** Lab Order 1312988

	Hall Environmental Anal	lvsis Laboratorv.	Inc.
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Date Reported: 12/23/2013

CLIENT: Blagg Engineering			Client Samp	le ID: MW	/ #2A	
<b>Project:</b> MARTINEZ GC G #1			Collection 1	Date: 12/1	7/2013 11:50:00 AM	
Lab ID: 1312988-002	Matrix: A	AQUEOUS	Received	Date: 12/1	8/2013 10:00:00 AM	
Analyses	Result	RL Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	1.0	µg/L	1	12/22/2013 1:30:54 AM	R15667
Toluene	ND	1.0	µg/L	1	12/22/2013 1:30:54 AM	R15667
Ethylbenzene	ND	1.0	µg/L	1	12/22/2013 1:30:54 AM	R15667
Xylenes, Total	ND	2.0	µg/L	1	12/22/2013 1:30:54 AM	R15667
Surr: 4-Bromofluorobenzene	97.9	85-136	%REC	1	12/22/2013 1:30:54 AM	R15667

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	Б	Value above quantitation range

- Value above quantitation range Е
- J Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- RPD outside accepted recovery limits R
- Spike Recovery outside accepted recovery limits S
- В Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Page 2 of 3 Р Sample pH greater than 2 for VOA and TOC only.
- RL Reporting Detection Limit

Client:														-	ИЛТ	-			-	_	
chent.	BLA	GG ENG	R. / BP AMERICA	Standard	🗌 Rush										AT A	ĸ	JN		EN		۸L
				Project Name	9:	<u> </u>	-				<b>A</b> /1	A	LY	ŞΤ	S	LA	ВС	JR	AT	O	RY
Mailing /	Address:	P.O. B(	DX 87		ARTINEZ G	C G # 1					wv	vw.h	alle	nviro	onm	enta	il.co	m			
		BLOON	AFIELD, NM 87413	Project #:			4	4	901	Haw	kins	NE	- Al	buq	uerc	que,	NM	871(	)9		
Phone #·		(505) 6	32-1199				Tel. 505-345-3975 Fax 505-345-4107														
email or	Fax#:	(000)0		Project Mone	<u> </u>		Analysis Request														
QA/QC Pa	ackage:				ger;																
Stanc	lard	Γ	Level 4 (Full Validation)		NELSON V	'ELEZ	021	) È	l ĝ					4,SC							
Accredita	ition:	· <u> </u>		Sampler:			®	as or	N N			MS)		۲q						:	e
	□ NELAP □ Other					<u>ELEZ MU</u>		U U T	DRC	3.1)	1.1)	lso,	1	<b>Š</b>	olid	erec	z			1	d L
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				CONTRACTOR AND A CONTRACTOR OF A DESCRIPTION OF				TBE +	B (GI	thod	thod	0 or	leta	5	olve	sno	NI.			ple	posit
Date	Time	Matrix	Sample Request ID	Container	Preservative	HEALNo	<b>1</b>	Į ¥	0151	Mei	Mei	831	∞	IS (F	Diss	Ferr	e N			am	Ĕ
	ļ			Type and #	lype	1317988	IEX I	EX	PH 8	ЪН (	DB (	AH (	CRA	nion	otal	u, l	itrat			ab s	of. c
12/17/13	1250	WATER	MW # 1A	40 ml VOA - 2	HCI & Cool	1012100		<u> </u>	-		<u> </u>	<u> </u>	8	A	Ĕ	<u> </u>	Z		┢──╋	<u>ق</u>	<u> </u>
															·					<u>v</u>	
12/17/13	1150	WATER	MW # 2A	40 ml VOA - 2	HCL& Cool	-(1)2														$\square$	$\square$
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Date:	Time:	Relinquishe	arby:	Received by:		Date Time	Rem	arke													
/11/13	1616	TIM	m UL	ho. t	$(\lambda_{i}) = 1$	2/11/2	BILI	L DIR	ECTL	γ το	BP:										
ate:	Time:	Relinquished	d by:	Received by:	Walter	Date Time	Jeff	Peac	e. 20	0 Fn	ergy	Con	rt Go	armir	anto-	n 111	107	101			
11/13	1750	$\bigwedge$	int. Marter	Maile	A.		Find Purchase Order in amail from DD														
<u>~ µ ~ 1</u>	If necessary, samples submitted to Hall Environmental may be sub-				11/ July Tring 12/18/13 1000 Find Purchase Order in email from BP.																

This serves as notice of this possibility. Any sub-contracted data will be clearly notation of this possibility. Any sub-contracted data will be clearly notation of the serves as notice of this possibility.	ed on the analytical report
--	-----------------------------

QC SUM Hall Envir	IMARY ronmenta	<b>REP(</b> al Analy	ORT ysis I	Laborat	ory, Inc.					WO#:	1312988 23-Dec-13
Client: Project:	Blagg En MARTIN	igineering NEZ GC G	#1								
Sample ID: 5ML	RB	SampT	ype: ME	BLK	Tes						
Client ID: PBV	v	Batch	n ID: <b>R1</b>	5667	F	RunNo: 1	5667				
Prep Date:		Analysis D	Date: 12	2/21/2013	S	SeqNo: 4	51694	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Bromofluor	obenzene	20		20.00		100	85	136			
Sample ID: 100	NG BTEX LCS	SampT	ype: LC	S	Tes	tCode: EF	PA Method	8021B: Volat	iles		
Client ID: LCS	w	Batch	n ID: <b>R1</b>	5667	F	RunNo: 1	5667				
Prep Date:		Analysis D	Date: 12	2/21/2013	S	SeqNo: 4	51695	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		22	1.0	20.00	0	109	80	120			
Toluene		22	1.0	20.00	0	109	80	120			

0

0

106

109

103

80

80

85

120

120

136

#### **Qualifiers:**

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

21

65

21

1.0

2.0

20.00

60.00

20.00

- \* Value exceeds Maximum Contaminant Level.
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Р Sample pH greater than 2 for VOA and TOC only.
- Reporting Detection Limit RL



#### Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Mork Order Number: 1212098

Client Name:	BLAGG	Work Order Numbe	er: 1312988		RcptNo:	1
Received by/da	ne: MG 12	118/13				
Logged By:	Anne Thorne	12/18/2013 10:00:00	АМ	anne Am	~	
Completed By:	Anne Thorne	12/20/2013		Ann An-	~	
Reviewed By:	ma-	12/20/13				
Chain of Cu	stody					
1. Custody se	als intact on sample bot	tles?	Yes 🗌	No 🗌	Not Present 🗹	
2. Is Chain of	Custody complete?		Yes 🗹	No 🗌	Not Present 🗌	
3. How was th	e sample delivered?		<u>Courier</u>			
<u>Log In</u>						
4. Was an att	empt made to cool the s	amples?	Yes 🗹	No 🗌	na 🗆	
5. Were all sa	imples received at a tem	perature of >0° C to 6.0°C	Yes 🗹	No 🗌	NA 🗀	
6. Sample(s)	in proper container(s)?		Yes 🔽	No 🗌		
7. Sufficient s	ample volume for indicat	ted test(s)?	Yes 🗹	No 🗌		
8. Are sample	es (except VOA and ONG	b) properly preserved?	Yes 🗹	No 🗌		
9. Was presei	rvative added to bottles?		Yes	No 🗹	NA 🗌	
10.VOA vials h	nave zero headspace?		Yes 🗌	No 🗌	No VOA Vials 🗹	
11, Were any s	sample containers receiv	ved broken?	Yes 🗆	No 🗹 🏾	# of preserved	· · · · · · · · · · · · · · · · · · ·
					bottles checked	
12. Does paper (Note discr	rwork match bottle labels	s?	Yes 🗹	No 🛄	for pH:	r > 12 unless noted)
13 Are matrice	epancies on chain of cus	Chain of Custody?	Yes 🗸	No 🗆	Adjusted?	
14 is it clear w	/hat analyses were reque	ested?	Yes 🗹	No 🗌		
15. Were all ho (If no, notify	olding times able to be m y customer for authorizat	et? iion.)	Yes 🗹	No 🗌	Checked by:	
Omenial II.		<b>,</b>				
<u>16 Was client</u>	notified of all discrepance	Z ies with this order?	Yes 🗌	No 🗌		
						1
Perso	on Notified:	Date				
By W	/hom:	Via:	🔄 eMail 📃 I	Phone 🔄 Fax	In Person	
j Rega	arding:					

17. Additional remarks:

**Client Instructions:** 

#### 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

# **BLAGG ENGINEERING, INC.**

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT :	BP AME	RICA PR	OD. CO.		CHAIN-OF-C	USTODY # :		N / A				
Martinez Unit a, si	GC G # 1 EC. 24, T29N	, R10W			LABORATOR	RY (S) USED	HALL ENVIRONMENTAL					
Date : Filename :	March 10, 2014 Martinez GC G 1 mw log 03-10-14.xls				C	EVELOPER PROJECT	/ SAMPLER : MANAGER :	N J V N J V				
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)			
1A 2A 3A 4A	100.00 98.46 98.55 98.79	96.80 96.74 96.30 96.34	3.20 1.72 2.25 2.45	11.50 11.00 14.15 14.05	1255 1055 - 1155	7.48 7.56 - 7.51	900 800 - 800	11.8 10.5 - 10.0	4.00 4.50 - 5.75			
NOTES :	INSTRUMENT CALIBRATIONS = DATE & TIME =       INSTRUMENT CALIBRATIONS = DATE & TIME =       INSTRUMENT CALIBRATIONS = 02/24/14       INSTRUMENT CALIBRATIONS = 02/24/14         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.)											
Comments	Ideally a minimum of three (3) wellbore volumes: 2.00 " well diameter = 0.49 gal. / ft. of water.											

Top of casings : MW # 1A ~ 1.00 ft. , MW # 3A ~ 2.50 ft. , MW # 4A ~ 2.60 ft. above grade ; MW # 2A ~ 0.25 ft. below grade .

on-site	10:00 AM	temp.	42 F
off-site	1:00 PM	temp.	58 F
sky cond.		Sunny	
wind speed	0 - 10	direct.	ESE - W

Analytical Report Lab Order 1403595 Date Reported: 3/20/2014

CLIENT: Blagg Engineering	Client Sample ID: MW #1A									
<b>Project:</b> MARTINEZ GC G#1			Collection	Date: 3/1	0/2014 12:55:00 PM					
Lab ID: 1403595-001	Matrix:	AQUEOUS	Received	<b>Date:</b> 3/1	3/2014 10:05:00 AM					
Analyses	Result	RL Qua	l Units	DF	Date Analyzed	Batch				
EPA METHOD 8021B: VOLATILES					Analyst	NSB				
Benzene	13	1.0	µg/L	1	3/18/2014 12:14:39 AM	R17360				
Toluene	ND	1.0	µg/L	1	3/18/2014 12:14:39 AM	R17360				
Ethylbenzene	5.7	1.0	µg/L	1	3/18/2014 12:14:39 AM	R17360				
Xylenes, Total	45	2.0	µg/L	1	3/18/2014 12:14:39 AM	R17360				
Surr: 4-Bromofluorobenzene	104	82.9-139	%REC	1	3/18/2014 12:14:39 AM	R17360				

## Hall Environmental Analysis Laboratory, Inc.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В
	Е	Value above quantitation range	Н
	J	Analyte detected below quantitation limits	ND
	0	RSD is greater than RSDlimit	Р
	R	RPD outside accepted recovery limits	RL
	S	Spike Recovery outside accepted recovery limits	

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
  - Not Detected at the Reporting Limit Page 1 of 4
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Analytical Report Lab Order 1403595 Date Reported: 3/20/2014

3/18/2014 12:44:51 AM R17360

3/18/2014 12:44:51 AM R17360

3/18/2014 12:44:51 AM R17360

3/18/2014 12:44:51 AM R17360

CLIENT: Blagg Engineering	Client Sample ID: MW #2A								
<b>Project:</b> MARTINEZ GC G#1	Collection Date: 3/10/2014 10:55:00 AM								
Lab ID: 1403595-002	Matrix: A	QUEOUS	Received	Date: 3/	/13/2014 10:05:00 AN	1			
Analyses	Result	RL Qu	al Units	DI	F Date Analyzed	Batch			
EPA METHOD 8021B: VOLATILES					Analy	st: <b>NSB</b>			
Benzene	ND	1.0	µg/L	1	3/18/2014 12:44:51 A	M R17360			

1.0

1.0

2.0

82.9-139

µg/L

µg/L

µg/L

%REC

1

1

1

1

ND

ND

ND

92.7

### Hall Environmental Analysis Laboratory, Inc.

Toluene

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	Е	Value above quantitation range
	J	Analyte detected below quantitation limits
	0	RSD is greater than RSDlimit
	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits

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

Page 2 of 4

- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

Analytical Report Lab Order 1403595 Date Reported: 3/20/2014

3/18/2014 1:15:00 AM R17360

CLIENT: Blagg Engineering	Client Sample ID: MW #4A									
<b>Project:</b> MARTINEZ GC G#1			Collection	Date: 3/1	0/2014 11:55:00 AM					
Lab ID: 1403595-003	Matrix: A	QUEOUS	Received	Date: 3/13/2014 10:05:00 AM						
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch				
EPA METHOD 8021B: VOLATILES					Analyst	NSB				
Benzene	ND	1.0	µg/L	1	3/18/2014 1:15:00 AM	R17360				
Toluene	ND	1.0	µg/L	1	3/18/2014 1:15:00 AM	R17360				
Ethylbenzene	ND	1.0	µg/L	1	3/18/2014 1:15:00 AM	R17360				
Xylenes, Total	ND	2.0	µg/L	1	3/18/2014 1:15:00 AM	R17360				

82.9-139

%REC

1

92.5

### Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В
	Е	Value above quantitation range	Н
	J	Analyte detected below quantitation limits	ND
	0	RSD is greater than RSDlimit	Р
	R	RPD outside accepted recovery limits	RL

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- P Sample pH greater than 2.
  - an 2.

Page 3 of 4

RL Reporting Detection Limit

BL/	AGG ENG	R / RD AMERICA								HA		F	RI 1						
			✓ Standard     Project Nam	l 🗌 Rush						AN	AL	. YS	SI	S I		30	MEL DV.		AL
Mailing Address	: P.O. B	OX 87								ww	w.ha	allen	viro	onme	ental.	com	/ <b></b> ]		'K I
	BLOO	MFIELD, NM 87413	Project #·	MARTINEZ (	GC G # 1		4	901	Haw	kins I	NE -	Alb	ouqu	Jerqu	Je, N	M 8	7109		
Phone #:	(505)	532-1199		Tel. 505-345-3975 Fax 505-34						345-	45-4107								
email or Fax#:			Project Manager:				r				A	naly	/sis	Req	ues				
QA/QC Package:	[	Level 4 (Full Validation)		NELSON VELEZ			Ę	IRO)					4, SO4)						$\prod$
Accreditation:	NELAP     Other       EDD (Type)			NELSON V	/ELEZ		H (Gas ol	DRO / N	3.1)	4.1)	OSIMS)		NO <sub>2</sub> ,PO	olids	ered)	z			mple
EDD (Type)	<del></del>		Sample Temp	erature:				RO /	d 41.	d 50	r 827	s	No.	ed Sc	Į,	trite			te sa
Date 03/19/1 A Time 1255	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No:		EX + MTBE	H 8015B (G	H (Metho	B (Metho	H (8310 o	RA 8 Meta	ons ( <b>F,Cl</b> ,I	al Dissolv	), Ferrous	ate N / N		b sample	composi
3/10/14 -1055	WATER	MW # 1A	40 ml VOA - 2	HCI & Cool	1903595	<u> </u>	8	₽	≞∣		<b>₹</b>  ¦		<u></u>	<u>ā</u>				Gra	5 pt
									_		-					_		۷	
3/10/14 1155	WATER	MW # 2A	40 mi VOA - 2	HCI & Cool				-	_		_		_		_				
1155								-+			+							۷	
3/10/14 1255	WATER	MW # 4A	40 ml VOA - 2	HCI & Cool	-703	v	-+	-+		╶┼╴	+-	+	╇				-	_	
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ate: Time: 12 (14) 828	Relinquished	n V	Received by:	Date Time Re			lemarks:												
ate: Time:	Relinquished	iby:	<u>AVILO Dura U Cultar</u> eceived by Date Time Date Time Jeff Peace, 200 Energy Court, Farmington, NM 87401																
if necessar	, samples sub	mitted to Hall Environmental may be subo	contracted to other acc	redited laboratories	13/19/1605	Find	Purcl	hase	Orde	r in ei	mail	from	BP.						

1	-	 	 	- 24 A

atories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the server is

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

595
5

Client: Project:	Blagg En MARTIN	gineering IEZ GC G	#1													
Sample ID 5	ML RB	SampT	ype: ME	BLK	TestCode: EPA Method 8021B: Volatiles											
Client ID: P	BW	Batch	n ID: <b>R1</b>	: <b>R17360</b> RunNo: <b>17360</b>												
Prep Date:		Analysis D	Date: 3/	17/2014	SeqNo: 500230 Unit		Units: µg/L									
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit %RPI		RPDLimit	Qual					
Benzene		ND	1.0													
Toluene		ND	1.0													
Ethylbenzene		ND	1.0													
Xylenes, Total		ND	2.0													
Surr: 4-Bromofl	luorobenzene	20		20.00		99.2	82.9	139								
Sample ID 10	00NG BTEX LCS	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles							
Client ID: L	CSW	Batch	n ID: <b>R1</b>	7360	F	RunNo: <b>1</b>	7360									
Prep Date:		Analysis D	0ate: 3/	17/2014	5	SeqNo: 5	00231	Units: µg/L								
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual					
Benzene		21	1.0	20.00	0	105	80	120								
Toluene		21	1.0	20.00	0	105	80	120								
Ethylbenzene		21	1.0	20.00	0	105	80	120								
Xylenes, Total		64	2.0	60.00	0	106	80	120								
Surr: 4-Bromofl	luorobenzene	14		20.00		71.2	82.9	139			S					

#### **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
  - P Sample pH greater than 2.
  - RL Reporting Detection Limit



### 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name:	BLAGG	Work Order Number	er: 1403595		RcptNo:	1
Received by/da	ate: AT03,	113/14				
Logged By:	Anne Thorne	3/13/2014 10:05:00 /	M	anne Arm		
Completed By:	Anne Thorne	3/14/2014		anne Arm	~	
Reviewed By:	AB	3/14/14				
Chain of Cu	stody					
1. Custody se	eals intact on sample bottle	s?	Yes 🗀	No 🗔	Not Present 🗹	
2. Is Chain of	f Custody complete?		Yes 🗹	No 🗌	Not Present	
3. How was t	he sample delivered?		<u>Courier</u>			
Log In						
4. Was an at	ttempt made to cool the sa	mples?	Yes 🗹	No 🗌	NA 🗌	
5. Were all s	amples received at a temp	erature of >0° C to 6.0°C	Yes 🔽	No 🗌	NA 🗔	
6. Sample(s)	) in proper container(s)?		Yes 🔽	No 🗍		
7. Sufficient	sample volume for indicate	d test(s)?	Yes 🗹	No 🗌		
8. Are sample	es (except VOA and ONG)	properly preserved?	Yes 🗹	No 🗌		
9. Was prese	ervative added to bottles?		Yes 🗀	No 🗹	NA 🗔	
10.VOA vials	have zero headspace?		Yes 🗹	No 🗌	No VOA Vials 🗌	
11. Were any	sample containers receive	d broken?	Yes 🗌	No 🗹	# of preserved	
12 Dece non	anuaric match battle labele?		Van 🗹	No 🗌	bottles checked	
(Note disc	repancies on chain of custo	ody)			(<2 oi	>12 unless noted
13. Are matric	es correctly identified on C	hain of Custody?	Yes 🗹	No 🗆	Adjusted?	· · · · · · · · · · · · · · · · · · ·
14. Is it clear v	what analyses were reques	ted?	Yes 🗹	No 🗌		
15. Were all h (If no, notit	olding times able to be me fy customer for authorizatio	i? on.)	Yes 🗹	No 🗌	Checked by:	
Secold Hou	dling (if explicitle)					
16, Was client	t notified of all discrepancie	s with this order?	Yes 🗌	No 🗌	NA 🗹	
Pers	son Notified	Date				
By V	Whom:	Via:	I	Phone 🗍 Fax	In Person	
Reg	arding:			· · · · · · · · · · · · · · · · · · ·		
Clier	nt Instructions:	· · · · · · · · · · · · · · · · · · ·			an a	
17. Additiona	I remarks: D	Nat use calla	Le lere	2.5 1	111 1	
10 0	for the second s	y mue contra	icon Arma	o on b	valas / AT 03	3/14/14
10. <u>Cooler In</u>	No Temp ºC Condition	n Seal Intact   Seal No	Seal Date	Signed By		* /r · }
COOIEI		in Ocar maor Ocar NO	Juan Date .	- cignica by		

# **BLAGG ENGINEERING, INC.**

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT :	BP AME	RICA PR	OD. CO.		CHAIN-OF-C	USTODY # :		N / A					
Martinez Unit a, se	GC G#1 EC. 24, T29N	, R10W			LABORATOR	RY (S) USED	:	HALL ENVIRONMENTAL					
Date :	June 27.2	014			C	DEVELOPER	/ SAMPLER :	NJV					
Filename :	Martinez GC	G 1 mw log	06-27-14.xls			PROJECT	MANAGER :	N .	JV				
WELL	WELL	WATER	DEPTH TO	TOTAL	SAMPLING	pН	CONDUCT	TEMP.	VOLUME				
#	ELEV.	ELEV.	WATER	DEPTH	TIME		(umhos)	(celcius)	PURGED				
	(ft)	(ft)	(ft)	(ft)					(gal.)				
1A	100.00	99.42	0.58	11.50	850	7.39	700	17.5	5.25				
2A	98.46	-	-	11.00	-	-	-	-	-				
3A	98.55	-	-	14.15	-	-	-	-	-				
4A	98.79	-	-	14.05	-	-	-	-	-				
			INSTRUMENT	CALIBRATIC	DNS =	4.01/7.00/10.00	2,800						
			DATE & TIMI	E =		06/24/14	1730						
NOTES :	<u>Volume_of</u> (i.e. 2" MW Ideally a_m	<u>water_purge</u> r = (1/12) ft inimum_of :	ed from well . h = 1 ft.) three (3) we	<u>prior to sa</u> (i.e. 4" MW Ilbore volui	<u>ampling: V =</u> r = (2/12) ft. mes:	<u>pi X r2 X h</u> h = 1 ft.) 2.00 " well	<u>X 7.48 gal./ft</u> diameter =	<u>3) X 3 (wellb</u> 0.49 gal. / f	<u>ores)</u> . t. of water.				
Comments	or note wel	l diameter	if not standa	rd 2".									

Top of casings : MW # 1A ~ 1.00 ft. , MW # 3A ~ 2.50 ft. , MW # 4A ~ 2.60 ft. above grade ; MW # 2A ~ 0.25 ft. below grade .

on-site	8:00 AM	temp.	70 F
off-site	9:00 AM	temp.	73 F
sky cond.		Sunny	
wind speed	0 - 5	direct.	Calm

Analytical Report
Lab Order 1407175

Date Reported: 7/9/2014

#### **CLIENT:** Blagg Engineering Client Sample ID: MW #1A **Project:** MARTINEZ GC G #1 Collection Date: 6/27/2014 8:50:00 AM Lab ID: 1407175-001 Matrix: AQUEOUS Received Date: 7/3/2014 7:06:00 AM Analyses Result **RL** Qual Units **DF** Date Analyzed Batch **EPA METHOD 8021B: VOLATILES** Analyst: NSB 7/3/2014 2:48:44 PM Benzene ND 1.0 µg/L 1 R19692 Toluene ND 1.0 µg/L 1 7/3/2014 2:48:44 PM R19692 Ethylbenzene ND 1.0 µg/L 7/3/2014 2:48:44 PM R19692 1 Xylenes, Total ND 2.0 µg/L 7/3/2014 2:48:44 PM R19692 1 Surr: 4-Bromofluorobenzene %REC 7/3/2014 2:48:44 PM R19692 113 82.9-139 1

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	An
	Е	Value above quantitation range	Н	Ho
	J	Analyte detected below quantitation limits	ND	No
	0	RSD is greater than RSDlimit	Р	Sar

- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
  - D Not Detected at the Reporting Limit Page 1 of 2
- P Sample pH greater than 2.
- RL Reporting Detection Limit

C	hain-o	of-Cus	tody Record		IIII <del>.</del> .					F	44		E	NV	/TF	20	N	ME	NT	AĹ	
Client:	BLAG	G ENGR.	/ BP AMERICA	Standard	🗌 Rush _						١N	AL	Y	519	5 L	A	BO	RA	TC	R	ſ
				Project Name:				:23			ww	w.ha	allen	viro	nme	ntal	.con	า			
Mailing A	ddress:	P.O. BO	X 87	м	ARTINEZ GO	G#1		4901 Hawkins NE - Albuquerque, NM 87109													
		BLOOM	FIELD, NM 87413	Project #:		<u></u>	1	Τe	el. 50	)5-34	45-3	975	l	Fax	505-	-345	-410	)7			
Phone #:		(505) 63	2-1199									ļ	Anal	ysis	Rec	lues	st				
email or F	ax#:		· · · · · · · · · · · · · · · · · · ·	Project Manager:										04)							Τ
QA/QC Pa	ckage: ard		Level 4 (Full Validation)	NELSON VELEZ			(8021	only)	( MRO)			1S)		PO4,SC		(				<u>a</u>	
Accreditat	tion:			Sampler: NELSON VELEZ 9/11				(Gas	ßÖ	<del>.</del> 1	<b>नि</b>	SIN		<b>V</b> 02	lids	ered	z			ame	
	<b>)</b>	Other		On ice:	¥γes	⊡ No		TPH	0/1	418	204	827	s	03, I	d Sc	(filte	trite			te s:	
EDD (Type)			Sample Temp	erature: 💦	5		+ 36	(GR	por	D D D	5	etal	C,N	olve	sno	N.		Ę	oosi oosi	2	
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEALNO.		TEX + MTI	PH 8015B	PH (Meth	DB (Met	AH (8310	CRA 8 M	Inions (F,	otal Diss	ron, Ferro	litrate N		mes des	int, com	
6/27/14	0850	WATER	MW # 1A	40 ml VOA - 2	HCI & Cool		<u>∎</u>					<u></u>		4		_				<u>/ </u>	
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		ID - the sector b		Dessived by	<u>h</u> /					<u> </u>				1							
Date: 1/z/14	1500	Prelinguish	ny	Heceived by: 103/14 103/14 1706			Remarks: BILL DIRECTLY TO BP:														
Date:	Time:	Relinquish	ed by: //	Received by:		Date Time	Je Fi	ff Pe nd Pເ	ace, urcha	200 I ase C	Ener Order	gy Co in ei	ourt, mail	Farn from	ningt 1 BP.	on, I	NM 8	7401			

QC SUMMARY REPORT	
Hall Environmental Analysis Laboratory, Inc.	

**Blagg Engineering** 

WO#:	1407175
	09-Jul-14

Project:	MARTI	NEZ GC G #	1								
Sample ID	5ML RB	SampTy	be: MI	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	PBW	Batch I	D: <b>R1</b>	9692	F	RunNo: 1	9692				
Prep Date:		Analysis Dat	te: 7/	3/2014	S	SeqNo: 571873 Units: µg/L					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Bron	nofluorobenzene	22		20.00		109	82.9	139			
Sample ID	100NG BTEX LC	<b>S</b> SampTy	be: LC	s	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	LCSW	Batch I	D: R1	9692	F	RunNo: 1	9692				
Prep Date:		Analysis Dat	te: 7/	3/2014	S	SeqNo: 5	71874	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		21	1.0	20.00	0	105	80	120			
Toluene		21	1.0	20.00	0	103	80	120			
Ethylbenzene		20	1.0	20.00	0	102	80	120			
Xylenes, Total		64	2.0	60.00	0	106	80	120			
Surr: 4-Bron	nofluorobenzene	20		20.00		100	82.9	139			

#### **Qualifiers:**

**Client:** 

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
  - P Sample pH greater than 2.
  - RL Reporting Detection Limit

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

#### Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name:	BLAGG	Work Order Numbe	r: 1407175		RcptNo:	1
Received by/d	ate:	A-07/03/14				
Logged By:	Anne Thorne	7/3/2014 7:06:00 AM		anne Am	-	
Completed By	: Anne Thorne	7/3/2014		Dan. M.		
Reviewed By:	No.	madic		and from		
Chain of Cu	istody	0710314				
1 Custody s	eals intact on sample bo	ottles?	Yes 🗌	No 🗌	Not Present 🗹	
2. Is Chain o	f Custody complete?		Yes 🗹	No 🗌	Not Present	
3. How was t	he sample delivered?		<u>Courier</u>			
Loa In						
4. Was an a	ttempt made to cool the	samples?	Yes 🗹	No 🗌	NA $\Box$	
5. Were all s	amples received at a te	mperature of >0° C to 6.0°C	Yes 🗹	No 🗌	NA 🗌	
6. Sample(s	) in proper container(s)?	,	Yes 🔽	No 🗌		
7. Sufficient	sample volume for indic	ated test(s)?	Yes 🔽	No 🗔		
8. Are sampl	es (except VOA and ON	IG) properly preserved?	Yes 🗹	No 🗆		
9. Was pres	ervative added to bottles	\$?	Yes 🗌	No 🗹	NA 🗌	
10. VOA vials	have zero headspace?		Yes 🗹	No 🗌	No VOA Vials 🗌	
11. Were any	sample containers rece	eived broken?	Yes 🗌	No 🗹 🛛		
				_	# of preserved bottles checked	
12.Does pap	erwork match bottle lab	els?	Yes 🗹	No 🗆	for pH:	>12 unless noted)
(Note disc	repancies on chain of c	ustoay) n Chain of Custody?	Ves 🗸	No 🗍	Adjusted?	, 12 anioos notos)
13 Are maure	what analyses were red		Ves 🔽			
15. Were all h (If no, not	nolding times able to be ify customer for authoriz	met?	Yes 🗹	No 🗆	Checked by:	
<u>Special Hai</u>	ndling (if applicab	<u>le)</u>			_	
16. Was clien	t notified of all discrepa	ncies with this order?	Yes 🗌	No 🗌		1
Per	son Notified:	Date				
By	Nhom:	Via:	eMail 🔲	Phone 🔄 Fax	in Person	
Reg	arding:			····		

17. Additional remarks:

Client Instructions:

#### 18. Cooler Information

	Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1		1.3	Good	Yes			

# **BLAGG ENGINEERING, INC.**

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT :	BP AME	RICA PR	OD. CO.		CHAIN-OF-C	USTODY # :		N / A			
MARTINEZ UNIT A, S			LABORATOR	RY (S) USED	:	HALL ENVIRONMENTAL					
Date :	ate: August 23, 2014				C	DEVELOPER	/ SAMPLER :	N	JV		
Filename :	Martinez GC	G 1 mw log	08-23-14.xls			PROJECT	MANAGER :	N	JV		
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)		
					· · · · · · · · · · · · · · · · · · ·		I				
1A	100.00		0.10	11.50	1030	7.30	800	19.4	5.50		
2A	98.46		-	11.00	-	-	-	-	-		
3A	98.55		-	14.15	-	-	-	-	-		
4A	30.73	<u> </u>	INSTRUMENT DATE & TIM	CALIBRATIC	- DNS =	- 4.01/7.00/10.00 08/19/14	2,800 0600	-	-		
NOTES :	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.)										
Comments	Ideally a minimum of three (3) wellbore volumes: 2.00 " well diameter = 0.49 gal. / ft. of water. Comments or note well diameter if not standard 2 ".										

Excellent recovery in MW # 1. Collected sample from MW # 1 for BTEX only. Purged well using 2 inch submersible electrical pump, new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing.

Top of casings : MW # 1A ~ 1.00 ft. , MW # 3A ~ 2.50 ft. , MW # 4A ~ 2.60 ft. above grade ; MW # 2A ~ 0.25 ft. below grade .

on-site	9:45 AM	temp.	64 F
off-site	10:45 AM	temp.	68 F
sky cond.		Mostly sunny	
wind speed	0 - 10	direct.	E - ESE

Analytical Report Lab Order 1408D09 Date Reported: 8/29/2014

CLIENT:         Blagg Engineering         Client Sample ID: MW # 1A           Project:         MARTINEZ GC G # 1         Collection Date: 8/23/2014 10:30:00 A           Lab ID:         1408D09-001         Matrix: AQUEOUS         Received Date: 8/26/2014 7:45:00 A									
Analyses	Result	RL Qua	d Units	DF	Date Analyzed	Batch			
EPA METHOD 8021B: VOLATILES					Analys	st: NSB			
Benzene	ND	1.0	µg/L	1	8/27/2014 10:14:02 PI	M R20843			
Toluene	ND	1.0	µg/L	1	8/27/2014 10:14:02 PI	M R20843			
Ethylbenzene	ND	1.0	µg/L	1	8/27/2014 10:14:02 PI	M R20843			
Xylenes, Total	ND	2.0	µg/L	1	8/27/2014 10:14:02 PI	M R20843			
Surr: 4-Bromofluorobenzene	106	82.9-139	%REC	1	8/27/2014 10:14:02 PI	M R20843			

### Hall Environmental Analysis Laboratory, Inc.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В
	Е	Value above quantitation range	Н
	J	Analyte detected below quantitation limits	ND
	0	RSD is greater than RSDlimit	Р
	D		BI

- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
  - Not Detected at the Reporting Limit Page 1 of 2
- P Sample pH greater than 2.
- RL Reporting Detection Limit

C	Chain-of-Custody Record			TTum-Around T	III.			-		₽	ł۸		E	ŇV	/TF	20	N	ME	NT	AL	
Client:	BLAG	G ENGR.	/ BP AMERICA	Standard	🗍 Rush						N	ĂL	Y	STS	S L	A	30	RA	TO	R	7
<u></u>			• 00 - 00 - 00 - 00 - 00 - 00 - 00 - 00	Project Name:						-		w ha	allen	viro	nme	ntal	com	 1			-
Mailing A	ddress:	P.O. BO	X 87	M	ARTINEZ GO	G#1	4901 Hawkins NE - Albuquerque, NM 87109														
		BLOOM	FIELD. NM 87413	Project #:			Tel. 505-345-3975 Fax 505-345-4107														
Dhone #		(505) 63	2-1199	-								ļ	Anal	ysis	Rec	ques	st				
email or F	ax#:	(,		Project Manager:																	
	ckage:	11. ( <b>1999)</b> 11. (1999)		1		-1 67	21B	()	Q					S,							
Standa	Standard Level 4 (Full Validation)		Level 4 (Full Validation)		NELSON VI		(80	only	MR			/IS)		Q						4	<u>u</u>
Accreditat	tion:			Sampler:	<b>NELSON V</b>	ELEZ nr								amp							
	•	□ Other		On Ice:	XYes	🗇 No	f	Hdl		418	504	827	s	0 <sup>3</sup> ,I	d Sc	filte	crite				
🗆 EDD (1	Гуре)	·		Sample Tempo	erature: 2 , la		4	+ 12	(GR	Po	pou	or	etal	C,N	olve	sno (	/ Nit		-		ŝΖ
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 1408D01	BTEX + NAT	BTEX + MTE	TPH 8015B	TPH (Meth	EDB (Meth	PAH (8310	RCRA 8 M	Anions (F,	Total Disso	Iron, Ferrc	Nitrate N /				
8/23/14	1030	WATER	MW # 1A	40 ml VOA - 2	HCl & Cool	-001	V												١	1	
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Date:	Time:	Relinguish	 ed,by:	Received by:		Date Time	Rer	nark	(s:	1	L	i	L	<u>.</u>		I		I			
3/25/14	1540	90	hup	Mr.+11	nile	hs/4 1541	ВІ	ll Di	IREC	FLY T	'O BI	<b>)</b> ;									
Date:	Time:	Relinquish	ed by:	Received by:		Date Time	Je	ff Pe	ace,	200 E	Ener	gy Co	ourt,	Farn	ningt	on, I	NM 8	7401			
1/14	1715	1 Cht	- Warts	M XX	- 08	26/14 0745	Find Purchase Order in email from BP.				<u> </u>										

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		. La subsention de la cibon com	aditad bergranan This of		Any cub contracted data will be clear	iv potated on the analytical report
It nococcon()	complete cultimitted to Hall Environmental ma	v ne subcontractervio otner arti	ennen aonrannes this se	EIVES AS HOILLE ULTHIS HUSSILIIILV.	Ally Sub-contracted data with be clear	

QC SUMMARY REPORT	
Hall Environmental Analysis Laboratory, Inc.	

WO#:	1408D09

Client: Project:	Blagg Eng MARTIN	gineering EZ GC G	#1								
Sample ID	5ML RB	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	PBW	Batch	ID: <b>R2</b>	0843	F	RunNo: 2	0843				
Prep Date:		Analysis D	ate: 8/	27/2014	S	SeqNo: 6	06708	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	1.0								
Toluene		ND	1.0								
Ethylbenzene		ND	1.0								
Xylenes, Total		ND	2.0								
Surr: 4-Brom	ofluorobenzene	22		20.00		109	82.9	139			
Sample ID	100NG BTEX LCS	SampT	ype: LC	S	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID:	LCSW	Batch	ID: <b>R2</b>	0843	F	RunNo: 2	0843				
Prep Date:		Analysis D	ate: <b>8/</b>	27/2014	5	SeqNo: 6	06709	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		20	1.0	20.00	0	99.3	80	120			
Toluene		20	1.0	20.00	0	99.6	80	120			
Ethylbenzene		20	1.0	20.00	0	101	80	120			
Xylenes, Total		63	2.0	60.00	0	104	80	120			
Surr: 4-Brom	ofluorobenzene	24		20.00		121	82.9	139			

#### **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
  - P Sample pH greater than 2.
  - RL Reporting Detection Limit

HALL Hall Environmental ENVIRONMENTAL ANALYSIS LABORATORY TEL: 505-345-3975 Website: www.ha	Analysis Laboratory 4901 Hawkins NE querque, NM 87109 FAX: 505-345-4107 lenvironmental.com	ample Log-In Ch	eck List
Client Name: BLAGG Work Order Number:	1408D09	RcptNo: 1	
Received by/date: Logged By: Lindsay Mangin 8/26/2014 7:45:00 AM Completed By: Lindsay Mangin 8/26/2014 8:47:21 AM Reviewed By: MQ 08/26/14	Jonahy H Jonahy H	Hanged Hanged	· · · ·
Chain of Custody	No.	Not Procent	
1. Custody seals intact on sample bottles?	Yes No	Not Present	
2. How was the sample delivered?	Courier		
3. Thow was the sample delivered?			
<u>Log In</u>			
4. Was an attempt made to cool the samples?	Yes 🗸 No	NA	
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes 🖌 No	NA	
6. Sample(s) in proper container(s)?	Yes 🗸 No		
7. Sufficient sample volume for indicated test(s)?	Yes 🖌 No		
8. Are samples (except VOA and ONG) properly preserved?	Yes 🗸 No		
9. Was preservative added to bottles?	Yes No	✓ NA	
10.VOA vials have zero headspace?	Yes 🖌 No	No VOA Vials	
11. Were any sample containers received broken?	Yes No	✓ # of preserved	
12.Does paperwork match bottle labels?	Yes 🗸 No	bottles checked for pH: (<2 or	>12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes 🗸 No	Adjusted?	
14. Is it clear what analyses were requested?	Yes 🖌 No		
<ul><li>15. Were all holding times able to be met?</li><li>(If no, notify customer for authorization.)</li></ul>	Yes 🗸 No	Checked by:	
Special Handling (if applicable)	Yes No.	. : NA 🗸	
	169 140		
Person Notified: Date: Date:	oMoil Phono	Eav In Person	
Regarding:			
Client Instructions:			
17. Additional remarks:			
18. <u>Cooler Information</u>			
Cooler No Temp °C Condition Seal Intact Seal No	Seal Date Signed B	Ву	
1 2.6 Good Yes			
Page 1 of 1			

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# **BLAGG ENGINEERING, INC.**

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT :	BP AME	RICA PR	OD. CO.		CHAIN-OF-C	USTODY # :		N / A			
MARTINEZ GC G # 1 LABORATORY (S) USED : UNIT A, SEC. 24, T29N, R10W								HALL ENVIRONMENTAL			
Date :	November	24, 2014			C	DEVELOPER	/ SAMPLER :	N J V			
Filename :	Martinez GC (	G 1 mw log 11	-24-14.xls			PROJECT	MANAGER :	N	JV		
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)		
4.0	100.00		4 75	11 50	4045	7 50	700	44.0	4.75		
1A	100.00		1.75	11.50	1245	7.53	700	14.8	4.75		
2A 34	98.55		-	14 15	-	-	-	-	-		
4A	98.79		-	14.05	-	-	-	-	-		
	•	1	INSTRUMENT DATE & TIM	CALIBRATIC E =	DNS =	4.01/7.00/10.00 11/24/14	2,800 0600				
NOTES :	<u>Volume_of</u> (i.e. 2" MW	<u>water_purge</u> r = (1/12) ft	ed_from_well :. h = 1 ft.)	<u>prior to sa</u> (i.e. 4" MW	ampling: V = r = (2/12) ft.	<u>pi X r2 X h</u> h = 1 ft.)	<u>X 7.48 gal./ft</u>	<u>3) X 3 (wellb</u>	<u>ores)</u> .		
	Ideally a m	ninimum of	three (3) we	llbore volu	mes:	2.00 " well	diameter =	0.49 gal. / f	t. of water.		
Comments	or note we	ll diameter	if not standa	ırd 2".							

Excellent recovery in MW # 1. Collected sample from MW # 1 for BTEX only. Purged well using 2 inch submersible electrical pump, new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing.

Top of casings : MW # 1A ~ 1.00 ft. , MW # 3A ~ 2.50 ft. , MW # 4A ~ 2.60 ft. above grade ; MW # 2A ~ 0.25 ft. below grade .

on-site	11:30 AM	temp.	39 F
off-site	1:00 PM	temp.	41 F
sky cond.		Mostly sunny	/
wind speed	15 - 25	direct.	W -WNW

Analytical Report Lab Order 1411B05 Date Reported: 12/2/2014

CLIENT:Blagg EngineeringProject:Martinez GC G #1Lab ID:1411B05-001	Client Sample ID: MW #1A           Collection Date: 11/24/2014 12:45:00 PM           Matrix: AQUEOUS         Received Date: 11/26/2014 7:00:00 AM							
Analyses	Result	RL Qua	al Units	DF	Date Analyzed	Batch		
EPA METHOD 8021B: VOLATILES					Analyst	: NSB		
Benzene	ND	1.0	µg/L	1	11/27/2014 5:59:58 AM	R22836		
Toluene	ND	1.0	µg/L	1	11/27/2014 5:59:58 AN	R22836		
Ethylbenzene	ND	1.0	µg/L	1	11/27/2014 5:59:58 AM	R22836		
Xylenes, Total	ND	2.0	µg/L	1	11/27/2014 5:59:58 AM	R22836		
Surr: 4-Bromofluorobenzene	102	66.6-167	%REC	1	11/27/2014 5:59:58 AM	R22836		

### Hall Environmental Analysis Laboratory, Inc.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В
	Е	Value above quantitation range	Н
	J	Analyte detected below quantitation limits	ND
	0	RSD is greater than RSDlimit	Р
	R	RPD outside accepted recovery limits	RL

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

Page 1 of 2

- D Not Detected at the Reporting Limit
- P Sample pH greater than 2.
- RL Reporting Detection Limit

5	lam-	or-cus	louy Record								10	F1	E	NN	/TE	20	NR	AFN	TA	1	
Client:	BLAG	ig engr.	/ BP AMERICA	Standard Rush			ANALYSIS LABO		BO	RAT	0	RY	1								
Mailing Ad	ddress:	P.O. BO	K 87	M	ARTINEZ GO	G#1		49	01 6	lawk	dins	NF -			erai	IP N	IM 8	7109			
-		BLOOM	FIELD, NM 87413	Project #:				Te	ol. 5(	15-3	45-3	975		Fax	505	345	-410	7			
Phone #:		(505) 63	2-1199					Analysis Request													
email or F	ax#:			Project Manag	er;		-							(1							E.
QA/QC Pad Standa	xage: ard	0	Level 4 (Full Validation)		NELSON VE	ELEZ	(80218	(Vino	MRO)			(S)		PO4,50						0	
Accreditat	ion:	1.000		Sampler: NELSON VELEZ TV		1	(Gas	RO/	1)	1	DISIN		102,	lids	red	z			mpt	L	
		D Other		On lice:	D Yes	D No	IF	TPH	0/0	418	504	827(		03,0	d So	filte	rite			e sa	
EDD (T	ype)			Sample Temperature: 13		ŧ	3E+	(GR(	pot	pou	or	etal	C,N	ive	) sno	Nit		ole	osit		
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 1411805	BTEX +**	BTEX + MTB	TPH 8015B	TPH (Meth	EDB (Met)	PAH (8310	RCRA 8 M	Anions (F,	Total Diss	Iron, Ferro	Nitrate N		Grab samp	5 pt. comp	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
11/24/14	1245	WATER	MW # 14	40 ml VOA - 2	HCI & Cool	-001	V												V		T
1					1			12		2.1		- 1			1	12					Γ
1000	1.1.1		A			1	15		11												Γ
Date: 11/25/14 Date: 11/25/14	Time: 1532 Time: 1815	Relinquishe Relinquishe	the of the of the bases	Received by:	Walle 5 11	Date Time 11/25/14 1532 Date Time 24/K1 8700	Ren Bli Jet Fir	nark LL DI If Pe	5: RECI ace, i urcha	200 E	O BP Inerg	r sy Co in er	urt, nail i	Farm	iingti BP,	on, N	IM 87	7401			

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.								
Client:	Blagg Engineering							
Project:	Martinez GC G #1							

Sample ID 5ML RB	SampType: MBLK TestCode: EPA Method 8021B: Volatiles									
Client ID: PBW	Batch	n ID: <b>R2</b>	2836	F	RunNo: 2	2836				
Prep Date:	Analysis D	Date: 11	1/26/2014	5	SeqNo: 6	73944	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	19		20.00		95.6	66.6	167			
Sample ID 100NG BTEX LCS SampType: LCS TestCode: EPA Method 8021B: Volatiles										
Sample ID 100NG BTEX LC	S SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Volat	iles		
Sample ID 100NG BTEX LC Client ID: LCSW	S SampT Batch	ype: LC	:S 2836	Tes F	tCode: El RunNo: 2	PA Method 2836	8021B: Volat	iles		
Sample ID 100NG BTEX LC Client ID: LCSW Prep Date:	<b>CS</b> SampT Batch Analysis D	ype: LC 1D: R2 Date: 11	:S 2836 1/26/2014	Tes F S	tCode: El RunNo: 2 SeqNo: 6	PA Method 2836 73945	<b>8021Β: Volat</b> Units: μg/L	iles		
Sample ID <b>100NG BTEX LC</b> Client ID: <b>LCSW</b> Prep Date: Analyte	S SampT Batch Analysis D Result	<sup>-</sup> ype: LC n ID: R2 Date: 11 PQL	: <b>S</b> 2836 1/26/2014 SPK value	Tes F S SPK Ref Val	tCode: El RunNo: 2 SeqNo: 6 %REC	PA Method 2836 73945 LowLimit	<b>8021Β: Volat</b> Units: μg/L HighLimit	iles %RPD	RPDLimit	Qual
Sample ID 100NG BTEX LC Client ID: LCSW Prep Date: Analyte Benzene	S SampT Batch Analysis D Result 20	Type: LC n ID: R2 Date: 11 PQL 1.0	<b>S</b> 2836 1/26/2014 SPK value 20.00	Tes F S SPK Ref Val 0	tCode: El RunNo: 2 SeqNo: 6 %REC 99.4	PA Method 2836 73945 LowLimit 80	8021B: Volat Units: µg/L HighLimit 120	iles %RPD	RPDLimit	Qual
Sample ID 100NG BTEX LC Client ID: LCSW Prep Date: Analyte Benzene Toluene	CS SampT Batch Analysis D Result 20 20	Type: LC n ID: R2 Date: 11 PQL 1.0 1.0	<b>S</b> 2836 1/26/2014 SPK value 20.00 20.00	Tes F SPK Ref Val 0 0	tCode: El RunNo: 2 SeqNo: 6 %REC 99.4 101	PA Method 2836 73945 LowLimit 80 80	8021B: Volat Units: µg/L HighLimit 120 120	iles %RPD	RPDLimit	Qual
Sample ID 100NG BTEX LC Client ID: LCSW Prep Date: Analyte Benzene Toluene Ethylbenzene	CS SampT Batch Analysis D Result 20 20 20 20	ype: LC n ID: R2 Date: 11 PQL 1.0 1.0 1.0	<b>S</b> 2836 1/26/2014 SPK value 20.00 20.00 20.00	Tes F SPK Ref Val 0 0 0 0	tCode: El RunNo: 2 SeqNo: 6 %REC 99.4 101 102	PA Method 2836 73945 LowLimit 80 80 80	8021B: Volat Units: μg/L HighLimit 120 120 120	iles %RPD	RPDLimit	Qual
Sample ID 100NG BTEX LC Client ID: LCSW Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	S SampT Batch Analysis D Result 20 20 20 64	ype: LC n ID: R2 Date: 11 PQL 1.0 1.0 2.0	<b>S</b> 2836 1/26/2014 SPK value 20.00 20.00 20.00 60.00	Tes F SPK Ref Val 0 0 0 0 0 0	tCode: El RunNo: 2 SeqNo: 6 %REC 99.4 101 102 107	PA Method 2836 73945 LowLimit 80 80 80 80 80	8021B: Volat Units: µg/L HighLimit 120 120 120 120	%RPD	RPDLimit	Qual

#### **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
  - P Sample pH greater than 2.
  - RL Reporting Detection Limit

Page 2 of 2

HALL Hall Environm ENVIRONMENTAL ANALYSIS LABORATORY TEL: 505-345 Website: w	nental Analysis Laborat 4901 Hawkins Albuquerque, NM 87 5-3975 FAX: 505-345-4 www.hallenvironmental.c	ory NE 105 <b>Sam</b> 107 rom	ple Log-In Ch	eck List
Client Name: BLAGG	mber: 1411B05		RcptNo: 1	-
Received by/date: A M 12U				
Logged By: Ashley Gallegos 11/26/2014 7:00:0	00 AM	AJ		
Completed By: Ashley Gallegos 11/26/2014 10:18	:16 AM	AZ		
Reviewed By: AS 11/26/14	·			
Chain of Custody				
1. Custody seals intact on sample bottles?	Yes 🗌	No 🗌	Not Present 🗹	
2. Is Chain of Custody complete?	Yes 🗹	No 🗌	Not Present	
3. How was the sample delivered?	Courier			
Log In				
4. Was an attempt made to cool the samples?	Yes 🗹	No 🗌		
5. Were all samples received at a temperature of $>0^{\circ}$ C to $6.0^{\circ}$ C	Yes 🔽	No 🗌		
6. Sample(s) in proper container(s)?	Yes 🗹	No 🗌		
7. Sufficient sample volume for indicated test(s)?	Yes 🔽	No 🗌		
8. Are samples (except VOA and ONG) properly preserved?	Yes 🗹	No 🗌	_	
9. Was preservative added to bottles?	Yes 🗖	No 🗹	NA	
10.VOA vials have zero headspace?	Yes 🗹	No 🗌	No VOA Vials	
11, Were any sample containers received broken?	Yes 🗌	No 🗹	# of preserved bottles checked	
12.Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	No 🛄	for pH: (<2 or	>12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes 🗹	No 🗌	Adjusted?	,
14. Is it clear what analyses were requested?	Yes 🗹	No 🗔	Checked by	
15.Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ⊻	NO L.		<u> </u>
Special Handling (if applicable)				
16. Was client notified of all discrepancies with this order?	Yes 🗌	No 🗔	NA 🗹	
Person Notified: Da By Whom: Via Regarding: Client Instructions:	ate: <b> </b> a: eMail P	hone 🗌 Fax	In Person	
17. Additional remarks:				
18. <u>Cooler Information</u> <u>Cooler No</u> Temp <sup>e</sup> C Condition Seal Intact Seal No 1 1.3 Good Yes	0 Seal Date	Signed By		

# **BLAGG ENGINEERING, INC.**

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT :	BP AME	RICA PR	OD. CO.		CHAIN-OF-C	USTODY # :		N	/ <b>A</b>
MARTINEZ UNIT A, SE	GC G#1 EC. 24, T29N	l, R10W			LABORATOR	RY (S) USED	:	HALL ENVIF	RONMENTAL
Date :	March 13, 20	)15			C	EVELOPER	/ SAMPLER :	N	JV
Filename :	Martinez GC	G 1 mw log	2015-03-13.xls	5		PROJECT	MANAGER :	N	JV
WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	рН	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1A	100.00		3.42	11.50	1045	7.11	800	11.2	3.00
2A	98.46		-	11.00	-	-	-	-	-
3A	98.55		-	14.15	-	-	-	-	-
4A	98.79		-	14.05	-	-	-	-	-
	*		INSTRUMENT	CALIBRATIO	ONS =	4.01/7.00/10.00	2,800		
			DATE & TIM	E =		03/10/15	0630		
NOTES :	<u>Volume of</u> (i.e. 2" MW Ideally a m	<u>water_purge</u> r = (1/12) fl ninimum_of	ed from well h = 1 ft.) three (3) we	<u>prior to s</u> (i.e. 4" MW Ilbore volu	<u>ampling; V =</u> ′ r = (2/12) ft. mes:	<u>pi X r2 X h</u> h = 1 ft.) 2.00 " well	<u>X 7.48 gal./ft</u> diameter =	<u>3) X 3 (wellb</u> 0.49 gal. / f	<u>oores)</u> . t. of water.
Comments	or note we	II diameter	if not standa	ırd 2".		_			

Excellent recovery in MW # 1A. Collected sample from MW # 1A for BTEX only. Purged well using 2 inch submersible electrical pump, new / clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing.

Top of casings : MW # 1A ~ 1.00 ft., MW # 3A ~ 2.50 ft., MW # 4A ~ 2.60 ft. above grade ; MW # 2A ~ 0.25 ft. below grade .

on-site	9:55 AM	temp.	49 F
off-site	10:55 AM	temp.	57 F
sky cond.		Mostly cloudy	Y
wind speed	0 - 5	direct.	ESE

Analytical Report Lab Order 1503618 Date Reported: 3/24/2015

CLIENT: Blagg Engineering			Client Sampl	e ID: MV	W # 1A		
<b>Project:</b> Martinez GC G #1			Collection I	Date: 3/1	3/2015 10:45:00 AM	1	
Lab ID: 1503618-001	Matrix: A	AQUEOUS	Received I	Date: 3/1	4/2015 9:00:00 AM		
Analyses	Result	RL Qua	Units	DF	Date Analyzed	Batch	
EPA METHOD 8260: VOLATILES S	HORT LIST				Analyst	KJH	
Benzene	10	1.0	µg/L	1	3/19/2015 3:51:09 PM	R24939	
Toluene	ND	1.0	µg/L	1	3/19/2015 3:51:09 PM	R24939	
Ethylbenzene	ND	1.0	µg/L	1	3/19/2015 3:51:09 PM	R24939	
Xylenes, Total	4.0	1.5	µg/L	1	3/19/2015 3:51:09 PM	R24939	
Surr: 1,2-Dichloroethane-d4	80.6	70-130	%REC	1	3/19/2015 3:51:09 PM	R24939	
Surr: 4-Bromofluorobenzene	102	70-130	%REC	1	3/19/2015 3:51:09 PM	R24939	
Surr: Dibromofluoromethane	85.1	70-130	%REC	1	3/19/2015 3:51:09 PM	R24939	
Surr: Toluene-d8	86.2	70-130	%REC	1	3/19/2015 3:51:09 PM	R24939	

## Hall Environmental Analysis Laboratory, Inc.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	Е	Value above quantitation range
	J	Analyte detected below quantitation limits
	0	RSD is greater than RSDlimit

- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Page 1 of 2
- P Sample pH Not In Range
- RL Reporting Detection Limit

Client:	hain-c BLAG	of-Cus g engr.	tody Record / BP AMERICA	Turn-Around T	lime:					F.A		AL w.ha	El YS	NV SIS	/IF S L	Al	NP 30	1EN RA	TO	RY	
Mailing A	ddress:	P.O. BO)	( 87	M	ARTINEZ GC	G#1		49	01 H	lawk	ins	NE -	Alt	buqu	ierqu	ue, N	IM 8	7109			
		BLOOM	FIELD, NM 87413	Project #:				Te	el. 50	05-34	45-3	975	2.3	Fax	505-	345	-410	7	_		
Phone #:		(505) 63	2-1199					_				-	Anal	ysis	Rec	ques	st.				
email or F	ax#:	_		Project Manag	jer:	1 1 1 1	8)				178			0*)					1		
QA/QC Pa	ckage: ard		Level 4 (Full Validation)		NELSON VE	ELEZ	(8021	(vino s	/ MRO)			(SI)		PO4,S						le	
Accreditat	tion:		A 1 4 4 1 1 1 1 1 1 1 1	Sampler:	NELSON VE	LEZ 975	-	(Ga	ORO	F	(T	OSIA		NO2	olids	ered	z	U.		dune	
		D Other		On Ice:	B-Yes	D No	Ŧ	Hall	10	418	504	827	s	03,	d Sc	(HIF	ite s				IN AL
EDD (	Type)			Sample Temp	erature: 13		H	HE +	(GR	pou	pou	Jor	etal	C, D	olve	SNO	N.		ple		2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 1503618	BTEX +**	BTEX + MT	TPH 8015B	<b>TPH (Met</b>	EDB (Met	PAH (831)	RCRA 8 M	Anions (F,	Total Diss	Iron, Ferr	Nitrate N		Grab sam	5 pt. com	Air Bubbla
3/13/15	1045	WATER	MW # 1A	40 ml VOA - 2	HCI & Cool	-001	٧					λľ,	11		101			-	V		
Date: 3/13/15 Date: 1/13/15	Time: 1420 Time: 1721	Relinquishe	ad by: Ch. UJ ad by: Hay JAJA 1 Jay	Received by Mutuh Received by:	belen :	Date Time 3/13/15 1420 Date Time 3/14/15 9:00	Rer	nark BILL Ieff I Payk	S: DIRE Peace ey:	CTLY e, 200 ZEV	TO D End /HO:	BP: ergy 1REN	Cour	t, Fa	rmin	gton	, NM	87401			

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc

WO#:	1503618
	24.Mar.15

Client: B1	agg Engineering									
Project: M	artinez GC G #1									
Sample ID <b>b2</b>	SampTy	pe: ME	BLK	Tes	tCode: El	PA Method	8260: Volatile	es Short L	ist	
Client ID: PBW	Batch	ID: <b>R2</b>	4939	F	RunNo: 2	4939				
Prep Date:	Analysis Da	te: 3/	19/2015	S	SeqNo: 7	34991	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d	4 8.6		10.00		85.5	70	130			
Surr: 4-Bromofluorobenzer	ne 11		10.00		107	70	130			
Surr: Dibromofluoromethar	ne 8.9		10.00		89.1	70	130			
Surr: Toluene-d8	9.9		10.00		99.4	70	130			
Sample ID 100ng Ics	SampTy	pe: LC	s	Tes	tCode: El	PA Method	8260: Volatile	es Short L	_ist	
Client ID: LCSW	Batch	ID: <b>R2</b>	4939	F	RunNo: 2	4939				
Prep Date:	Analysis Da	te: 3/	19/2015	S	SeqNo: 7	34992	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.1	70	130			
Toluene	19	1.0	20.00	0	94.9	70	130			
Surr: 1,2-Dichloroethane-d	4 8.2		10.00		82.3	70	130			
Surr: 4-Bromofluorobenzer	ne 9.3		10.00		92.6	70	130			
Surr: Dibromofluoromethan	ne 9.0		10.00		90.1	70	130			
Surr: Toluene-d8	9.1		10.00		91.0	70	130			

#### **Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- Е Value above quantitation range
- Analyte detected below quantitation limits J
- 0 RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
  - Р Sample pH Not In Range
  - RL Reporting Detection Limit

Client Name:       BLAGG       Work Order Numb         Received by/date:       AF       03)[4][6         ogged By:       Celina Sessa       3/14/2015 9:00:00 A         Completed By       Celina Sessa       3/16/2015 9:12:20 A         Reviewed By:       Da       0'3/[6/15]         Chain of Custody       Da       0'3/[6/15]         1. Custody seals intact on sample bottles?       0'3/[6/15]         2. Is Chain of Custody complete?       0'3/[6/15]         3. How was the sample delivered?       Dog In         4. Was an attempt made to cool the samples?       5. Were all samples received at a temperature of >0° C to 6.0°C         6. Sample(s) in proper container(s)?       Sample(s) in proper container(s)?	Yes Yes Courler	Celin S. Celin S. No II	RcplNo: 1
Received by/date.       AF       03   4   1 &         logged By:       Celina Sessa       3/14/2015 9:00:00 A         Completed By       Celina Sessa       3/16/2015 9:12:20 A         Reviewed By:       Da       0'3 / 16/15         Chain of Custody       Da       0'3 / 16/15         1. Custody seals intact on sample bottles?       0'3 / 16/15         2. Is Chain of Custody complete?       0'3 / 16/15         3. How was the sample delivered?       Dog In         4. Was an attempt made to cool the samples??       5. Were all samples received at a temperature of >0° C to 6.0°C         6. Sample(s) in proper container(s)?       Sample(s) in proper container(s)?	Yes Yes Yes Z Courler	Celin S. Celin S. No II.	Not Present
agged By:       Celina Sessa       3/14/2015 9:00:00 A         Completed By       Celina Sessa       3/16/2015 9:12:20 A         Reviewed By:       Image: Imple: Image:	Yes Yes Yes Z Courler	Celin S. Celin S. No	Not Present
Completed By       Cellina Sessa       3/16/2015 9:12:20 A         Reviewed By:       Image: Complete By       Org/16/15         Chain of Custody       Image: Complete By       Org/16/15         1. Custody seals intact on sample bottles?       Image: Complete By       Org/16/15         2. Is Chain of Custody complete By       Image: Complete By       Image: Complete By         3. How was the sample delivered?       Image: Complete By       Image: Complete By         4. Was an attempt made to cool the samples <sup>By</sup> Image: Complete By       Image: Complete By         5. Were all samples received at a temperature of Pot C to 6.0°C       C to 6.0°C         6. Sample(s) in proper container(s)?       Image: Complete By	Yes Yes Courler	Celine S. No II	Not Present
Reviewed By: Chain of Custody 1. Custody seals intact on sample bottles? 2. Is Chain of Custody complete? 3. How was the sample delivered? Log In 4. Was an attempt made to cool the samples? 5. Were all samples received at a temperature of >0° C to 6.0°C 6. Sample(s) in proper container(s)?	Yes Ves Ves Courler		Not Present 🗹
Chain of Custody         1. Custody seals intact on sample bottles?         2. Is Chain of Custody complete?         3. How was the sample delivered?         Log In         4. Was an attempt made to cool the samples?         5. Were all samples received at a temperature of >0° C to 6.0°C         6. Sample(s) in proper container(s)?	Yes Yes Zourler		Not Present 🗹
<ol> <li>Custody seals intact on sample bottles?</li> <li>Is Chain of Custody complete?</li> <li>How was the sample delivered?</li> <li>How was the sample delivered?</li> <li>Was an attempt made to cool the samples?</li> <li>Were all samples received at a temperature of &gt;0° C to 6.0°C</li> <li>Sample(s) in proper container(s)?</li> </ol>	Yes Ves Ves	No	Not Present Y
<ol> <li>Is Chain of Custody complete?</li> <li>How was the sample delivered?</li> <li>Log In</li> <li>Was an attempt made to cool the samples??</li> <li>Were all samples received at a temperature of &gt;0° C to 6.0°C</li> <li>Sample(s) in proper container(s)?</li> </ol>	Yes Z	No	and a construction of the
<ul> <li>3. How was the sample delivered?</li> <li>Log In</li> <li>4. Was an attempt made to cool the samples?</li> <li>5. Were all samples received at a temperature of &gt;0° C to 6.0°C</li> <li>6. Sample(s) in proper container(s)?</li> </ul>	Courler		Not Present
Log In 4. Was an attempt made to cool the samples <sup>19</sup> 5. Were all samples received at a temperature of >0° C to 6.0°C 6. Sample(s) in proper container(s)?			
<ul> <li>4. Was an attempt made to cool the samples?</li> <li>5. Were all samples received at a temperature of &gt;0° C to 6.0°C</li> <li>6. Sample(s) in proper container(s)?</li> </ul>		5005 - HARD	
<ol> <li>Were all samples received at a temperature of &gt;0° C to 6.0°C</li> <li>Sample(s) in proper container(s)?</li> </ol>	Yes 🖌	No	NA-
6. Sample(s) in proper container(s)?	Yes 🗹	No	NA 🗔
	Yes 🗹	No 🗌	
7. Sufficient sample volume for indicated test(s)?	Yes 🔽	No 🗌	
8. Are samples (except VOA and ONG) properly preserved?	Yes 🗹	No 🗌	
9. Was preservative added to bottles?	Yes	No 🗹	NA 🗌
10.VOA vials have zero headspace?	Yes 🗹	No 🗆	No VOA Vials
11. Were any sample containers received broken?	Yes 🗆	No 🗹	# of preserved
12. Does paperwork match bottle labels?	Yes ¥	No.	for pH
(Note discrepancies on chain of custody)		10001	(<2 or >12 unless note Adjusted?
13. Are matrices correctly identified on Chain of Custody?	Yes Y	No	rupacor
14, is it clear what analyses were requested?	Yes 🔽	No	Checked by:
<ol> <li>Were all holding times able to be met? (If no, notify customer for authorization.)</li> </ol>	Yes ⊻	NO LL	Contraction Bill
Special Handling (if applicable)			
16. Was client notified of all discrepancies with this order?	Yes	No	NA 🗹
Person Notified: Date	é		a country of
By Whom: Via:	eMail	Phone 🗌 Fax	In Person
Regarding:			
Client Instructions:			
17. Additional remarks:			
18. Cooler information			
Gooler No Temp "C Condition Seal Intact Seal No	Sect Date	Signed By	1