State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

Heather Riley, Division Director
Oil Conservation Division

November 28, 2018

Steven Moskal
BPX Energy
Field Environmental Coordinator
1199 Main Ave, Suite 101
Durango, CO 81301

Reference 3RP-1053 Irvin Com #001E
BP's Request for Closure August 13, 2018

Mr. Moskal:

OCD has reviewed the files on the release referenced above. The available information shows BP's remediation efforts have removed BTEX from the groundwater and met the monitoring requirements.

The available information indicates BP has met the requirements of 19.15.29-30 NMAC. No further corrective action is required. This referenced remediation project is closed.

This finding by the OCD does not relieve BP of responsibility if future information shows a threat to ground water, surface water, human health, or the environment. Further, it does not relieve BP of responsibility for compliance with any federal, state, or local law.

Please properly plug remaining monitoring wells per requirements of the New Mexico Office of the State Engineer.

Thank you,

Vanessa Fields
Environmental Specialist
505-334-6178 ext. 119

Groundwater Monitoring
Closure Report

Irvin Com 1E

(E) Sec 11 – T29N – R13W
API: 30-045-25841
San Juan County, New Mexico

3RP-1053

Prepared for:
BP America Production Co.
Farmington, New Mexico

Prepared by:
Blagg Engineering, Inc.
P.O. Box 87
Bloomfield, New Mexico 87413
(505)320-1183

August 10, 2018

GROUNDWATER MONITORING
CLOSURE REPORT

IRVIN COM 1E

TABLE OF CONTENTS

APPENDICES

GROUNDWATER MONITORING
CLOSURE REPORT
IRVIN COM 1E

INTRODUCTION

Blagg Engineering Inc. (BEI) has been retained by BP America Production Co. (BP) to conduct groundwater monitoring at the Irvin Com 1E, located in Farmington, New Mexico at (E) Sec. 1 – T29N – R13W (Figure 1). The purpose of this monitoring has been to evaluate groundwater quality following a remedial excavation of hydrocarbon impacted discovered in October, 2012 during planning operations to remove three (3) underground storage tanks (USTs) at the site. At that time soil borings were installed to evaluate soil conditions at the USTs and subsequently discovered groundwater impacts. The impacts were a direct result of hydrocarbons leaking from one or more of the USTs.

A remedial excavation to remove all impacted soils from the ground surface to the water table, found at approximately 20 feet below surface grade, was performed in April – May, 2013. Documentation confirming impacted soil removal is on file with the New Mexico Oil Conservation Division (NMOCD) in case file 3RP – 1053.

There was one pre-existing groundwater monitoring well (MW-1) at the northeast corner of site that was installed by others sometime prior to 2002. Prior to the 2013 soil remediation monitor wells MW-2 (near the UST source area) and MW-3 (at the southeast corner of the well pad) were installed to further evaluate water quality and gradient direction. Immediately following the remedial excavation three (3) additional monitor wells were installed to evaluate residual water quality. Monitor well MW-4 was placed near the center of the prior UST location (as a replacement for MW-2 which was excavated during the remediation) and MW's-5 and 6 were placed down-gradient of the remedial excavation. Minor groundwater impacts were initially detected in MW-4 but these quickly dissipated to non-detect via natural attenuation after one year. Trace free product was detected in MW-6. A small, limited one (1) boring soil vapor extraction (SVE) system was installed in the area of MW-6 and placed into operation in January, 2015 specifically to address the residual groundwater impacts. No soil impacts were detected while installing the SVE point. Groundwater impacts at MW-6 quickly dissipated following operation of the SVE unit and the well has achieved two (2) years of sampling with regulated constituents testing below closure standards.

In order to confirm that no hydrocarbon impacts advanced down-gradient from the site BP installed two (2) additional monitor wells off-site in May, 2018 (MW-7 and MW-8). Laboratory analytical test results from these wells confirm that no residual hydrocarbon impacts are present down-gradient from the original primary remedial excavation or down-gradient from monitor well MW-6.

INVESTIGATIVE PROCEDURES

Drilling locations for new wells MW-7 and MW-8 had been pre-determined and approved by the NMOCD. The wells were permitted and approved by the New Mexico Office of the State Engineer.

Drilling operations were commenced on May 16, 2018 by GeoMat using a CME-55 hollow stem auger rig equipped with 5-foot long x 7-3/4 inch outside diameter, 4-inch inside diameter auger. While drilling soil samples were collected using a 2-inch diameter split spoon sampler (see Appendix D for boring logs).

Well completions consisted of a 15-foot long slotted screened section with riser extending to surface grade. The piping used for completion of the wells was a schedule 40 PVC with threaded connections. The annulus of the screened section was sand packed with washed graded silica 10/20 mesh from boring total depth (TD) to approximately 2 feet above the top screen slot. Hydrated bentonite/grout mix was placed immediately above the sand pack, with a concrete mix at the ground surface. The well tops were secured with a steel, secured well protector, concreted into place and locked.

The wells were developed on June 15, 2018 by using a new, dedicated disposable pump and tubing to recover water from each well until stable parameters (pH, Conductivity and Temperature) were achieved. The wells were sampled by hand bailing using a new, dedicated disposable bailer until stable parameters were achieved on June 18, 2018. Samples were placed into laboratory supplied containers with appropriate preservatives, labeled, placed on ice in an ice chest, then hand delivered to a Hall Laboratories representative with chain-of-custody documentation. Laboratory samples were analyzed via U.S EPA Method 8260 for volatile organics and cation/anion balance.

INVESTIGATION FINDINGS

Relative groundwater elevations were measured on May 9, 2018 to confirm the site gradient prior to installation of monitor wells MW-7 and MW-8. Figure 3, Appendix A, confirms the gradient to be in a primarily southern direction. This is consistent with the historical gradient at the site.

No hydrocarbon contaminates in excess of NMOCD or New Mexico Water Quality Control Commission (NMWQCC) regulatory standards were detected in either monitor well MW-7 or MW-8. Previously installed monitor wells have a minimum of two (2) continuous years passing NMWQCC hydrocarbon standards. Laboratory analytical data from all monitor well groundwater sampling is summarized in Appendix B. Analytical data reports are included in Appendix E.

REMEDIATION CLOSURE

The laboratory analytical results of groundwater indicate that site closure of groundwater impacts has been achieved at all monitor well locations. It is Blagg Engineering, Inc's opinion that monitor wells are sufficiently placed to quantify remaining on-site, down-gradient and up-gradient residual water quality. It is possible that monitor wells placed at other locations could result in differing analytical results.

It is Blagg Engineering, Inc's professional opinion that the sampling and analytical testing conducted has been sufficient to determine that no groundwater impacts exceeding site closure standards for petroleum hydrocarbons remain at any monitor well points. There is no indication that additional site investigations are necessary, and closure is recommended.

Blagg Engineering, Inc.

Jeffrey C Blagg, PE

Digitally signed by Jeffrey C Blagg, PE
DN: cn=Jeffrey C Blagg, PE, o, ou, email=jeffcblagg@aol.com, c=US
Date: 2018.08.13 05:49:44 -06'00'

Jeffrey C. Blagg, P.E.
President

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: BP	Contact: Steve Moskal
Address: 380 Airport Road, Durango, CO 81303	Telephone No.: 505-330-9179
Facility Name: Irvin Com No. 001E	Facility Type: Natural gas well

Surface Owner: Fee	Mineral Owner: Fee	API No. 30-045-25841

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: San Juan
E	11	29N	13W	1,570	North	1,110	West	

Latitude 36.7439° **Longitude** -108.18075°

NATURE OF RELEASE

Type of Release: Hydrocarbon – Underground Storage Tank	Volume of Release: unknown	Volume Recovered: none
Source of Release: Flowline	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: April, 2013
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom? NMOCD	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

AUG 13 2018
DISTRICT III

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
During removal of an underground storage tank, hydrocarbon impacted soils were encountered. Impacted soils were excavated and removed from the location. Residual groundwater impacts were identified in December 2013 in a downgradient monitoring well. Soil vapor extraction points were installed to further remediate due to the proximity of property lines configuration of the site.

Describe Area Affected and Cleanup Action Taken.*
The vertical and lateral extents of the impacted soil were identified via a soil boring investigation. Soil vapor extraction points were installed and the system became operational in August 2015. Attached is the field data demonstrating the performance of the SVE system. The SVE continue to appear effective in reducing the contaminant concentration thus far. Attached are the results of offsite groundwater activities which determined the effectiveness of the system and influence downgradient. Based on the attached report and laboratory results, BP requests closure of this site with no further action.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

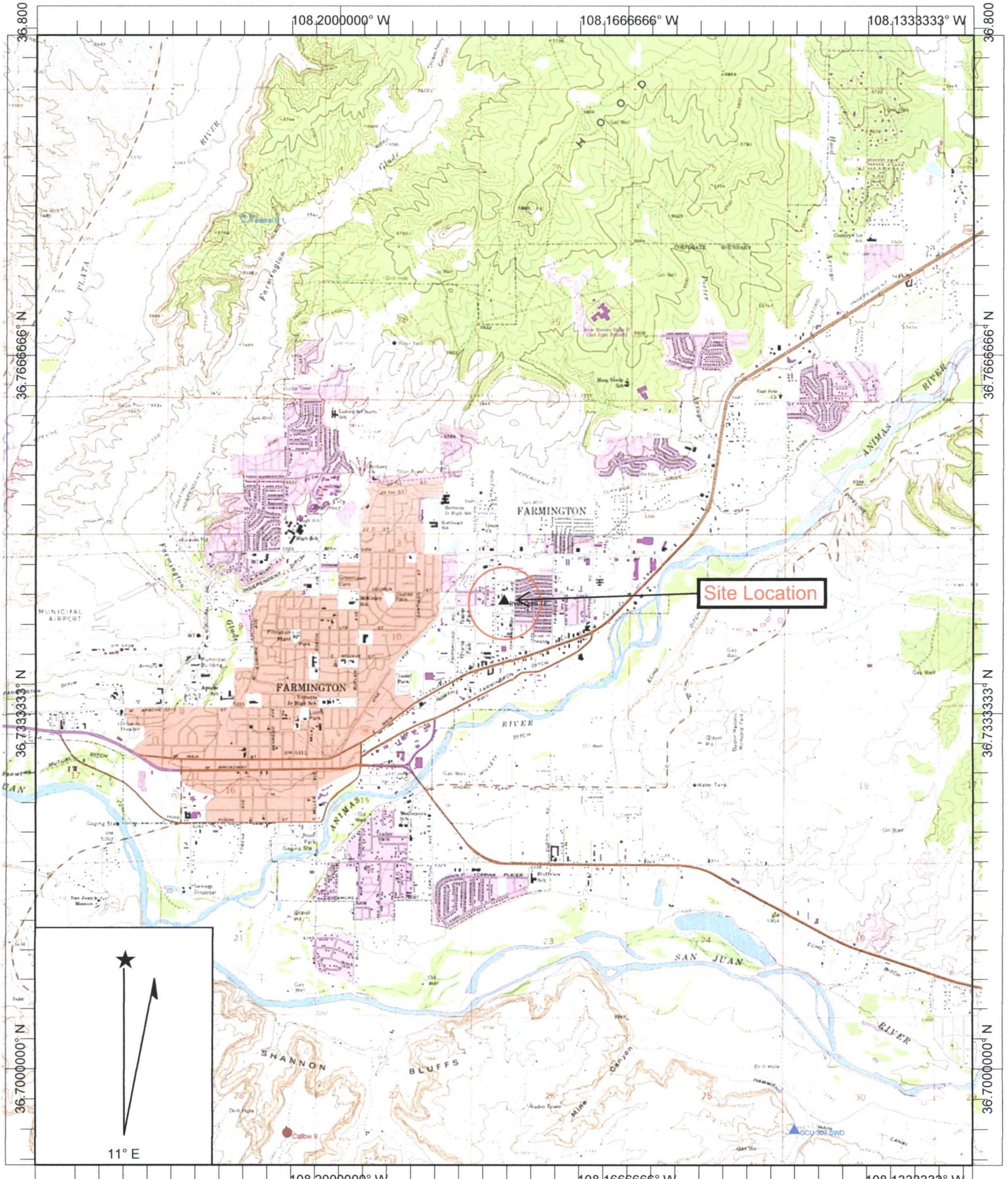
Signature:	OIL CONSERVATION DIVISION Approved by Environmental Specialist:	
Printed Name: Steve Moskal		
Title: Field Environmental Coordinator	Approval Date: 11/28/2018	Expiration Date:
E-mail Address: steven.moskal@bp.com	Conditions of Approval:	Attached ☐
Date: August 12, 2018 Phone: 505-330-9179		

* Attach Additional Sheets If Necessary

NCS 1725738890

APPENDIX A

Figures



Name: FARMINGTON SOUTH
Date: 8/10/2018
Scale: 1 inch equals 4000 feet

Caption: BP America
Irvin Com 1E

Figure 1
Site Location Map


Figure 2
Irvin Com 1E
Site Map
MW-1
Approximate
Prior Remedial
Excavation
MW-4
MW-2 (Abandoned)
Irvin Com 1E
SVE Point
MW-5
MW-6
MW-3
MW-7
MW-8
Google earth
© 2018 Google
N
100 ft

APPENDIX B

Summary Water Quality Analytical Data Spreadsheet

BP AMERICA PRODUCTION COMPANY

GROUNDWATER FIELD DATA & LAB BTEX RESULTS

Irvin Com # 1E - USTs
UNIT E, SEC. 11, T29N, R13W

REVISED DATE: August 9, 2018
Submitted by Blagg Engineering, Inc.

SAMPLE DATE	WELL NAME / NUMBER	DEPTH TO WATER (ft)	WELL DEPTH (ft)	TDS (mg/L)	CONDUCT. (umhos)	pH	FREE PHASE PRODUCT (ft)	BTEX US EPA METHOD 8021B or 8260B BENZENE (ppb)	TOLUENE (ppb)	ETHYL BENZENE (ppb)	TOTAL XYLENES (ppb)
01/16/02	MW #1	21.71	25.20					ND	ND	ND	ND
10/02/12	MW #2	19.72	30.00	1,900		7.35		150	280	27	260
12/26/12		19.21		1,725		7.22		96	180	20	170
10/02/12	MW #3	20.11	31.70	1,050		7.05		ND	ND	ND	ND
12/19/13		19.48			1,100	7.18		ND	ND	ND	ND
03/18/14		19.23			1,000	7.28		ND	ND	ND	ND
06/29/14		20.33			1,200	7.19		ND	ND	ND	ND
08/30/14		20.73			900	7.16		ND	ND	ND	ND
12/02/14		19.72			1,300	7.26		ND	ND	ND	ND
03/05/15		19.93			1,400	6.70		ND	ND	ND	ND
05/27/15		19.67			1,500	7.02		ND	ND	ND	ND
08/27/15		20.61			1,500	6.93		ND	ND	ND	ND
08/28/13	MW #4	23.57	31.70	1,565		8.40		1,700	ND	130	30
09/18/13		23.51		1,600		8.10		740	ND	110	10
12/23/13		21.86		1,625		7.90		6.1	ND	49	ND
03/08/14		21.60			1,600	7.05		3.3	ND	ND	ND
06/29/14		22.65			2,200	6.97		2.2	ND	ND	2.3
08/30/14		23.20			1,500	6.99		20	ND	6.0	5.4
12/02/14		22.01			2,500	7.09		2.1	ND	ND	ND
03/05/15		21.73			4,300	6.63		ND	ND	ND	ND
05/27/15		21.98			4,000	6.88		2.0	ND	ND	ND
08/27/15		22.93			5,000	6.92		1.6	ND	ND	ND
12/03/15		22.01			2,500	7.09		ND	ND	ND	ND
03/09/16		22.62			3,600	6.97		ND	ND	ND	ND
06/21/16		23.85			3,600	6.92		ND	ND	ND	ND
08/29/16		23.71			3,000	7.02		ND	ND	ND	ND
12/19/16		23.44			3,500	6.96		1.8	ND	ND	ND
08/28/13	MW #5	22.37	31.30	1,150		8.20		ND	ND	ND	ND
12/19/13		20.72			1,200	7.23		ND	ND	ND	ND
03/18/14		20.46			1,300	7.32		ND	ND	ND	ND
06/29/14		21.56			1,500	7.26		ND	ND	ND	ND
08/30/14		21.99			1,100	7.24		ND	ND	ND	ND
12/02/14		20.95			1,500	7.39		ND	ND	ND	ND
03/05/15		20.67			1,900	6.70		ND	ND	ND	ND
05/27/15		20.92			1,900	7.03		ND	ND	ND	ND
08/27/15		21.89			1,900	6.89		ND	ND	ND	ND
08/28/13	MW #6	21.71	30.90	1,270		8.10		ND	ND	ND	4.3
12/19/13		20.15					0.08				
01/10/14		20.08					0.08				
01/13/14		20.09					0.09				
01/16/14		20.08					0.10				
01/20/14		20.08					0.10				
02/18/14		20.04					0.13				
03/04/14		20.01					0.14				
03/05/14		19.90					0.00				
03/18/14		19.86					0.01				
06/29/14		20.95					0.01				
08/30/14		21.30					0.02				
							NMWQCC GROUNDWATER STANDARDS	10	750	750	620


Figure 3
Irvin Com 1E
Gradient Map
May 9, 2018
MW-1
(79.93)
79.5'
79.5'
GRADIENT
DIRECTION
Approximate
Prior Remedial
Excavation
79.0'
(78.94)
MW-4
MW-2 (Abandoned)
Irvin Com 1E
79.0'
78.5'
SVE Point
78.5'
MW-5
(78.36)
MW-6
(78.39)
MW-3
(78.48)
MW-7
MW-8
Google earth
© 2018 Google
N
100 ft

BP AMERICA PRODUCTION COMPANY

GROUNDWATER FIELD DATA & LAB BTEX RESULTS

Irvin Com # 1E - USTs
UNIT E, SEC. 11, T29N, R13W

REVISED DATE: August 9, 2018
Submitted by Blagg Engineering, Inc.

SAMPLE DATE	WELL NAME / NUMBER	DEPTH TO WATER (ft)	WELL DEPTH (ft)	TDS (mg/L)	CONDUCT. (umhos)	pH	FREE PHASE PRODUCT (ft)	BTEX US EPA METHOD 8021B or 8260B			
								BENZENE (ppb)	TOLUENE (ppb)	ETHYL BENZENE (ppb)	TOTAL XYLENES (ppb)
12/02/14	MW #6	21.32	30.90		1,400	7.37		ND	ND	2.4	97
03/30/15		20.12			1,600	6.84		ND	1.6	8.7	280
05/27/15		20.28			1,600	7.10		ND	ND	2.7	69
08/27/15		21.19			1,600	6.91		ND	ND	ND	45
12/03/15		20.32			1,400	7.37		2.5	70	110	3,900
01/20/16		20.62			1,500	7.15		ND	ND	14	450
03/09/16		20.76			1,400	7.10		ND	ND	2.2	83
06/21/16		21.79			1,500	7.10		ND	4.3	15	920
08/29/16		22.15			1,400	7.06		ND	ND	4.6	570
12/19/16		21.29			1,500	7.02		ND	ND	ND	9.8
03/14/17		20.79			1,500	7.21		ND	ND	3.2	220
06/30/17		21.84			1,400	6.90		ND	ND	ND	12
09/07/17		22.89			1,500	7.11		ND	ND	ND	ND
12/28/17		21.16			1,350	7.34		ND	ND	ND	ND
03/29/18		21.22			1,400	6.96		ND	ND	ND	ND
06/18/18	MW #7	18.67	25.00		1,300	7.14		ND	ND	ND	ND
06/18/18	MW #8	18.05	25.00		1,800	7.10		ND	ND	ND	ND
							NMWQCC GROUNDWATER STANDARDS	10	750	750	620

NOTES :

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

APPENDIX C
Summary SVE Data

BP America - Irvin Com 1E

Summary SVE System Monitoring Data

Date	SVE Pt.	Exhaust OVM (ppm)	Exhaust Vacuum (in)	Exhaust Rate (cfm)	System Operational at Time of Arrival?	H_2O Drained from drum?	H_2O Amt. Drained (Gal.)?	Comments
1/15/2016	1	-	52	NA	YES	NO	0.00	Visually inspected water level in drum only
1/29/2016	1	-	52	NA	YES	NO	0.00	Visually inspected water level in drum only
2/9/2016	1	-	48	NA	YES	YES	10.50	
3/9/2016	1	-	46	-	YES	NO	0.00	Measured ~ 0.5" H2O in drum
4/21/2016	1	-	44	-	YES	NO	0.00	Measured ~ 1.0" H2O in drum
6/8/2016	1	-	42	-	YES	NO		Dry drum
8/30/2016	1	-	-	-	YES	NO		Dry drum
11/10/2016	1	9.8	44	-	NO	YES	27.00	Collected readings after draining & restarting
12/1/2016	1	8.4	46	-	NO	YES	27.00	Collected readings after draining & restarting
12/15/2016	1	24.0	50	-	NO	NO		Water in drum below drain port, collected readings after restarting
12/19/2016	1	0.0	50	-	YES	YES	4.00	
12/29/2016	1	0.0	50	-	YES	YES	17.00	
1/12/2017	1	0.0	48	-	YES	YES	14.50	
1/20/2017	1	0.0	48	50	YES	YES	6.50	
2/18/2017	1	0.0	48	-	YES	YES	23.00	
3/14/2017	1	0.0	50	-	YES	YES	9.50	
4/27/2017	1	0.0	48	-	YES	NO		Water in drum below drain port
6/30/2017	1	0.0	48	-	YES	NO		Water in drum below drain port
9/7/2017	1	0.0	48	-	YES	NO		Water in drum below drain port
12/28/2017	1	0.0	49	60	NO	YES		Ice within drum measured at 17 inches, drained, then collected data
1/4/2018	1	-	-	-	YES	YES	22.00	Drained water drum only
2/19/2018	1	0.0	49	80	NO	YES	26.00	Collected readings after draining & restarting
3/29/2018	1	0.0	50	65	YES	YES	14.50	

APPENDIX D

Boring Logs

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

May 29, 2018

Steve Moskal

Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Irvin Com 1E OrderNo.: 1805A62

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 4 sample(s) on 5/18/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1805A62**
Date Reported: **5/29/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com 1E
Lab ID: 1805A62-001 **Matrix:** SOIL

Client Sample ID: MW 7 @ 15'
Collection Date: 5/16/2018 8:28:00 AM
Received Date: 5/18/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/23/2018 3:09:12 PM	38280
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	5/22/2018 6:34:25 PM	38225
Surr: BFB	117	70-130		%Rec	1	5/22/2018 6:34:25 PM	38225
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/22/2018 5:00:39 PM	38228
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/22/2018 5:00:39 PM	38228
Surr: DNOP	104	70-130		%Rec	1	5/22/2018 5:00:39 PM	38228
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.023		mg/Kg	1	5/22/2018 6:34:25 PM	38225
Toluene	ND	0.046		mg/Kg	1	5/22/2018 6:34:25 PM	38225
Ethylbenzene	ND	0.046		mg/Kg	1	5/22/2018 6:34:25 PM	38225
Xylenes, Total	ND	0.092		mg/Kg	1	5/22/2018 6:34:25 PM	38225
Surr: 4-Bromofluorobenzene	127	70-130		%Rec	1	5/22/2018 6:34:25 PM	38225
Surr: Toluene-d8	88.0	70-130		%Rec	1	5/22/2018 6:34:25 PM	38225

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com 1E
Lab ID: 1805A62-002 **Matrix:** SOIL

Client Sample ID: MW 7 @ 20'
Collection Date: 5/16/2018 8:40:00 AM
Received Date: 5/18/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/23/2018 3:46:27 PM	38280
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/22/2018 6:57:32 PM	38225
Surr: BFB	116	70-130		%Rec	1	5/22/2018 6:57:32 PM	38225
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/22/2018 5:22:52 PM	38228
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/22/2018 5:22:52 PM	38228
Surr: DNOP	109	70-130		%Rec	1	5/22/2018 5:22:52 PM	38228
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.024		mg/Kg	1	5/22/2018 6:57:32 PM	38225
Toluene	ND	0.048		mg/Kg	1	5/22/2018 6:57:32 PM	38225
Ethylbenzene	ND	0.048		mg/Kg	1	5/22/2018 6:57:32 PM	38225
Xylenes, Total	ND	0.096		mg/Kg	1	5/22/2018 6:57:32 PM	38225
Surr: 4-Bromofluorobenzene	126	70-130		%Rec	1	5/22/2018 6:57:32 PM	38225
Surr: Toluene-d8	90.9	70-130		%Rec	1	5/22/2018 6:57:32 PM	38225

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com 1E
Lab ID: 1805A62-003 **Matrix:** SOIL

Client Sample ID: MW 8 @ 15'
Collection Date: 5/16/2018 9:48:00 AM
Received Date: 5/18/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/23/2018 3:58:51 PM	38280
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/22/2018 7:20:37 PM	38225
Surr: BFB	111	70-130		%Rec	1	5/22/2018 7:20:37 PM	38225
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/22/2018 5:45:07 PM	38228
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/22/2018 5:45:07 PM	38228
Surr: DNOP	113	70-130		%Rec	1	5/22/2018 5:45:07 PM	38228
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.024		mg/Kg	1	5/22/2018 7:20:37 PM	38225
Toluene	ND	0.049		mg/Kg	1	5/22/2018 7:20:37 PM	38225
Ethylbenzene	ND	0.049		mg/Kg	1	5/22/2018 7:20:37 PM	38225
Xylenes, Total	ND	0.097		mg/Kg	1	5/22/2018 7:20:37 PM	38225
Surr: 4-Bromofluorobenzene	121	70-130		%Rec	1	5/22/2018 7:20:37 PM	38225
Surr: Toluene-d8	86.9	70-130		%Rec	1	5/22/2018 7:20:37 PM	38225

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com 1E
Lab ID: 1805A62-004 **Matrix:** SOIL

Client Sample ID: MW 8 @ 20'
Collection Date: 5/16/2018 9:55:00 AM
Received Date: 5/18/2018 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	ND	30		mg/Kg	20	5/23/2018 4:11:16 PM	38280
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **AG**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	5/22/2018 7:43:47 PM	38225
Surr: BFB	119	70-130		%Rec	1	5/22/2018 7:43:47 PM	38225
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/22/2018 6:07:12 PM	38228
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/22/2018 6:07:12 PM	38228
Surr: DNOP	107	70-130		%Rec	1	5/22/2018 6:07:12 PM	38228
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	0.024		mg/Kg	1	5/22/2018 7:43:47 PM	38225
Toluene	ND	0.047		mg/Kg	1	5/22/2018 7:43:47 PM	38225
Ethylbenzene	ND	0.047		mg/Kg	1	5/22/2018 7:43:47 PM	38225
Xylenes, Total	ND	0.094		mg/Kg	1	5/22/2018 7:43:47 PM	38225
Surr: 4-Bromofluorobenzene	129	70-130		%Rec	1	5/22/2018 7:43:47 PM	38225
Surr: Toluene-d8	89.2	70-130		%Rec	1	5/22/2018 7:43:47 PM	38225

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805A62**

29-May-18

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID	**MB-38280**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**38280**	RunNo:	**51462**					
Prep Date:	**5/23/2018**	Analysis Date:	**5/23/2018**	SeqNo:	**1677388**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-38280**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**38280**	RunNo:	**51462**					
Prep Date:	**5/23/2018**	Analysis Date:	**5/23/2018**	SeqNo:	**1677389**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805A62**

29-May-18

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID **MB-38228**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **38228**	RunNo: **51435**
Prep Date: **5/21/2018**	Analysis Date: **5/22/2018**	SeqNo: **1674296** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		101	70	130			

Sample ID **LCS-38228**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **38228**	RunNo: **51435**
Prep Date: **5/21/2018**	Analysis Date: **5/22/2018**	SeqNo: **1674366** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	56	10	50.00	0	111	70	130			
Surr: DNOP	5.1		5.000		102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805A62**

29-May-18

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID **lcs-38225**	SampType: **LCS4**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **38225**	RunNo: **51446**
Prep Date: **5/21/2018**	Analysis Date: **5/22/2018**	SeqNo: **1674796** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	82.5	80	120			
Toluene	0.93	0.050	1.000	0	92.7	80	120			
Ethylbenzene	0.98	0.050	1.000	0	98.4	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.5	80	120			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.46		0.5000		91.0	70	130			

Sample ID **mb-38225**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS**	Batch ID: **38225**	RunNo: **51446**
Prep Date: **5/21/2018**	Analysis Date: **5/22/2018**	SeqNo: **1674797** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.62		0.5000		123	70	130			
Surr: Toluene-d8	0.44		0.5000		87.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1805A62**

29-May-18

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID **lcs-38225**	SampType: **LCS**			TestCode: **EPA Method 8015D Mod: Gasoline Range**					
Client ID: **LCSS**	Batch ID: **38225**			RunNo: **51446**					
Prep Date: **5/21/2018**	Analysis Date: **5/22/2018**			SeqNo: **1674772**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	90.8	70	130			
Surr: BFB	520		500.0		103	70	130			

Sample ID **mb-38225**	SampType: **MBLK**			TestCode: **EPA Method 8015D Mod: Gasoline Range**					
Client ID: **PBS**	Batch ID: **38225**			RunNo: **51446**					
Prep Date: **5/21/2018**	Analysis Date: **5/22/2018**			SeqNo: **1674773**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	570		500.0		113	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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 Number: 1805A62 | RcptNo: 1

Received By: Anne Thorne 5/18/2018 7:00:00 AM

Completed By: Ashley Gallegos 5/18/2018 5:16:13 PM

Reviewed By: ENM 5/21/18

labeled by: JB 05/21/18

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	# of preserved bottles checked for pH: ____ (<2 or >12 unless noted)
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? JB 05/21/18
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	Checked by:

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: ____ Date: ____

By Whom: ____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: ____

Client Instructions: ____

16. Additional remarks:

17. Cooler Information

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

Chain-of-Custody Record

Client: BP AMERICA
BLAGG ENGINEERING INC
Mailing Address:

Phone #: 505-320-1183
email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: IRVIN COM 1E

Project #:

Project Manager: STEVE MOSKAL

Sampler: JEFF BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1805A62	BTEX + ~~MTBE~~ + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE					Air Bubbles (Y or N)
5/16/2018	0823	SOIL	MW-7 @ 15'	4oz x 1	cool	-001	X		X									X					
"	0840	"	MW-7 @ 20'	"	"	-002	"		"									"					
"	0948	"	MW-8 @ 15'	"	"	-003	"		"									"					
"	0955	"	MW-8 @ 20'	"	"	-004	"		"									"					

Date	Time	Relinquished by	Received by	Date	Time
5/17/18	1308	Jeff Blagg	Christine Walls	5/17/18	1308
5/17/18	1856	Christine Walls		05/18/18	0700

Remarks: Bill BP
CONTACT: STEVE MOSKAL
WBS ELEMENT: 01-001.CV-E:IRVINCOM1E

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.

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

FIELD BORING LOG

BORING ID: BH-1 (MW-2)

PROJECT: BP: IRVIN COM 1E
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Kyvek
EQUIPMENT USED: CME-75
DATE START: 9-26-12 DATE FINISH: _____ DRILLER: KP LOGGED BY: JCB
TOTAL DEPTH: 28' CASING TYPE & SIZE: 2" PVC SLOT SIZE: 0.010
COMMENTS: OVM CALIB @ 1108: 52.9/100

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	BLOW COUNTS	FIELD OVM	SAMPLE DESCRIPTION
	START @ 10:15	CUTTINGS			Silt, lite Brown, lightly moist, lightly plastic
	1020	SPOON CUTTINGS	5-5-5	0.0	Recover 8" Coarse Sand w/ Minor Gravel, lightly moist, minor "BLACK" Staining
					Coarse Sand, lite Grey, lite moisture
10					Pebbles @ 9'-10'
	1030	SPOON CUTTINGS	4-2-2	4.2	Recover 6" Coarse Sand & 6" Silt minor Grey Staining in Silt
					SAND - SILT Mixture, Wet, moisture
	1038	SPOON CUTTINGS	4/18"	5.4	Silt, lite Brown, Water Saturated @ 16-16½'
20	1047	SPOON	2/18"	166	Lite Brown Silt, Water Saturated. [HC ODOR COMING OFF SPOON]
	1057	SPOON	4/18"	89	Lite Brown Silty Clay - Water Saturated. [HC ODOR COMING OFF SPOON]
30					TD 28'

WELL COMPLETION
15' RISER
15' Screen
TD 28'
2' ± Stickup
Sand to 11'
Bent to 9'

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

FIELD BORING LOG

BORING ID: BH-2 (MW-3)

PROJECT: BP: IRVIN COM 1E
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Kyvek
EQUIPMENT USED: CME-75
DATE START: 9-26-12 DATE FINISH: _____ DRILLER: KP LOGGED BY: JCC
TOTAL DEPTH: _____ CASING TYPE & SIZE: 2" PVC SLOT SIZE: 0.010
COMMENTS: OVM CALIB @ 1108: 52.9/100

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	BLOW COUNTS	FIELD OVM	SAMPLE DESCRIPTION
	START @ 1330	CUTTINGS			SAND/SILT Mix, Lite TAN
	1340	SPOON	4-4-4	0.0	MEDIUM Grained Sand, Likely Moist, TAN
					SAND/SILT Mix
10	1347	SPOON	3-3-3	4.8	SILT, Likely Moist, TAN
					SAND/SILT Mix
	1352	SPOON	3/18"	3.6	MEDIUM/Fine Grained SAND, TAN, Moist to Saturated
					SAND/SILT Mix
20	1402	SPOON	2/18"	2.4	Silt/Clay Mix, Water Saturated, TAN
	1412	SPOON	Refusal	1.7	Silt/Clay Mix, SAT., TAN
					T.D 28'
30					

WELL completion
15' RISER
15' SCREEN
TD 28'
SAND TO 11'
BENT TO 9'
2' I Stickup

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

FIELD BORING LOG

BORING ID: MW-4

PROJECT: Irvin Com 1E
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Kyvek
EQUIPMENT USED: CME-75
DATE START: 8/7/2013 DATE FINISH: 8/7/2013 DRILLER: KP LOGGED BY: JCB
TOTAL DEPTH: 28' CASING TYPE & SIZE: 2" x PVC SLOT SIZE: 0.010
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	FIELD OVM	Well Completion	SAMPLE DESCRIPTION
1'	START @ 0830	CUTTINGS		Cuttings	Silty Sand Mix, Dk, BACKFILL
2'					
3'					
4'					
5'					
6'	0840	SPOON	0.0	Riser	SAA
7'					
8'					
9'					
10					
11'	0946	SPOON	0.0	BENT	SAA
12'					
13'					
14'					
15'					
16'	0953	SPOON	0.0	0.010 Slotted	SAA
17'					
18'					
19'					
20					
21'	0902	SPOON	1.6	10/20 Sand	SAA, Moist to Saturated
22'					
23'					
24'					
25'					
26'	0912	SPOON	2.4		Silt clay mix, saturated, TAN
27'					
28'					
29'		TD = 28'			
30					

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

FIELD BORING LOG

BORING ID: MW-5

PROJECT: Irvin Com 1E
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Kyvek
EQUIPMENT USED: CME-75
DATE START: 8/7/2013 DATE FINISH: 8/7/2013 DRILLER: KP LOGGED BY: JCB
TOTAL DEPTH: 28' CASING TYPE & SIZE: 2" x PVC SLOT SIZE: 0.010
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	FIELD OVM	Well Completion	SAMPLE DESCRIPTION
1'	START @ 1010	CUTTINGS			SAND Silt Mix, Light Tan
2'					
3'					
4'					
5'					
6'	1020	SPOON	0.0	RISER / CUTTINGS	Medium SAND, Lite Moist, Tan
7'					
8'					
9'				BENT	
10					
11'	1026	SPOON	0.0		SAA
12'					
13'					
14'					
15'					
16'	1032	SPOON	0.0	0.010 SLOTTED / 10/20 SAND	Fine Grained Sand, Moist, TAN
17'					
18'					
19'					
20 21'	1040	SPOON	0.6		Silty/Clay Mix, Saturated, TAN
22'					
23'					
24'					
25'					
26'	1050	SPOON	0.0		SAA
27'					
28'					
29'		TD = 28'			
30					

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

FIELD BORING LOG

BORING ID: MW-6

PROJECT: Irvin Com 1E
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Kyvek
EQUIPMENT USED: CME-75
DATE START: 8/8/2013 DATE FINISH: 8/8/2013 DRILLER: KP LOGGED BY: JCB
TOTAL DEPTH: 28' CASING TYPE & SIZE: 2" PVC SLOT SIZE: 0.010
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	FIELD OVM	Well Completion	SAMPLE DESCRIPTION
1'	0800	CUTTINGS		Riser; Cuttings	SAND/SILT MIX, LITE TAN
2'					
3'					
4'					
5'					
6'	0807	SPOON	0.0		Medium/Coarse SAND, Lite Moist, Tan
7'					
8'					
9'					
10 11'	0915	SPOON	0.0	Bent	Medium/Fine SAND
12'					
13'					
14'					
15'					
16'	0923	SPOON	0.0	0.010 Slotted; 10/20 SAND	Fine SAND, Moist
17'					
18'					
19'					
20 21'	0931	SPOON	1.6		Silt/Clay Mix, Saturated, Tan
22'					
23'					
24'					
25'					
26'	0940	SPOON	0.9		SAA
27'					
28'					
29'		TD = 28			
30					

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

FIELD BORING LOG

BORING ID: MW-7

PROJECT: IRVIN COM 1E
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Geomat
EQUIPMENT USED: CME-55
DATE START: 5/16/2018 DATE FINISH: 5/16/18 DRILLER: KP LOGGED BY: JB
TOTAL DEPTH: 25' CASING TYPE & SIZE: 2" PVC SLOT SIZE: 0.010
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	OVM	Well Completion	SAMPLE DESCRIPTION
1'	START 0814	CUTTINGS		CEMENT	Silty SAND, TAN, lite MOISTure, NO/NS
2'					
3'					
4'					
5'					
6'	0818	S.S.	0.3	PVC RISER / Hydrated BENTONITE	SAA Recover 13"
7'					
8'					
9'					
10					
11'	0822	S.S.	0.5		Recover 18", Yellow ORANGE Silt, MOIST, NO/NS
12'					
13'					
14'					
15'					
16'	0828	S.S.	0.4	0.010 SLOTTED / 10/20 SAND	Recover 22", SATURATED Silty SAND, SMALL 1" ONLY Stringer of Gray Discoloration, No ODOR.
17'					
18'					
19'					
20					
21'	0840	S.S.	0.5		Recover 24", SATURATED Silty SAND, lite Brown, NO/NS
22'					
23'					
24'					
25'					
26'	TD Drilled = 25'				
27'					
28'					
29'					
30					

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

FIELD BORING LOG

BORING ID: MW-8

PROJECT: IRWIN Com 1E
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Geomat
EQUIPMENT USED: CME-55
DATE START: 5/16/2018 DATE FINISH: 5/16/18 DRILLER: KP LOGGED BY: JB
TOTAL DEPTH: 25' CASING TYPE & SIZE: 2" PVC SLOT SIZE: 0.010
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	OVM	Well Completion	SAMPLE DESCRIPTION
1'	START 0930	CUTTINGS		CEMENT	Silty SAND, TAN, lite Moisture, NO/NS
2'				RISER	
3'					
4'					
5'					
6'	0938		0.5	Hydrated Bentonite	Recover 20" Medium Grained SAND, Yellow Tan, Lite Moisture, NO/NS
7'					
8'					
9'					
10					
11'	0943		0.4		Recover 14" Yellow/Orange Silt, MOIST, NO/NS
12'					
13'					
14'					
15'					
16'	0948		0.5	0.010 SLOTTED	Recover 24", TAN Silty SAND, Water Saturated, NO/NS.
17'					
18'					
19'					
20					
21'	0955		0.4		RECOVER 24", TAN SILT, SATURATED, NO/NS
22'					
23'					
24'					
25'					
26'	TD DRILLED = 25'				
27'					
28'					
29'					
30					

10/20 SAND

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

FIELD BORING LOG

BORING ID: SVE POINT

PROJECT: BP: IRVIN COM 1E
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Kyvek
EQUIPMENT USED: CME-75
DATE START: 10/16/2014 DATE FINISH: 10/16/2014 DRILLER: KP LOGGED BY: JCB
TOTAL DEPTH: 20' CASING TYPE & SIZE: 2" PVC SLOT SIZE: 0.010
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	BLOW COUNTS	FIELD OVM	SAMPLE DESCRIPTION
	START @	1005AM			Cuttings - MEDIUM/COARSE SAND. No odor/No stain, DRY
	1010	S.S.	9	0.1	SAA, Increased moisture
10	1022	S.S	14	0.3	
	1030	S.S.	18	0.1	
20	1038	SS	8	0.0	TD DRILLED = 20'
					SET 5' Screen 15'-20' Riser to surface 10/20' SAND FROM 13'-20' Cement/Bentonite 13'-surface
30					

APPENDIX E

Laboratory Reports

January 2002 - June 2018

OFF: (505) 325-5667
FAX: (505) 327-1496

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556
FAX: (505) 327-1496

February 04, 2002

Jeff Blagg
Blagg Engineering
P.O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Irvin Com 1E Order No.: 0201017

Dear Jeff Blagg,

On Site Technologies, LTD. received 1 sample on 1/16/2002 for the analyses presented in the following report.

The Samples were analyzed for the following tests:
Aromatic Volatiles by GC/PID (SW8021B)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

David Cox

OFF: (505) 325-5667
FAX: (505) 327-1496

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556
FAX: (505) 327-1496

On Site Technologies, LTD. **Date:** 04-Feb-02

CLIENT: Blagg Engineering
Project: Irvin Com H
Lab Order: 0201017

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical Chemical Methods, SW846, 3rd Edition.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

Any quality control and/or data qualifiers associated with this laboratory order will be flagged in the analytical result page(s) or the quality control summary report(s).

OFF: (505) 325-5667
FAX: (505) 327-1496

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556
FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 04-Feb-02

Client:	Blagg Engineering	**Client Sample Info:**	Irvin Com 1E
Work Order:	0201017	**Client Sample ID:**	~~MW-2~~ MW #1 (per JCB)
Lab ID:	0201017-01A **Matrix:** AQUEOUS	**Collection Date:**	01-16-2002 9:45:00 AM
Project:	Irvin Com 1E	**COC Record:**	11735

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **HNR**
Benzene	ND	0.5		µg/L	1	01/25/2002
Toluene	ND	0.5		µg/L	1	01/25/2002
Ethylbenzene	ND	0.5		µg/L	1	01/25/2002
m,p-Xylene	ND	1		µg/L	1	01/25/2002
o-Xylene	ND	0.5		µg/L	1	01/25/2002

Qualifiers:

PQL - Practical Quantitation Limit
ND - Not Detected at Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
Surr - Surrogate

P.O. BOX 2606 • FARMINGTON, NM 87499
EMAIL: ONSITE@ONSITELTD.COM

On Site Technologies, LTD.

Date: 04-Feb-02

CLIENT: Blagg Engineering
Work Order: 0201017
Project: Irvin Com II

QC SUMMARY REPORT
Method Blank

Sample ID: **MB_020125** Batch ID: **GC-1_020125** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **01/25/2002** Prep Date:

Client ID: **0201017** Run ID: **GC-1_020125A** SeqNo: **46856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	.0461	0.5									J
Ethylbenzene	ND	0.5									
m,p-Xylene	.2562	1									J
Methyl tert-Butyl Ether	ND	1									
o-Xylene	ND	0.5									
Toluene	.161	0.5									J
1,4-Difluorobenzene	99.72	0									
4-Bromochlorobenzene	117.4	0									
Fluorobenzene	97.62	0									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 04-Feb-02

CLIENT: Blagg Engineering
Work Order: 0201017
Project: Irvin Com II

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **0201020-12AMS** Batch ID: **GC-1_020125** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **01/25/2002** Prep Date:
Client ID: **0201017** Run ID: **GC-1_020125A** SeqNo: **46857**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2859	25	2000	1035	91.2%	70	130				
Ethylbenzene	3973	25	2000	2034	97.0%	70	130				
m,p-Xylene	6920	50	4000	2937	99.6%	70	130				
Methyl tert-Butyl Ether	1802	50	2000	63.21	87.0%	70	130				
o-Xylene	2636	25	2000	505	106.6%	70	130				
Toluene	3141	25	2000	1205	96.8%	70	130				
1,4-Difluorobenzene	4884	0	5500	0	88.8%	70	130				
4-Bromochlorobenzene	5893	0	5500	0	107.1%	70	130				
Fluorobenzene	4658	0	5500	0	84.7%	70	130				

Sample ID: **0201020-12AMSD** Batch ID: **GC-1_020125** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **01/25/2002** Prep Date:
Client ID: **0201017** Run ID: **GC-1_020125A** SeqNo: **46858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2903	25	2000	1035	93.4%	70	130	2859	1.5%	15	
Ethylbenzene	3906	25	2000	2034	93.6%	70	130	3973	1.7%	15	
m,p-Xylene	6778	50	4000	2937	96.0%	70	130	6920	2.1%	15	
Methyl tert-Butyl Ether	1881	50	2000	63.21	90.9%	70	130	1802	4.2%	15	
o-Xylene	2583	25	2000	505	103.9%	70	130	2636	2.0%	15	
Toluene	3070	25	2000	1205	93.3%	70	130	3141	2.3%	15	
1,4-Difluorobenzene	4907	0	5500	0	89.2%	70	130	0	0.0%	0	
4-Bromochlorobenzene	6000	0	5500	0	109.1%	70	130	0	0.0%	0	
Fluorobenzene	4810	0	5500	0	87.4%	70	130	0	0.0%	0	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 04/Feb/02

CLIENT: Blagg Engineering
Work Order: 0201017
Project: Irvin Com IE

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID: **LCS_020125** Batch ID: **GC-1_020125** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **01/25/2002** Prep Date:

Client ID: **0201017** Run ID: **GC-1_020125A** SeqNo: **46855**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	41.28	0.5	40	0.0461	103.1%	80	120				
Ethylbenzene	42.53	0.5	40	0	106.3%	80	120				
m,p-Xylene	86.18	1	80	0.2562	107.4%	80	120				
Methyl tert-Butyl Ether	41.88	1	40	0	104.7%	80	120				
o-Xylene	44.22	0.5	40	0	110.5%	80	120				
Toluene	41.6	0.5	40	0.161	103.6%	80	120				
1,4-Difluorobenzene	99.05	0	110	0	90.0%	70	130				
4-Bromochlorobenzene	119.5	0	110	0	108.7%	70	130				
Fluorobenzene	96.34	0	110	0	87.6%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

On Site Technologies, LTD.

Date: 04-Feb-02

CLIENT: Blagg Engineering
Work Order: 0201017
Project: Irvin Com II

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV1_020125** Batch ID: **GC-1_020125** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **01/25/2002** Prep Date:

Client ID: **0201017** Run ID: **GC-1_020125A** SeqNo: **46852**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.36	0.5	20	0	101.8%	85	115				
Ethylbenzene	20.82	0.5	20	0	104.1%	85	115				
m,p-Xylene	42.32	1	40	0	105.8%	85	115				
Methyl tert-Butyl Ether	20.46	1	20	0	102.3%	85	115				
o-Xylene	21.69	0.5	20	0	108.5%	85	115				
Toluene	20.44	0.5	20	0	102.2%	85	115				
1,4-Difluorobenzene	99.22	0	110	0	90.2%	70	130				
4-Bromochlorobenzene	118.1	0	110	0	107.3%	70	130				
Fluorobenzene	96.83	0	110	0	88.0%	70	130				

Sample ID: **CCV2_020125** Batch ID: **GC-1_020125** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **01/25/2002** Prep Date:

Client ID: **0201017** Run ID: **GC-1_020125A** SeqNo: **46853**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.61	0.5	20	0	98.1%	85	115				
Ethylbenzene	19.96	0.5	20	0	99.8%	85	115				
m,p-Xylene	40.83	1	40	0	102.1%	85	115				
Methyl tert-Butyl Ether	19.22	1	20	0	96.1%	85	115				
o-Xylene	21.04	0.5	20	0	105.2%	85	115				
Toluene	19.46	0.5	20	0	97.3%	85	115				
1,4-Difluorobenzene	99.71	0	110	0	90.6%	70	130				
4-Bromochlorobenzene	117.9	0	110	0	107.2%	70	130				
Fluorobenzene	97.74	0	110	0	88.9%	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Blagg Engineering
Work Order: 0201017
Project: Ivan Com II

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **CCV3_020125** Batch ID: **GC-1_020125** Test Code: **SW8021B** Units: **µg/L** Analysis Date: **01/25/2002** Prep Date:

Client ID: **0201017** Run ID: **GC-1_020125A** SeqNo: **46854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	36.92	0.5	40	0	92.3%	85	115				
Ethylbenzene	38.93	0.5	40	0	97.3%	85	115				
m,p-Xylene	78.93	1	80	0	98.7%	85	115				
Methyl tert-Butyl Ether	37.65	1	40	0	94.1%	85	115				
o-Xylene	40.37	0.5	40	0	100.9%	85	115				
Toluene	37.66	0.5	40	0	94.2%	85	115				
1,4-Difluorobenzene	98.42	0	110	0	89.5%	70	130				
4-Bromochlorobenzene	120.8	0	110	0	109.8%	70	130				
Fluorobenzene	95.31	0	110	0	86.6%	70	130				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

11735

CHAIN OF CUSTODY RECORD

ON SITE TECHNOLOGIES, LTD.

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

Date: 16 JAN 02

Page: 1 of 1

Purchase Order No.:	Project No.	REPORT RESULTS TO: Name	Title
SEND INVOICE TO: Name: JEFF BLAGG		Company	
Company: BLAGG ENGINEERING	Dept.	Mailing Address	
Address: P.O. BOX 87		City, State, Zip	
City, State, Zip: BLOOMFIELD NM 87413		Telephone No.	Telefax No.

PROJECT LOCATION: IRVIN COM 1E

SAMPLER'S SIGNATURE: J.C. Blagg

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	SAMPLE PRES.	Number of Containers	ANALYSIS REQUESTED: BTEX + OXY	LAB ID
MW #1 MW #1 (per JCB)	1-16-02	0945	H2O	HCL	2	X	020117-12

Relinquished by: J.C. Blagg	Date/Time 1614	Received by: David Mankin	Date/Time 1/16/02 1015
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Method of Shipment:

Rush | 24-48 Hours | 10 Working Days | By Date

Authorized by: J.C. Blagg Date 1-16-02
(Client Signature Must Accompany Request)

Special Instructions / Remarks:

Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client

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

October 09, 2012

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-1183
FAX (505) 632-3903

RE: Irvin Com 1E OrderNo.: 1210338

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/4/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1210338**
Date Reported: **10/9/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com 1E
Lab ID: 1210338-001
Matrix: AQUEOUS
Client Sample ID: MW-3
Collection Date: 10/2/2012 1:22:00 PM
Received Date: 10/4/2012 10:34:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	10/6/2012 12:21:14 AM
Toluene	ND	1.0		µg/L	1	10/6/2012 12:21:14 AM
Ethylbenzene	ND	1.0		µg/L	1	10/6/2012 12:21:14 AM
Xylenes, Total	ND	2.0		µg/L	1	10/6/2012 12:21:14 AM
Surr: 4-Bromofluorobenzene	105	69.7-152		%REC	1	10/6/2012 12:21:14 AM

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1210338**

09-Oct-12

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID	**5ML RB**	SampType: **MBLK**			TestCode: **EPA Method 8015B: Gasoline Range**					
Client ID:	**PBS**	Batch ID: **R6020**			RunNo: **6020**					
Prep Date:		Analysis Date: **10/5/2012**			SeqNo: **173460**		Units: **%REC**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		1000		1000		104	84	116			

Sample ID	**2.5UG GRO LCS**	SampType: **LCS**			TestCode: **EPA Method 8015B: Gasoline Range**					
Client ID:	**LCSS**	Batch ID: **R6020**			RunNo: **6020**					
Prep Date:		Analysis Date: **10/5/2012**			SeqNo: **173461**		Units: **%REC**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		820		1000		82.5	84	116			S

Sample ID	**1210279-011BMS**	SampType: **MS**			TestCode: **EPA Method 8015B: Gasoline Range**					
Client ID:	**BatchQC**	Batch ID: **R6020**			RunNo: **6020**					
Prep Date:		Analysis Date: **10/6/2012**			SeqNo: **173465**		Units: **%REC**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		1100		1000		108	84	116			

Sample ID	**1210279-011BMSD**	SampType: **MSD**			TestCode: **EPA Method 8015B: Gasoline Range**					
Client ID:	**BatchQC**	Batch ID: **R6020**			RunNo: **6020**					
Prep Date:		Analysis Date: **10/6/2012**			SeqNo: **173466**		Units: **%REC**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		1100		1000		105	84	116	0	0	

Sample ID	**1210332-013BMS**	SampType: **MS**			TestCode: **EPA Method 8015B: Gasoline Range**					
Client ID:	**BatchQC**	Batch ID: **R6043**			RunNo: **6043**					
Prep Date:		Analysis Date: **10/6/2012**			SeqNo: **174108**		Units: **%REC**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		860		1000		85.8	84	116			

Sample ID	**1210332-013BMSD**	SampType: **MSD**			TestCode: **EPA Method 8015B: Gasoline Range**					
Client ID:	**BatchQC**	Batch ID: **R6043**			RunNo: **6043**					
Prep Date:		Analysis Date: **10/6/2012**			SeqNo: **174109**		Units: **%REC**			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		950		1000		95.3	84	116	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1210338**

09-Oct-12

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBW**	Batch ID: **R6020**	RunNo: **6020**
Prep Date:	Analysis Date: **10/5/2012**	SeqNo: **173451** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	21		20.00		104	69.8	119			

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBW**	Batch ID: **R6043**	RunNo: **6043**
Prep Date:	Analysis Date: **10/6/2012**	SeqNo: **174095** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	21		20.00		105	69.8	119			

Sample ID ***2.5UG GRO LCS***	SampType: ***LCS***	TestCode: ***EPA Method 8015B: Gasoline Range***
Client ID: **LCSW**	Batch ID: **R6043**	RunNo: **6043**
Prep Date:	Analysis Date: **10/6/2012**	SeqNo: **174096** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	17		20.00		87.0	69.8	119			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1210338**

09-Oct-12

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R6020**	RunNo: **6020**
Prep Date:	Analysis Date: **10/5/2012**	SeqNo: **173476** 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	21		20.00		107	69.7	152			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R6020**	RunNo: **6020**
Prep Date:	Analysis Date: **10/5/2012**	SeqNo: **173477** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	80	120			
Toluene	21	1.0	20.00	0	105	80	120			
Ethylbenzene	22	1.0	20.00	0	108	80	120			
Xylenes, Total	66	2.0	60.00	0	110	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		114	69.7	152			

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R6043**	RunNo: **6043**
Prep Date:	Analysis Date: **10/6/2012**	SeqNo: **174118** 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	20		20.00		99.5	69.7	152			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R6043**	RunNo: **6043**
Prep Date:	Analysis Date: **10/6/2012**	SeqNo: **174119** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	80	120			
Toluene	21	1.0	20.00	0	105	80	120			
Ethylbenzene	22	1.0	20.00	0	109	80	120			
Xylenes, Total	66	2.0	60.00	0	110	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		106	69.7	152			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental A sis Laboratory
4901 Hawkins NE
Albuquerque, NM 8710
TEL: 505-345-3975 FAX: 505-345-410
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1210338

Received by/date: AG 10/04/12

Logged By: **Michelle Garcia** 10/4/2012 10:34:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 10/5/2012 8:48:07 AM Michelle Garcia

Reviewed By: 10/05/12

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☑
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? Courier

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☑ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. Cooler Information

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

Chain-of-Custody Record

Client: BLAGG ENGINEERING INC.
BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD NM 87413

Phone #: 505-632-1199

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other ______

☐ EDD (Type) ______

Turn-Around Time:
☒ Standard ☐ **Rush** ______

Project Name: IRVIN COM 1E

Project #:

Project Manager: J. BLAGG

Sampler: J. BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1210338	BTEX + ~~MTBE + TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
10/2/12	1322	WATER	MW-3	2 x VOA	HCL	-001	X															
"	1350	"	MW-2	2 x VOA	HCL	-002	X															

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/3/12	1508	Jeff Blagg	Christine Walen	10/3/12	1508
10/3/12	1712	Christine Walen	[signature]	10/04/12	1021

Remarks:
BILL BLAGG

BP CONTACT: JEFF PEACE

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.

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

January 03, 2013

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-1183
FAX (505) 632-3903

RE: Irvin COM 1E

OrderNo.: 1212A62

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/27/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1212A62**
Date Reported: **1/3/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin COM 1E
Lab ID: 1212A62-001
Matrix: AQUEOUS

Client Sample ID: MW-2
Collection Date: 12/26/2012 11:20:00 AM
Received Date: 12/27/2012 11:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	96	5.0		µg/L	5	12/29/2012 2:41:31 AM
Toluene	180	5.0		µg/L	5	12/29/2012 2:41:31 AM
Ethylbenzene	20	5.0		µg/L	5	12/29/2012 2:41:31 AM
Xylenes, Total	170	10		µg/L	5	12/29/2012 2:41:31 AM
Surr: 4-Bromofluorobenzene	113	69.7-152		%REC	5	12/29/2012 2:41:31 AM

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1212A62**

03-Jan-13

Client: Blagg Engineering

Project: Irvin COM 1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R7776**	RunNo: **7776**
Prep Date:	Analysis Date: **12/28/2012**	SeqNo: **226043** 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	22		20.00		109	69.7	152			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R7776**	RunNo: **7776**
Prep Date:	Analysis Date: **12/28/2012**	SeqNo: **226044** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	107	80	120			
Toluene	22	1.0	20.00	0	110	80	120			
Ethylbenzene	22	1.0	20.00	0	111	80	120			
Xylenes, Total	68	2.0	60.00	0	113	80	120			
Surr: 4-Bromofluorobenzene	24		20.00		118	69.7	152			

Sample ID **1212A13-006AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **R7776**	RunNo: **7776**
Prep Date:	Analysis Date: **12/28/2012**	SeqNo: **226051** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	104	74.1	124			
Toluene	21	1.0	20.00	0	106	75.2	124			
Ethylbenzene	21	1.0	20.00	0	107	69	125			
Xylenes, Total	66	2.0	60.00	0	110	73.1	126			
Surr: 4-Bromofluorobenzene	23		20.00		115	69.7	152			

Sample ID **1212A13-006AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **R7776**	RunNo: **7776**
Prep Date:	Analysis Date: **12/28/2012**	SeqNo: **226052** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.5	74.1	124	6.10	11.2	
Toluene	20	1.0	20.00	0	98.9	75.2	124	7.02	11.9	
Ethylbenzene	20	1.0	20.00	0	101	69	125	6.18	13.5	
Xylenes, Total	61	2.0	60.00	0	101	73.1	126	8.07	13	
Surr: 4-Bromofluorobenzene	23		20.00		114	69.7	152	0	0	

Qualifiers:

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

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 Number: 1212A62

Received by/date: MG 12/27/12

Logged By: **Michelle Garcia** 12/27/2012 11:00:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 12/27/2012 11:11:21 AM Michelle Garcia

Reviewed By: AT 12/27/12

Chain of Custody

1. Were seals intact?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	Courier		

Log In

4. Coolers are present? (see 19. for cooler specific information)	Yes ☑	No ☐	NA ☐
5. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
7. Sample(s) in proper container(s)?	Yes ☑	No ☐	
8. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
10. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
11. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
12. Were any sample containers received broken?	Yes ☐	No ☑	
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
14. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15. Is it clear what analyses were requested?	Yes ☑	No ☐	
16. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. **Cooler Information**

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

Chain-of-Custody Record

Client: BLAGG ENGINEERING INC.
BP AMERICA
Mailing Address: P.O. BOX 87
BLOOMFIELD NM 87413
Phone #: 505-632-1199
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: IRVIN COM 1E
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 2.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1212A62	BTEX + ~~MTBE + TMB~~'s (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
12/26/12	1120	WATER	MW-2	VOA x 3	$HgCl_2$	-001	X											

Analysis Request

Date: 12/26/12 Time: 1400 Relinquished by: JH Blagg FOR SHIPPING Received by: Date 12/27/12 Time 1100
Date: Time: Relinquished by: Received by: Date Time

Remarks:
BILL BLAGG

BP CONTACT: JEFF PEACE

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

September 06, 2013

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-1183
FAX (505) 632-3903

RE: Irvin COM 1E OrderNo.: 1308D56

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 8/30/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1308D56**
Date Reported: **9/6/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin COM 1E
Lab ID: 1308D56-001 **Matrix:** AQUEOUS

Client Sample ID: MW-4
Collection Date: 8/28/2013 1:30:00 PM
Received Date: 8/30/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **cadg**	
Benzene	1700	20		µg/L	20	9/4/2013 12:22:01 PM	R13079
Toluene	ND	1.0		µg/L	1	9/3/2013 10:28:12 PM	R13040
Ethylbenzene	130	20		µg/L	20	9/4/2013 12:22:01 PM	R13079
Xylenes, Total	30	2.0		µg/L	1	9/3/2013 10:28:12 PM	R13040
Surr: 1,2-Dichloroethane-d4	93.7	70-130		%REC	1	9/3/2013 10:28:12 PM	R13040
Surr: 4-Bromofluorobenzene	84.9	70-130		%REC	1	9/3/2013 10:28:12 PM	R13040
Surr: Dibromofluoromethane	105	70-130		%REC	1	9/3/2013 10:28:12 PM	R13040
Surr: Toluene-d8	94.6	70-130		%REC	1	9/3/2013 10:28:12 PM	R13040

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

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 for VOA and TOC only.
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin COM 1E
Lab ID: 1308D56-002
Matrix: AQUEOUS
Client Sample ID: MW-5
Collection Date: 8/28/2013 2:15:00 PM
Received Date: 8/30/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **cadg**	
Benzene	ND	1.0		µg/L	1	9/3/2013 11:25:29 PM	R13040
Toluene	ND	1.0		µg/L	1	9/3/2013 11:25:29 PM	R13040
Ethylbenzene	ND	1.0		µg/L	1	9/3/2013 11:25:29 PM	R13040
Xylenes, Total	ND	2.0		µg/L	1	9/3/2013 11:25:29 PM	R13040
Surr: 1,2-Dichloroethane-d4	99.0	70-130		%REC	1	9/3/2013 11:25:29 PM	R13040
Surr: 4-Bromofluorobenzene	98.7	70-130		%REC	1	9/3/2013 11:25:29 PM	R13040
Surr: Dibromofluoromethane	111	70-130		%REC	1	9/3/2013 11:25:29 PM	R13040
Surr: Toluene-d8	97.4	70-130		%REC	1	9/3/2013 11:25:29 PM	R13040

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW-6
Project: Irvin COM 1E
Collection Date: 8/28/2013 3:00:00 PM
Lab ID: 1308D56-003
Matrix: AQUEOUS
Received Date: 8/30/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **cadg**	
Benzene	ND	1.0		µg/L	1	9/4/2013 12:22:46 AM	R13040
Toluene	ND	1.0		µg/L	1	9/4/2013 12:22:46 AM	R13040
Ethylbenzene	ND	1.0		µg/L	1	9/4/2013 12:22:46 AM	R13040
Xylenes, Total	4.3	2.0		µg/L	1	9/4/2013 12:22:46 AM	R13040
Surr: 1,2-Dichloroethane-d4	98.5	70-130		%REC	1	9/4/2013 12:22:46 AM	R13040
Surr: 4-Bromofluorobenzene	96.9	70-130		%REC	1	9/4/2013 12:22:46 AM	R13040
Surr: Dibromofluoromethane	113	70-130		%REC	1	9/4/2013 12:22:46 AM	R13040
Surr: Toluene-d8	98.0	70-130		%REC	1	9/4/2013 12:22:46 AM	R13040

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1308D56**

06-Sep-13

Client: Blagg Engineering

Project: Irvin COM 1E

Sample ID **5mL rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R13040**	RunNo: **13040**
Prep Date:	Analysis Date: **9/3/2013**	SeqNo: **372717** 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: 1,2-Dichloroethane-d4	9.8		10.00		98.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	11		10.00		114	70	130			
Surr: Toluene-d8	10		10.00		99.7	70	130			

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R13040**	RunNo: **13040**
Prep Date:	Analysis Date: **9/3/2013**	SeqNo: **372718** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.8	70	130			
Toluene	18	1.0	20.00	0	90.8	82.2	124			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.4	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.8	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			

Sample ID **5mL rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R13079**	RunNo: **13079**
Prep Date:	Analysis Date: **9/4/2013**	SeqNo: **373212** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Ethylbenzene	ND	1.0								
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	12		10.00		116	70	130			
Surr: Toluene-d8	9.7		10.00		97.3	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R13079**	RunNo: **13079**
Prep Date:	Analysis Date: **9/4/2013**	SeqNo: **373213** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.0	70	130			

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 for VOA and TOC only.
- RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1308D56**

06-Sep-13

Client: Blagg Engineering

Project: Irvin COM 1E

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R13079**	RunNo: **13079**
Prep Date:	Analysis Date: **9/4/2013**	SeqNo: **373213** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.9		10.00		98.7	70	130			

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 for VOA and TOC only.
- RL Reporting Detection Limit

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 Number: 1308D56 | RcptNo: 1

Received by/date: LM 08/30/13

Logged By: Ashley Gallegos 8/30/2013 10:00:00 AM AG

Completed By: Ashley Gallegos 8/30/2013 1:20:07 PM AG

Reviewed By: mg 08/30/13

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	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 bottles checked for pH: (<2 or >12 unless noted)
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	Adjusted?
13. Are matrices correctly identified on Chain of Custody?	Yes ✔	No	
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 with this order? Yes No NA ✔

Person Notified: Date:

By Whom: Via: eMail Phone Fax In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.9	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGINEERING INC.
BP AMERICA
Mailing Address: P.O. BOX 87
BLOOMFIELD NM 87413
Phone #: 505-632-1199
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: IRVIN COM 1E
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 4.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1308D56	BTEX + ~~MTBE~~ + TMBs (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
8/28/13	1330	WATER	MW-4	2 x VOA	HCL	-001	X											
"	1415	"	MW-5	"	"	-002	X											
"	1500	"	MW-6	"	"	-003	X											

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/29/13	1439			8/29/13	1439
8/29/13	1757			08/30/13	1000

Remarks: BILL BLAGG
BP contact: JEFF PEACE

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

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

September 26, 2013

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-1183
FAX (505) 632-3903

RE: Irvin Com 1E OrderNo.: 1309915

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/19/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1309915**
Date Reported: **9/26/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com 1E
Lab ID: 1309915-001
Matrix: AQUEOUS
Client Sample ID: MW-4
Collection Date: 9/18/2013 1:15:00 PM
Received Date: 9/19/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	740	20		µg/L	20	9/20/2013 5:14:11 PM	R13517
Toluene	ND	2.0		µg/L	2	9/20/2013 5:44:11 PM	R13517
Ethylbenzene	110	2.0		µg/L	2	9/20/2013 5:44:11 PM	R13517
Xylenes, Total	10	4.0		µg/L	2	9/20/2013 5:44:11 PM	R13517
Surr: 4-Bromofluorobenzene	114	85-136		%REC	20	9/20/2013 5:14:11 PM	R13517

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1309915**

26-Sep-13

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R13517**	RunNo: **13517**
Prep Date:	Analysis Date: **9/20/2013**	SeqNo: **384731** 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	22		20.00		111	85	136			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R13517**	RunNo: **13517**
Prep Date:	Analysis Date: **9/20/2013**	SeqNo: **384732** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	80	120			
Toluene	20	1.0	20.00	0	102	80	120			
Ethylbenzene	21	1.0	20.00	0	103	80	120			
Xylenes, Total	64	2.0	60.00	0	106	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		114	85	136			

Sample ID **1309862-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **R13517**	RunNo: **13517**
Prep Date:	Analysis Date: **9/20/2013**	SeqNo: **384734** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	980	50	1000	0	97.8	73.4	119			
Toluene	970	50	1000	0	97.4	80	120			
Ethylbenzene	990	50	1000	0	98.9	80	120			
Xylenes, Total	3100	100	3000	0	102	80	120			
Surr: 4-Bromofluorobenzene	1100		1000		112	85	136			

Sample ID **1309862-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **R13517**	RunNo: **13517**
Prep Date:	Analysis Date: **9/20/2013**	SeqNo: **384735** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	990	50	1000	0	98.8	73.4	119	1.01	20	
Toluene	990	50	1000	0	99.2	80	120	1.76	20	
Ethylbenzene	1000	50	1000	0	101	80	120	2.00	20	
Xylenes, Total	3100	100	3000	0	104	80	120	1.45	20	
Surr: 4-Bromofluorobenzene	1100		1000		114	85	136	0	0	

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 for VOA and TOC only.
- 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 Number: 1309915 | RcptNo: 1

Received by/date: [signature] 09/19/13

Logged By: **Ashley Gallegos** 9/19/2013 10:00:00 AM [signature]

Completed By: **Ashley Gallegos** 9/19/2013 7:28:10 PM [signature]

Reviewed By: [signature] 9/20

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	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 bottles checked for pH: (<2 or >12 unless noted)
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	Adjusted?
13. Are matrices correctly identified on Chain of Custody?	Yes ✔	No	
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 with this order? Yes No NA ✔

Person Notified: _____ Date: _____

By Whom: _____ Via: eMail Phone Fax In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

Chain-of-Custody Record

Client: BLAGG ENGINEERING INC.
BP AMERICA
Mailing Address: P.O. BOX 87
BLOOMFIELD NM 87413
Phone #: 505-632-1199
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: IRVIN COM 1E
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1309915	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
9/18/2013	1315	WATER	MW-4	VOA x3	HCL	-001	X											

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/18/2013	1430	Jeff Blagg	Christy Walters	9/18/2013	1430
9/18/13	1737	Christy Walters		09/18/13	1800

Remarks: BILL BLAGG

BP CONTACT: JEFF PEACE

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.

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

December 24, 2013

Nelson Velez
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-3489
FAX (505) 632-3903

RE: IRVIN COM # 1E OrderNo.: 1312A38

Dear Nelson Velez:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/20/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1312A38**
Date Reported: **12/24/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM # 1E
Lab ID: 1312A38-001 **Matrix:** AQUEOUS

Client Sample ID: MW # 3
Collection Date: 12/19/2013 1:30:00 PM
Received Date: 12/20/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/24/2013 12:28:19 AM	R15705
Toluene	ND	1.0		µg/L	1	12/24/2013 12:28:19 AM	R15705
Ethylbenzene	ND	1.0		µg/L	1	12/24/2013 12:28:19 AM	R15705
Xylenes, Total	ND	2.0		µg/L	1	12/24/2013 12:28:19 AM	R15705
Surr: 4-Bromofluorobenzene	102	85-136		%REC	1	12/24/2013 12:28:19 AM	R15705

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM # 1E
Lab ID: 1312A38-002 **Matrix:** AQUEOUS

Client Sample ID: MW # 5
Collection Date: 12/19/2013 2:30:00 PM
Received Date: 12/20/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/24/2013 12:58:28 AM	R15705
Toluene	ND	1.0		µg/L	1	12/24/2013 12:58:28 AM	R15705
Ethylbenzene	ND	1.0		µg/L	1	12/24/2013 12:58:28 AM	R15705
Xylenes, Total	ND	2.0		µg/L	1	12/24/2013 12:58:28 AM	R15705
Surr: 4-Bromofluorobenzene	102	85-136		%REC	1	12/24/2013 12:58:28 AM	R15705

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1312A38**

24-Dec-13

Client: Blagg Engineering

Project: IRVIN COM # 1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R15705**	RunNo: **15705**
Prep Date:	Analysis Date: **12/23/2013**	SeqNo: **452799** 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	20		20.00		98.8	85	136			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R15705**	RunNo: **15705**
Prep Date:	Analysis Date: **12/23/2013**	SeqNo: **452800** 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	106	80	120			
Ethylbenzene	21	1.0	20.00	0	103	80	120			
Xylenes, Total	63	2.0	60.00	0	105	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		104	85	136			

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 for VOA and TOC only.
- RL Reporting Detection Limit

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 Number: 1312A38 | RcptNo: 1

Received by/date: AG 12/20/13

Logged By: **Lindsay Mangin** 12/20/2013 10:00:00 AM

Completed By: **Lindsay Mangin** 12/21/2013 9:10:40 AM

Reviewed By: 12/23/13

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
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 ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client:	BLAGG ENGR. / BP AMERICA
Mailing Address:	P.O. BOX 87
	BLOOMFIELD, NM 87413
Phone #:	(505) 632-1199
email or Fax#:	
QA/QC Package:	☑ Standard ☐ Level 4 (Full Validation)
Accreditation:	☐ NELAP ☐ Other
☐ EDD (Type)	

☑ Standard ☐ Rush

Project Name: **IRVIN COM # 1E**

Project #:

Project Manager: **NELSON VELEZ**

Sampler: **NELSON VELEZ** NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1312A38	BTEX + ~~MTBE~~ + TMB's (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample
12/19/13	1330	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-001	✓													✓	
12/19/13	1430	WATER	MW # 5	40 ml VOA - 2	HCl & Cool	-002	✓													✓	

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/19/13	1615		Christine Walters	12/19/13	1615
12/19/13	1700	Christine Walters	Ashley Gallegos	12/20/13	1000

Remarks:

BILL DIRECTLY TO BP:

Jeff Peace, 200 Energy Court, Farmington, NM 87401

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
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Website: www.hallenvironmental.com

January 07, 2014

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-1183
FAX (505) 632-3903

RE: Irvin Com 1E OrderNo.: 1312B92

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/27/2013 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1312B92**
Date Reported: **1/7/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com 1E
Lab ID: 1312B92-001 **Matrix:** AQUEOUS

Client Sample ID: MW-4
Collection Date: 12/23/2013 1:30:00 PM
Received Date: 12/27/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	6.1	2.0		µg/L	2	12/30/2013 6:21:05 PM	R15810
Toluene	ND	2.0		µg/L	2	12/30/2013 6:21:05 PM	R15810
Ethylbenzene	49	2.0		µg/L	2	12/30/2013 6:21:05 PM	R15810
Xylenes, Total	ND	4.0		µg/L	2	12/30/2013 6:21:05 PM	R15810
Surr: 4-Bromofluorobenzene	111	85-136		%REC	2	12/30/2013 6:21:05 PM	R15810

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

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 for VOA and TOC only.
RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1312B92**

07-Jan-14

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R15810**	RunNo: **15810**
Prep Date:	Analysis Date: **12/30/2013**	SeqNo: **456386** 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		97.4	85	136			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R15810**	RunNo: **15810**
Prep Date:	Analysis Date: **12/30/2013**	SeqNo: **456387** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	80	120			
Toluene	22	1.0	20.00	0	111	80	120			
Ethylbenzene	21	1.0	20.00	0	107	80	120			
Xylenes, Total	66	2.0	60.00	0	109	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		105	85	136			

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 for VOA and TOC only.
- RL Reporting Detection Limit

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 Number: 1312B92 RcptNo: 1

Received by/date: CM 12/27/13

Logged By: Anne Thorne 12/27/2013 10:00:00 AM Anne Thorne

Completed By: Anne Thorne 12/27/2013 Anne Thorne

Reviewed By: AT 12/27/13

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
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 ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.7	Good	Yes			

Client:	Blagg Engineering, Inc.
	BP America
Mailing Address:	P.O. Box 87
	Bloomfield, NM 87413
Phone #:	(505)320-1183
email or Fax#:	
QA/QC Package:	
☒ Standard	☐ Level 4 (Full Validation)
☐ Other	
☐ EDD (Type)	

☒ Standard ☐ Rush

Project Name: Irvin Com 1E

Project #:

Project Manager: Jeff Blagg

Sampler: Jeff Blagg

On Ice: ☒ Yes ☐ No

Sample Temperature: 5.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1312B92	BTEX + ~~MTBE + TMBs~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride	
12/23/2013	1:30 PM	Water	MW-4	3x voa	HCL	001	x												

Date:	Time:	Relinquished by:	Received by:	Date	Time	Remarks:
12/27/13	0615	Jeff Blagg		12/27/13	1000	Bill BP P.O. Should be on file contact: Jeff Peace
Date:	Time:	Relinquished by:	Received by:	Date	Time	

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.

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

March 26, 2014

Nelson Velez
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-3489
FAX (505) 632-3903

RE: IRVIN COM #1E OrderNo.: 1403860

Dear Nelson Velez:

Hall Environmental Analysis Laboratory received 3 sample(s) on 3/20/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1403860**
Date Reported: **3/26/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM #1E
Lab ID: 1403860-001
Matrix: AQUEOUS
Client Sample ID: MW #3
Collection Date: 3/18/2014 11:15:00 AM
Received Date: 3/20/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	3/20/2014 9:56:06 PM	R17450
Toluene	ND	1.0		µg/L	1	3/20/2014 9:56:06 PM	R17450
Ethylbenzene	ND	1.0		µg/L	1	3/20/2014 9:56:06 PM	R17450
Xylenes, Total	ND	2.0		µg/L	1	3/20/2014 9:56:06 PM	R17450
Surr: 4-Bromofluorobenzene	98.8	82.9-139		%REC	1	3/20/2014 9:56:06 PM	R17450

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM #1E
Lab ID: 1403860-002 **Matrix:** AQUEOUS

Client Sample ID: MW #4
Collection Date: 3/18/2014 1:50:00 PM
Received Date: 3/20/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	3.3	1.0		µg/L	1	3/24/2014 1:21:06 PM	R17539
Toluene	ND	1.0		µg/L	1	3/24/2014 1:21:06 PM	R17539
Ethylbenzene	ND	1.0		µg/L	1	3/24/2014 1:21:06 PM	R17539
Xylenes, Total	ND	2.0		µg/L	1	3/24/2014 1:21:06 PM	R17539
Surr: 4-Bromofluorobenzene	99.9	82.9-139		%REC	1	3/24/2014 1:21:06 PM	R17539

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM #1E
Lab ID: 1403860-003
Matrix: AQUEOUS
Client Sample ID: MW #5
Collection Date: 3/18/2014 12:30:00 PM
Received Date: 3/20/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	3/20/2014 10:56:34 PM	R17450
Toluene	ND	1.0		µg/L	1	3/20/2014 10:56:34 PM	R17450
Ethylbenzene	ND	1.0		µg/L	1	3/20/2014 10:56:34 PM	R17450
Xylenes, Total	ND	2.0		µg/L	1	3/20/2014 10:56:34 PM	R17450
Surr: 4-Bromofluorobenzene	99.2	82.9-139		%REC	1	3/20/2014 10:56:34 PM	R17450

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1403860**

26-Mar-14

Client: Blagg Engineering

Project: IRVIN COM #1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R17450**	RunNo: **17450**
Prep Date:	Analysis Date: **3/20/2014**	SeqNo: **503110** 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		96.6	82.9	139			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R17450**	RunNo: **17450**
Prep Date:	Analysis Date: **3/20/2014**	SeqNo: **503111** 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	99.8	80	120			
Xylenes, Total	61	2.0	60.00	0	101	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		100	82.9	139			

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R17539**	RunNo: **17539**
Prep Date:	Analysis Date: **3/24/2014**	SeqNo: **505125** 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		94.9	82.9	139			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R17539**	RunNo: **17539**
Prep Date:	Analysis Date: **3/24/2014**	SeqNo: **505126** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	80	120			
Toluene	20	1.0	20.00	0	102	80	120			
Ethylbenzene	20	1.0	20.00	0	100	80	120			
Xylenes, Total	61	2.0	60.00	0	102	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		101	82.9	139			

Qualifiers:

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

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 Number: 1403860 | RcptNo: 1

Received by/date: _____

Logged By: **Anne Thorne** 3/20/2014 10:00:00 AM Anne Thorne

Completed By: **Anne Thorne** 3/20/2014 Anne Thorne

Reviewed By: MG 03/20/14

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
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 ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.9	Good	Yes			

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client:	BLAGG ENGR. / BP AMERICA
Mailing Address:	P.O. BOX 87
	BLOOMFIELD, NM 87413
Phone #:	(505) 632-1199
email or Fax#:	
QA/QC Package:	☑ Standard ☐ Level 4 (Full Validation)
Accreditation:	☐ NELAP ☐ Other ☐ EDD (Type)
☑ Standard ☐ Rush	
Project Name:	IRVIN COM # 1E
Project #:	
Project Manager:	NELSON VELEZ
Sampler:	NELSON VELEZ
On Ice:	☒ Yes ☐ No
Sample Temperature:	1.9

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1403820	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample
3/18/14	1115	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-001	✓													✓	
3/18/14	1350	WATER	MW # 4	40 ml VOA - 2	HCl & Cool	-002	✓													✓	
3/18/14	1230	WATER	MW # 5	40 ml VOA - 2	HCl & Cool	-003	✓													✓	

Date	Time	Relinquished by:	Received by:	Date	Time
3/19/14	1543			3/19/14	1543
3/19/14	1857			03/20/14	1000

Remarks:

BILL DIRECTLY TO BP:

Jeff Peace, 200 Energy Court, Farmington, NM 87401

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

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

July 09, 2014

Nelson Velez
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-3489
FAX (505) 632-3903

RE: IRVIN COM #1E OrderNo.: 1407180

Dear Nelson Velez:

Hall Environmental Analysis Laboratory received 3 sample(s) on 7/3/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1407180**
Date Reported: **7/9/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM #1E
Lab ID: 1407180-001

Client Sample ID: MW #3
Collection Date: 6/29/2014 7:45:00 AM
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**	
Benzene	ND	1.0		µg/L	1	7/3/2014 6:54:14 PM	R19692
Toluene	ND	1.0		µg/L	1	7/3/2014 6:54:14 PM	R19692
Ethylbenzene	ND	1.0		µg/L	1	7/3/2014 6:54:14 PM	R19692
Xylenes, Total	ND	2.0		µg/L	1	7/3/2014 6:54:14 PM	R19692
Surr: 4-Bromofluorobenzene	111	82.9-139		%REC	1	7/3/2014 6:54:14 PM	R19692

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM #1E
Lab ID: 1407180-002 **Matrix:** AQUEOUS

Client Sample ID: MW #4
Collection Date: 6/29/2014 9:45:00 AM
Received Date: 7/3/2014 7:06:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	2.2	1.0		µg/L	1	7/3/2014 7:24:24 PM	R19692
Toluene	ND	1.0		µg/L	1	7/3/2014 7:24:24 PM	R19692
Ethylbenzene	ND	1.0		µg/L	1	7/3/2014 7:24:24 PM	R19692
Xylenes, Total	2.3	2.0		µg/L	1	7/3/2014 7:24:24 PM	R19692
Surr: 4-Bromofluorobenzene	117	82.9-139		%REC	1	7/3/2014 7:24:24 PM	R19692

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM #1E
Lab ID: 1407180-003
Matrix: AQUEOUS
Client Sample ID: MW #5
Collection Date: 6/29/2014 8:45:00 AM
Received Date: 7/3/2014 7:06:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	7/3/2014 7:54:30 PM	R19692
Toluene	ND	1.0		µg/L	1	7/3/2014 7:54:30 PM	R19692
Ethylbenzene	ND	1.0		µg/L	1	7/3/2014 7:54:30 PM	R19692
Xylenes, Total	ND	2.0		µg/L	1	7/3/2014 7:54:30 PM	R19692
Surr: 4-Bromofluorobenzene	110	82.9-139		%REC	1	7/3/2014 7:54:30 PM	R19692

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1407180**

09-Jul-14

Client: Blagg Engineering

Project: IRVIN COM #1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R19692**	RunNo: **19692**
Prep Date:	Analysis Date: **7/3/2014**	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-Bromofluorobenzene	22		20.00		109	82.9	139			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R19692**	RunNo: **19692**
Prep Date:	Analysis Date: **7/3/2014**	SeqNo: **571874** 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-Bromofluorobenzene	20		20.00		100	82.9	139			

Qualifiers:

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

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 Number: 1407180 | RcptNo: 1

Received by/date: AT 07/03/14

Logged By: Anne Thorne 7/3/2014 7:06:00 AM Anne Thorne

Completed By: Anne Thorne 7/3/2014 Anne Thorne

Reviewed By: 07/03/14

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
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 ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

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

Chain-of-Custody Record

Client: **BLAGG ENGR. / BP AMERICA**

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

Phone #: **(505) 632-1199**

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
IRVIN COM # 1E

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ** NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.3

HALL ENVIRON ENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1407180	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample
6/29/14	0745	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-001	√													√	
6/29/14	0945	WATER	MW # 4	40 ml VOA - 2	HCl & Cool	-002	√													√	
6/29/14	0845	WATER	MW # 5	40 ml VOA - 2	HCl & Cool	-003	√													√	

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/2/14	1500			07/03/14	0706
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:
BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401
Find Purchase Order in email from BP.

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

September 10, 2014

Nelson Velez
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-3489
FAX (505) 632-3903

RE: Irvin Com #1E OrderNo.: 1409160

Dear Nelson Velez:

Hall Environmental Analysis Laboratory received 3 sample(s) on 9/4/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1409160**
Date Reported: **9/10/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com #1E
Lab ID: 1409160-001 **Matrix:** AQUEOUS

Client Sample ID: MW # 3
Collection Date: 8/30/2014 11:25:00 AM
Received Date: 9/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	9/5/2014 3:19:08 AM	R21004
Toluene	ND	1.0		µg/L	1	9/5/2014 3:19:08 AM	R21004
Ethylbenzene	ND	1.0		µg/L	1	9/5/2014 3:19:08 AM	R21004
Xylenes, Total	ND	2.0		µg/L	1	9/5/2014 3:19:08 AM	R21004
Surr: 4-Bromofluorobenzene	103	82.9-139		%REC	1	9/5/2014 3:19:08 AM	R21004

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com #1E
Lab ID: 1409160-002 **Matrix:** AQUEOUS

Client Sample ID: MW # 4
Collection Date: 8/30/2014 1:20:00 PM
Received Date: 9/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	20	1.0		µg/L	1	9/5/2014 3:47:42 AM	R21004
Toluene	ND	1.0		µg/L	1	9/5/2014 3:47:42 AM	R21004
Ethylbenzene	6.0	1.0		µg/L	1	9/5/2014 3:47:42 AM	R21004
Xylenes, Total	5.4	2.0		µg/L	1	9/5/2014 3:47:42 AM	R21004
Surr: 4-Bromofluorobenzene	125	82.9-139		%REC	1	9/5/2014 3:47:42 AM	R21004

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com #1E
Lab ID: 1409160-003
Matrix: AQUEOUS
Client Sample ID: MW # 5
Collection Date: 8/30/2014 12:20:00 PM
Received Date: 9/4/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	9/5/2014 4:16:18 AM	R21004
Toluene	ND	1.0		µg/L	1	9/5/2014 4:16:18 AM	R21004
Ethylbenzene	ND	1.0		µg/L	1	9/5/2014 4:16:18 AM	R21004
Xylenes, Total	ND	2.0		µg/L	1	9/5/2014 4:16:18 AM	R21004
Surr: 4-Bromofluorobenzene	105	82.9-139		%REC	1	9/5/2014 4:16:18 AM	R21004

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1409160**

10-Sep-14

Client: Blagg Engineering

Project: Irvin Com #1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R21004**	RunNo: **21004**
Prep Date:	Analysis Date: **9/4/2014**	SeqNo: **611423** 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	21		20.00		104	82.9	139			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R21004**	RunNo: **21004**
Prep Date:	Analysis Date: **9/4/2014**	SeqNo: **611425** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	80	120			
Toluene	21	1.0	20.00	0	103	80	120			
Ethylbenzene	20	1.0	20.00	0	102	80	120			
Xylenes, Total	61	2.0	60.00	0	102	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		110	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 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 Number: 1409160 | RcptNo: 1

Received by/date: AT 09/04/14

Logged By: **Lindsay Mangin** 9/4/2014 7:00:00 AM

Completed By: **Lindsay Mangin** 9/4/2014 9:26:50 AM

Reviewed By: 09/04/14

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
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 ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.1	Good	Yes			

Chain-of-Custody Record

Client: **BLAGG ENGR. / BP AMERICA**

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

Phone #: **(505) 632-1199**

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
IRVIN COM # 1E

Project #:

Project Manager:
NELSON VELEZ

Sampler: **NELSON VELEZ** NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 21

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1409160	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
8/30/14	1125	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-001	✓													✓		
8/30/14	~~1220~~ 1320	WATER	MW # 4	40 ml VOA - 2	HCl & Cool	-002	✓													✓		
8/30/14	~~1320~~ 1220	WATER	MW # 5	40 ml VOA - 2	HCl & Cool	-003	✓													✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/3/14	1450			9/3/14	1450
9/3/14	2024			09/04/14	0700

Remarks:
BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401
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 report.

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

December 05, 2014

Nelson Velez
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-3489
FAX (505) 632-3903

RE: Irvin Com # 1E OrderNo.: 1412127

Dear Nelson Velez:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/3/2014 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order: **1412127**
Date Reported: **12/5/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com # 1E
Lab Order: 1412127

Lab ID: 1412127-001 **Collection Date:** 12/2/2014 10:25:00 AM
Client Sample ID: MW # 3 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/3/2014 2:18:51 PM	R2289€
Toluene	ND	1.0		µg/L	1	12/3/2014 2:18:51 PM	R2289€
Ethylbenzene	ND	1.0		µg/L	1	12/3/2014 2:18:51 PM	R2289€
Xylenes, Total	ND	2.0		µg/L	1	12/3/2014 2:18:51 PM	R2289€
Surr: 4-Bromofluorobenzene	107	66.6-167		%REC	1	12/3/2014 2:18:51 PM	R2289€

Lab ID: 1412127-002 **Collection Date:** 12/2/2014 12:25:00 PM
Client Sample ID: MW # 4 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	2.1	1.0		µg/L	1	12/3/2014 2:46:12 PM	R2289€
Toluene	ND	1.0		µg/L	1	12/3/2014 2:46:12 PM	R2289€
Ethylbenzene	ND	1.0		µg/L	1	12/3/2014 2:46:12 PM	R2289€
Xylenes, Total	ND	2.0		µg/L	1	12/3/2014 2:46:12 PM	R2289€
Surr: 4-Bromofluorobenzene	106	66.6-167		%REC	1	12/3/2014 2:46:12 PM	R2289€

Lab ID: 1412127-003 **Collection Date:** 12/2/2014 11:30:00 AM
Client Sample ID: MW # 5 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/3/2014 3:13:13 PM	R2289€
Toluene	ND	1.0		µg/L	1	12/3/2014 3:13:13 PM	R2289€
Ethylbenzene	ND	1.0		µg/L	1	12/3/2014 3:13:13 PM	R2289€
Xylenes, Total	ND	2.0		µg/L	1	12/3/2014 3:13:13 PM	R2289€
Surr: 4-Bromofluorobenzene	107	66.6-167		%REC	1	12/3/2014 3:13:13 PM	R2289€

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com # 1E
Lab Order: 1412127

Lab ID: 1412127-004
Collection Date: 12/2/2014 1:20:00 PM
Client Sample ID: MW # 6
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/3/2014 3:40:15 PM	R22896
Toluene	ND	1.0		µg/L	1	12/3/2014 3:40:15 PM	R22896
Ethylbenzene	2.4	1.0		µg/L	1	12/3/2014 3:40:15 PM	R22896
Xylenes, Total	97	2.0		µg/L	1	12/3/2014 3:40:15 PM	R22896
Surr: 4-Bromofluorobenzene	122	66.6-167		%REC	1	12/3/2014 3:40:15 PM	R22896

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1412127**

05-Dec-14

Client: Blagg Engineering

Project: Irvin Com # 1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R22896**	RunNo: **22896**
Prep Date:	Analysis Date: **12/3/2014**	SeqNo: **676694** 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	21		20.00		105	66.6	167			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R22896**	RunNo: **22896**
Prep Date:	Analysis Date: **12/3/2014**	SeqNo: **676695** 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	107	80	120			
Ethylbenzene	22	1.0	20.00	0	108	80	120			
Xylenes, Total	65	2.0	60.00	0	109	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		109	66.6	167			

Qualifiers:

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

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 Number: **1412127** RcptNo: 1

Received by/date: 12/03/14

Logged By: **Lindsay Mangin** **12/3/2014 7:30:00 AM**

Completed By: **Lindsay Mangin** **12/3/2014 8:50:58 AM**

Reviewed By: 12/03/14

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved 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 with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

Email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: IRVIN COM # 1E

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1412127	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
12/2/14	1025	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-001	√													√		
12/2/14	1225	WATER	MW # 4	40 ml VOA - 2	HCl & Cool	-002	√													√		
12/2/14	1130	WATER	MW # 5	40 ml VOA - 2	HCl & Cool	-003	√													√		
12/2/14	1320	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-004	√													√		

Date	Time	Relinquished by	Received by	Date	Time
12/2/14	1537		Chris Walters	12/2/14	1537
12/2/14	1747	Chris Walters		12/3/14	0730

Remarks:

BILL DIRECTLY TO BP:

Jeff Peace, 200 Energy Court, Farmington, NM 87401

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 report.

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

March 09, 2015

Nelson Velez
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-3489
FAX (505) 632-3903

RE: IRVIN COM #1E OrderNo.: 1503246

Dear Nelson Velez:

Hall Environmental Analysis Laboratory received 3 sample(s) on 3/6/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1503246**
Date Reported: **3/9/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM #1E
Lab ID: 1503246-001

Client Sample ID: MW #3
Collection Date: 3/5/2015 9:45:00 AM
Matrix: AQUEOUS
Received Date: 3/6/2015 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	3/6/2015 12:23:22 PM	R24685
Toluene	ND	1.0		µg/L	1	3/6/2015 12:23:22 PM	R24685
Ethylbenzene	ND	1.0		µg/L	1	3/6/2015 12:23:22 PM	R24685
Xylenes, Total	ND	2.0		µg/L	1	3/6/2015 12:23:22 PM	R24685
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	3/6/2015 12:23:22 PM	R24685

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM #1E
Lab ID: 1503246-002

Client Sample ID: MW #4
Collection Date: 3/5/2015 11:45:00 AM
Matrix: AQUEOUS
Received Date: 3/6/2015 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	3/6/2015 12:52:37 PM	R24685
Toluene	ND	1.0		µg/L	1	3/6/2015 12:52:37 PM	R24685
Ethylbenzene	ND	1.0		µg/L	1	3/6/2015 12:52:37 PM	R24685
Xylenes, Total	ND	2.0		µg/L	1	3/6/2015 12:52:37 PM	R24685
Surr: 4-Bromofluorobenzene	114	80-120		%REC	1	3/6/2015 12:52:37 PM	R24685

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

Qualifiers:

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

Analytical Report
Lab Order **1503246**
Date Reported: **3/9/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM #1E
Lab ID: 1503246-003
Matrix: AQUEOUS
Client Sample ID: MW #5
Collection Date: 3/5/2015 10:45:00 AM
Received Date: 3/6/2015 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	3/6/2015 1:21:51 PM	R24685
Toluene	ND	1.0		µg/L	1	3/6/2015 1:21:51 PM	R24685
Ethylbenzene	ND	1.0		µg/L	1	3/6/2015 1:21:51 PM	R24685
Xylenes, Total	ND	2.0		µg/L	1	3/6/2015 1:21:51 PM	R24685
Surr: 4-Bromofluorobenzene	107	80-120		%REC	1	3/6/2015 1:21:51 PM	R24685

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1503246**

09-Mar-15

Client: Blagg Engineering

Project: IRVIN COM #1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R24685**	RunNo: **24685**
Prep Date:	Analysis Date: **3/6/2015**	SeqNo: **727402** 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	22		20.00		108	80	120			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R24685**	RunNo: **24685**
Prep Date:	Analysis Date: **3/6/2015**	SeqNo: **727403** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	108	80	120			
Toluene	21	1.0	20.00	0	106	80	120			
Ethylbenzene	21	1.0	20.00	0	105	80	120			
Xylenes, Total	63	2.0	60.00	0	105	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		117	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
- 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 Not In Range
- 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 Number: 1503246 RcptNo: 1

Received by/date: AT 03/06/15

Logged By: Anne Thorne 3/6/2015 7:30:00 AM Anne Thorne

Completed By: Anne Thorne 3/6/2015 Anne Thorne

Reviewed By: 03/06/15

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved 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 with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

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

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: IRVIN COM # 1E

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1503246	BTEX ~~+ MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
3/5/15	0945	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-001	√													√		
3/5/15	1145	WATER	MW # 4	40 ml VOA - 2	HCl & Cool	-002	√													√		
3/5/15	1045	WATER	MW # 5	40 ml VOA - 2	HCl & Cool	-003	√													√		

Date: 3/5/15 Time: 1619 Relinquished by: [signature]
Received by: [signature] Date: 3/5/15 Time: 1619

Date: 3/5/15 Time: 1731 Relinquished by: Christie Walls
Received by: [signature] Date: 03/06/15 Time: 0730

Remarks:

BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401

Paykey: ZEVH01REME

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

April 01, 2015

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-1183
FAX (505) 632-3903

RE: Irvin Com #1E OrderNo.: 1503D63

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/31/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1503D63**
Date Reported: **4/1/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com #1E
Lab ID: 1503D63-001

Client Sample ID: MW#6
Collection Date: 3/30/2015 2:05:00 PM
Matrix: AQUEOUS
Received Date: 3/31/2015 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	3/31/2015 3:20:38 PM	R25204
Toluene	1.6	1.0		µg/L	1	3/31/2015 3:20:38 PM	R25204
Ethylbenzene	8.7	1.0		µg/L	1	3/31/2015 3:20:38 PM	R25204
Xylenes, Total	280	2.0		µg/L	1	3/31/2015 3:20:38 PM	R25204
Surr: 4-Bromofluorobenzene	153	80-120	S	%REC	1	3/31/2015 3:20:38 PM	R25204

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1503D63**

01-Apr-15

Client: Blagg Engineering

Project: Irvin Com #1E

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R25204**	RunNo: **25204**
Prep Date:	Analysis Date: **3/31/2015**	SeqNo: **744926** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	113	80	120			
Toluene	22	1.0	20.00	0	110	80	120			
Ethylbenzene	21	1.0	20.00	0	106	80	120			
Xylenes, Total	64	2.0	60.00	0	106	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		114	80	120			

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R25204**	RunNo: **25204**
Prep Date:	Analysis Date: **3/31/2015**	SeqNo: **744944** 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	23		20.00		117	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
- 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 Not In Range
- 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 Number: 1503D63 | RcptNo: 1

Received by/date: AT 03/31/15

Logged By: Celina Sessa 3/31/2015 8:45:00 AM Celina Sessa

Completed By: Celina Sessa 3/31/2015 9:00:39 AM Celina Sessa

Reviewed By: 03/31/15

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved 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 with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks.

18. Cooler Information

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

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: IRVIN COM #1E

Project #:

Project Manager: JEFF BLAGG

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 10°

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1503D63	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N / Nitrite N			Grab sample	5 pt. composite sample
3/30/15	1405	WATER	MW #6	40ml - 2	HCl + COOL	-001	✓													✓	

Date: 3/30/15 Time: 1445 Relinquished by: Received by: Date Time 3/30/15 1445

Date: 3/30/15 Time: 1855 Relinquished by: Received by: Date Time 3/31/15 0845

Remarks:

BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401

Paykey: ZEVH01REME

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

June 01, 2015

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-1183
FAX (505) 632-3903

RE: IRVIN COM #1E OrderNo.: 1505B77

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 4 sample(s) on 5/28/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order: **1505B77**
Date Reported: **6/1/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM #1E
Lab Order: 1505B77

Lab ID: 1505B77-001 **Collection Date:** 5/27/2015 10:45:00 AM
Client Sample ID: MW #3 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	5/28/2015 12:38:33 PM	R26473
Toluene	ND	1.0		µg/L	1	5/28/2015 12:38:33 PM	R26473
Ethylbenzene	ND	1.0		µg/L	1	5/28/2015 12:38:33 PM	R26473
Xylenes, Total	ND	2.0		µg/L	1	5/28/2015 12:38:33 PM	R26473
Surr: 4-Bromofluorobenzene	95.0	80-120		%REC	1	5/28/2015 12:38:33 PM	R26473

Lab ID: 1505B77-002 **Collection Date:** 5/27/2015 12:45:00 PM
Client Sample ID: MW #4 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	2.0	1.0		µg/L	1	5/28/2015 1:03:43 PM	R26473
Toluene	ND	1.0		µg/L	1	5/28/2015 1:03:43 PM	R26473
Ethylbenzene	ND	1.0		µg/L	1	5/28/2015 1:03:43 PM	R26473
Xylenes, Total	ND	2.0		µg/L	1	5/28/2015 1:03:43 PM	R26473
Surr: 4-Bromofluorobenzene	108	80-120		%REC	1	5/28/2015 1:03:43 PM	R26473

Lab ID: 1505B77-003 **Collection Date:** 5/27/2015 11:45:00 AM
Client Sample ID: MW #5 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	5/28/2015 1:28:48 PM	R26473
Toluene	ND	1.0		µg/L	1	5/28/2015 1:28:48 PM	R26473
Ethylbenzene	ND	1.0		µg/L	1	5/28/2015 1:28:48 PM	R26473
Xylenes, Total	ND	2.0		µg/L	1	5/28/2015 1:28:48 PM	R26473
Surr: 4-Bromofluorobenzene	98.0	80-120		%REC	1	5/28/2015 1:28:48 PM	R26473

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

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 Not In Range
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM #1E
Lab Order: 1505B77

Lab ID: 1505B77-004
Collection Date: 5/27/2015 1:45:00 PM
Client Sample ID: MW #6
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	5/28/2015 1:54:19 PM	R26473
Toluene	ND	1.0		µg/L	1	5/28/2015 1:54:19 PM	R26473
Ethylbenzene	2.7	1.0		µg/L	1	5/28/2015 1:54:19 PM	R26473
Xylenes, Total	69	2.0		µg/L	1	5/28/2015 1:54:19 PM	R26473
Surr: 4-Bromofluorobenzene	127	80-120	S	%REC	1	5/28/2015 1:54:19 PM	R26473

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1505B77**

01-Jun-15

Client: Blagg Engineering

Project: IRVIN COM #1E

Sample ID **B9**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R26473**	RunNo: **26473**
Prep Date:	Analysis Date: **5/28/2015**	SeqNo: **786785** 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	20		20.00		99.9	80	120			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R26473**	RunNo: **26473**
Prep Date:	Analysis Date: **5/28/2015**	SeqNo: **786790** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.0	80	120			
Toluene	23	1.0	20.00	0	115	80	120			
Ethylbenzene	22	1.0	20.00	0	111	80	120			
Xylenes, Total	66	2.0	60.00	0	111	80	120			
Surr: 4-Bromofluorobenzene	25		20.00		123	80	120			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 Not In Range
- 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 Number: 1505B77 | RcptNo: 1

Received by/date: AG 05/28/15

Logged By: Ashley Gallegos 5/28/2015 7:00:00 AM AG

Completed By: Ashley Gallegos 5/28/2015 7:31:28 AM AG

Reviewed By: 05/28/15

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved 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 with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
IRVIN COM # 1E

Project #:

Project Manager:
JEFF BLAGG

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 17

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1505BT1	BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample
5/27/15	1045	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-001	√													√	
5/27/15	1245	WATER	MW # 4	40 ml VOA - 2	HCl & Cool	-002	√													√	
5/27/15	1145	WATER	MW # 5	40 ml VOA - 2	HCl & Cool	-003	√													√	
5/27/15	1345	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-004	√													√	

Date:	Time:	Relinquished by:	Received by:	Date	Time
5/27/15	1720			5/27/15	1720
5/27/15	1745			05/28/15	0700

Remarks:

BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401

Paykey: ZEVH01REME

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

September 03, 2015

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-1183
FAX (505) 632-3903

RE: Irvin COM #1E OrderNo.: 1508E34

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/28/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1508E34**
Date Reported: **9/3/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin COM #1E
Lab ID: 1508E34-001
Matrix: AQUEOUS
Client Sample ID: MW # 3
Collection Date: 8/27/2015 10:25:00 AM
Received Date: 8/28/2015 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	9/2/2015 1:15:05 PM	A28626
Toluene	ND	1.0		µg/L	1	9/2/2015 1:15:05 PM	A28626
Ethylbenzene	ND	1.0		µg/L	1	9/2/2015 1:15:05 PM	A28626
Xylenes, Total	ND	1.5		µg/L	1	9/2/2015 1:15:05 PM	A28626
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	9/2/2015 1:15:05 PM	A28626
Surr: 4-Bromofluorobenzene	106	70-130		%REC	1	9/2/2015 1:15:05 PM	A28626
Surr: Dibromofluoromethane	113	70-130		%REC	1	9/2/2015 1:15:05 PM	A28626
Surr: Toluene-d8	97.0	70-130		%REC	1	9/2/2015 1:15:05 PM	A28626

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin COM #1E
Lab ID: 1508E34-002
Matrix: AQUEOUS
Client Sample ID: MW # 4
Collection Date: 8/27/2015 12:30:00 PM
Received Date: 8/28/2015 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	1.6	1.0		µg/L	1	9/2/2015 2:37:52 PM	A28626
Toluene	ND	1.0		µg/L	1	9/2/2015 2:37:52 PM	A28626
Ethylbenzene	ND	1.0		µg/L	1	9/2/2015 2:37:52 PM	A28626
Xylenes, Total	ND	1.5		µg/L	1	9/2/2015 2:37:52 PM	A28626
Surr: 1,2-Dichloroethane-d4	91.4	70-130		%REC	1	9/2/2015 2:37:52 PM	A28626
Surr: 4-Bromofluorobenzene	110	70-130		%REC	1	9/2/2015 2:37:52 PM	A28626
Surr: Dibromofluoromethane	108	70-130		%REC	1	9/2/2015 2:37:52 PM	A28626
Surr: Toluene-d8	94.0	70-130		%REC	1	9/2/2015 2:37:52 PM	A28626

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin COM #1E
Lab ID: 1508E34-003
Matrix: AQUEOUS
Client Sample ID: MW # 5
Collection Date: 8/27/2015 11:20:00 AM
Received Date: 8/28/2015 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	9/2/2015 3:05:29 PM	A28626
Toluene	ND	1.0		µg/L	1	9/2/2015 3:05:29 PM	A28626
Ethylbenzene	ND	1.0		µg/L	1	9/2/2015 3:05:29 PM	A28626
Xylenes, Total	ND	1.5		µg/L	1	9/2/2015 3:05:29 PM	A28626
Surr: 1,2-Dichloroethane-d4	94.6	70-130		%REC	1	9/2/2015 3:05:29 PM	A28626
Surr: 4-Bromofluorobenzene	103	70-130		%REC	1	9/2/2015 3:05:29 PM	A28626
Surr: Dibromofluoromethane	111	70-130		%REC	1	9/2/2015 3:05:29 PM	A28626
Surr: Toluene-d8	97.6	70-130		%REC	1	9/2/2015 3:05:29 PM	A28626

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin COM #1E
Lab ID: 1508E34-004 **Matrix:** AQUEOUS

Client Sample ID: MW # 6
Collection Date: 8/27/2015 1:20:00 PM
Received Date: 8/28/2015 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	9/2/2015 3:33:05 PM	A28626
Toluene	ND	1.0		µg/L	1	9/2/2015 3:33:05 PM	A28626
Ethylbenzene	ND	1.0		µg/L	1	9/2/2015 3:33:05 PM	A28626
Xylenes, Total	45	1.5		µg/L	1	9/2/2015 3:33:05 PM	A28626
Surr: 1,2-Dichloroethane-d4	95.6	70-130		%REC	1	9/2/2015 3:33:05 PM	A28626
Surr: 4-Bromofluorobenzene	102	70-130		%REC	1	9/2/2015 3:33:05 PM	A28626
Surr: Dibromofluoromethane	111	70-130		%REC	1	9/2/2015 3:33:05 PM	A28626
Surr: Toluene-d8	98.6	70-130		%REC	1	9/2/2015 3:33:05 PM	A28626

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1508E34**

03-Sep-15

Client: Blagg Engineering

Project: Irvin COM #1E

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **A28626**	RunNo: **28626**
Prep Date:	Analysis Date: **9/2/2015**	SeqNo: **866329** 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-d4	9.6		10.00		95.7	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **A28626**	RunNo: **28626**
Prep Date:	Analysis Date: **9/2/2015**	SeqNo: **866330** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.9	70	130			
Toluene	19	1.0	20.00	0	97.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.1	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	9.7		10.00		97.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

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 Number: **1508E34** RcptNo: **1**

Received by/date: 08/28/15

Logged By: **Lindsay Mangin** **8/28/2015 8:25:00 AM**

Completed By: **Lindsay Mangin** **8/31/2015 6:19:08 AM**

Reviewed By: 08/31/15

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved 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 with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
IRVIN COM # 1E

Project #:

Project Manager:
JEFF BLAGG

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.3+0.2=2.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1508E34	Analysis Request: BTEX + ~~MTBE + TMBs~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample
8/27/15	1025	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	-001	√													√	
8/27/15	1230	WATER	MW # 4	40 ml VOA - 2	HCl & Cool	-002	√													√	
8/27/15	1120	WATER	MW # 5	40 ml VOA - 2	HCl & Cool	-003	√													√	
8/27/15	1320	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-004	√													√	

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/27/15	1600			8/27/15	1400
8/27/15	1910			08/28/15	0825

Remarks:

BILL DIRECTLY TO BP:
Jeff Peace, 200 Energy Court, Farmington, NM 87401

Paykey: ZEVH01REME

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

December 11, 2015

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-1183
FAX (505) 632-3903

RE: Irvin Com #1E OrderNo.: 1512205

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/4/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1512205**
Date Reported: **12/11/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com #1E
Lab ID: 1512205-001
Matrix: AQUEOUS
Client Sample ID: MW #4
Collection Date: 12/3/2015 2:00:00 PM
Received Date: 12/4/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/10/2015 2:30:32 AM	B30727
Toluene	ND	1.0		µg/L	1	12/10/2015 2:30:32 AM	B30727
Ethylbenzene	ND	1.0		µg/L	1	12/10/2015 2:30:32 AM	B30727
Xylenes, Total	ND	2.0		µg/L	1	12/10/2015 2:30:32 AM	B30727
Surr: 4-Bromofluorobenzene	124	65-127		%REC	1	12/10/2015 2:30:32 AM	B30727

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com #1E
Lab ID: 1512205-002 **Matrix:** AQUEOUS

Client Sample ID: MW #6
Collection Date: 12/3/2015 3:00:00 PM
Received Date: 12/4/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	2.5	1.0		µg/L	1	12/10/2015 2:55:02 AM	B30727
Toluene	70	1.0		µg/L	1	12/10/2015 2:55:02 AM	B30727
Ethylbenzene	110	50		µg/L	50	12/10/2015 10:34:50 AM	C30766
Xylenes, Total	3900	100		µg/L	50	12/10/2015 10:34:50 AM	C30766
Surr: 4-Bromofluorobenzene	213	65-127	S	%REC	1	12/10/2015 2:55:02 AM	B30727

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1512205**

11-Dec-15

Client: Blagg Engineering
Project: Irvin Com #1E

Sample ID **5ML RB** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW** Batch ID: **B30727** RunNo: **30727**
Prep Date: Analysis Date: **12/9/2015** SeqNo: **938935** 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	23		20.00		117	65	127			

Sample ID **100NG BTEX LCS** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW** Batch ID: **B30727** RunNo: **30727**
Prep Date: Analysis Date: **12/9/2015** SeqNo: **938936** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	80	120			
Toluene	19	1.0	20.00	0	95.9	80	120			
Ethylbenzene	20	1.0	20.00	0	101	80	120			
Xylenes, Total	59	2.0	60.00	0	97.9	80	120			
Surr: 4-Bromofluorobenzene	28		20.00		141	65	127			S

Sample ID **5ML RB** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW** Batch ID: **C30766** RunNo: **30766**
Prep Date: Analysis Date: **12/10/2015** SeqNo: **939775** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	25		20.00		125	65	127			

Sample ID **100NG BTEX LCS** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW** Batch ID: **C30766** RunNo: **30766**
Prep Date: Analysis Date: **12/10/2015** SeqNo: **939776** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	19	1.0	20.00	0	95.4	80	120			
Xylenes, Total	55	2.0	60.00	0	92.4	80	120			
Surr: 4-Bromofluorobenzene	26		20.00		132	65	127			S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

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 Number: **1512205** RcptNo: **1**

Received by/date: 12/04/15

Logged By: **Joe Archuleta** **12/4/2015 8:00:00 AM**

Completed By: **Joe Archuleta** **12/4/2015 11:09:58 AM**

Reviewed By: 12/04/15

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved 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 with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

hain-of-Custody Record

BLAGG ENGR. / BP AMERICA

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

Fax#:

ackage:
dard ☐ Level 4 (Full Validation)

ation:
P ☐ Other
Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
IRVIN COM # 1E

Project #:

Project Manager:
JEFF BLAGG

Sampler: NELSON VELEZ NV
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1512205	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
1400	WATER	MW # 4	40 ml VOA - 2	HCl & Cool	-001	✓													✓		
1500	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-002	✓													✓		

Time:	Relinquished by:	Received by:	Date	Time
1732				1732
Time:	Relinquished by:	Received by:	Date	Time
1741			12/04/15	0800

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: S. Moskal

VID: **VHIXONEVRM**

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

January 25, 2016

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-1183
FAX

RE: Irvin Com #1E OrderNo.: 1601778

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/21/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1601778**
Date Reported: **1/25/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com #1E
Lab ID: 1601778-001
Matrix: AQUEOUS
Client Sample ID: MW #6
Collection Date: 1/20/2016 3:40:00 PM
Received Date: 1/21/2016 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	2.0		µg/L	2	1/22/2016 4:45:22 PM	A31631
Toluene	ND	2.0		µg/L	2	1/22/2016 4:45:22 PM	A31631
Ethylbenzene	14	2.0		µg/L	2	1/22/2016 4:45:22 PM	A31631
Xylenes, Total	450	100		µg/L	50	1/22/2016 3:31:28 PM	A31631
Surr: 4-Bromofluorobenzene	150	65-127	S	%REC	2	1/22/2016 4:45:22 PM	A31631

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1601778**

25-Jan-16

Client: Blagg Engineering

Project: Irvin Com #1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **A31631**	RunNo: **31631**
Prep Date:	Analysis Date: **1/22/2016**	SeqNo: **967908** 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	20		20.00		100	65	127			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **A31631**	RunNo: **31631**
Prep Date:	Analysis Date: **1/22/2016**	SeqNo: **967909** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.3	80	120			
Toluene	20	1.0	20.00	0	101	80	120			
Ethylbenzene	19	1.0	20.00	0	96.0	80	120			
Xylenes, Total	60	2.0	60.00	0	100	80	120			
Surr: 4-Bromofluorobenzene	24		20.00		120	65	127			

Sample ID **1601778-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW #6**	Batch ID: **A31631**	RunNo: **31631**
Prep Date:	Analysis Date: **1/22/2016**	SeqNo: **967922** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1000	50	1000	0	103	50.9	146			
Toluene	1100	50	1000	0	108	71.7	136			
Ethylbenzene	1000	50	1000	16.00	103	74.2	132			
Xylenes, Total	3700	100	3000	452.3	109	75.7	130			
Surr: 4-Bromofluorobenzene	1200		1000		117	65	127			

Sample ID **1601778-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW #6**	Batch ID: **A31631**	RunNo: **31631**
Prep Date:	Analysis Date: **1/22/2016**	SeqNo: **967923** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1000	50	1000	0	102	50.9	146	1.56	20	
Toluene	1100	50	1000	0	108	71.7	136	0.390	20	
Ethylbenzene	1000	50	1000	16.00	102	74.2	132	0.615	20	
Xylenes, Total	3700	100	3000	452.3	108	75.7	130	1.39	20	
Surr: 4-Bromofluorobenzene	1200		1000		119	65	127	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method Blank
- D Sample Diluted Due to Matrix
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- P Sample pH Not In Range
- R RPD outside accepted recovery limits
- RL Reporting Detection Limit
- S % Recovery outside of range due to dilution or matrix

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 Number: 1601778 | RcptNo: 1

Received by/date: JA 01/21/16

Logged By: Michelle Garcia 1/21/2016 8:15:00 AM Michelle Garcia

Completed By: Michelle Garcia 1/21/2016 9:31:15 AM Michelle Garcia

Reviewed By: 01/21/16

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 ☐	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 bottles checked for pH:	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	(<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 with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

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

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

Email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
IRVIN COM # 1E

Project #:

Project Manager:
JEFF BLAGG

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
1/20/16	1540	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	1601778-001

Analysis Request

BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
✓													✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
1/20/16	1819			1/20/16	1819
1/20/16	1844			01/21/16	0815

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: S. Moskal

VID: VHIXONEVRM WBS Element: L1-00136-E:IRVINCOM1E

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.

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

March 14, 2016

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Irvin Com #1E OrderNo.: 1603536

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 2 sample(s) on 3/10/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1603536**
Date Reported: **3/14/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com #1E
Lab ID: 1603536-001

Client Sample ID: MW # 4
Collection Date: 3/9/2016 10:40:00 AM
Matrix: AQUEOUS
Received Date: 3/10/2016 7:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	3/10/2016 6:13:55 PM	D32696
Toluene	ND	1.0		µg/L	1	3/10/2016 6:13:55 PM	D32696
Ethylbenzene	ND	1.0		µg/L	1	3/10/2016 6:13:55 PM	D32696
Xylenes, Total	ND	2.0		µg/L	1	3/10/2016 6:13:55 PM	D32696
Surr: 4-Bromofluorobenzene	114	65-127		%Rec	1	3/10/2016 6:13:55 PM	D32696

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com #1E
Lab ID: 1603536-002
Matrix: AQUEOUS
Client Sample ID: MW # 6
Collection Date: 3/9/2016 11:40:00 AM
Received Date: 3/10/2016 7:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	3/10/2016 6:38:14 PM	D32696
Toluene	ND	1.0		µg/L	1	3/10/2016 6:38:14 PM	D32696
Ethylbenzene	2.2	1.0		µg/L	1	3/10/2016 6:38:14 PM	D32696
Xylenes, Total	83	2.0		µg/L	1	3/10/2016 6:38:14 PM	D32696
Surr: 4-Bromofluorobenzene	130	65-127	S	%Rec	1	3/10/2016 6:38:14 PM	D32696

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1603536**

14-Mar-16

Client: Blagg Engineering

Project: Irvin Com #1E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **D32696**	RunNo: **32696**
Prep Date:	Analysis Date: **3/10/2016**	SeqNo: **1001389** 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	22		20.00		110	65	127			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **D32696**	RunNo: **32696**
Prep Date:	Analysis Date: **3/10/2016**	SeqNo: **1001390** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	89.6	80	120			
Toluene	19	1.0	20.00	0	94.1	80	120			
Ethylbenzene	19	1.0	20.00	0	92.8	80	120			
Xylenes, Total	56	2.0	60.00	0	92.7	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		112	65	127			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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 Number: 1603536 | RcptNo: 1

Received by/date: 03/10/16

Logged By: **Lindsay Mangin** 3/10/2016 7:25:00 AM

Completed By: **Lindsay Mangin** 3/10/2016 9:13:49 AM

Reviewed By: 03/10/16

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
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 ☐	

# of preserved bottles checked for pH: _____ _____ (<2 or >12 unless noted)

Adjusted? _____ _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
IRVIN COM # 1E

Project #:

Project Manager:
JEFF BLAGG

Sampler: NELSON VELEZ NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1603536	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (soil - 300.0 / water - 300.1)		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
3/9/16	1040	WATER	MW # 4	40 ml VOA - 2	HCl & Cool	-001	√													√		
3/9/16	1140	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-002	√													√		

Date	Time	Relinquished by:	Received by:	Date	Time
3/9/16	1427			3/9/16	1427
3/9/16	1814			03/10/16	0725

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: John Ritchie

VID: VRITCJWFEC

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

June 29, 2016

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Irvin Com 1E OrderNo.: 1606C20

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/22/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1606C20**
Date Reported: **6/29/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com 1E
Lab ID: 1606C20-001
Matrix: AQUEOUS
Client Sample ID: MW #4
Collection Date: 6/21/2016 7:15:00 AM
Received Date: 6/22/2016 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	6/26/2016 9:42:22 PM	C35190
Toluene	ND	1.0		µg/L	1	6/26/2016 9:42:22 PM	C35190
Ethylbenzene	ND	1.0		µg/L	1	6/26/2016 9:42:22 PM	C35190
Xylenes, Total	ND	1.5		µg/L	1	6/26/2016 9:42:22 PM	C35190
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	6/26/2016 9:42:22 PM	C35190
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	6/26/2016 9:42:22 PM	C35190
Surr: Dibromofluoromethane	100	70-130		%Rec	1	6/26/2016 9:42:22 PM	C35190
Surr: Toluene-d8	91.9	70-130		%Rec	1	6/26/2016 9:42:22 PM	C35190

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com 1E
Lab ID: 1606C20-002
Matrix: AQUEOUS
Client Sample ID: MW #6
Collection Date: 6/21/2016 8:20:00 AM
Received Date: 6/22/2016 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	6/26/2016 10:10:46 PM	C35190
Toluene	4.3	1.0		µg/L	1	6/26/2016 10:10:46 PM	C35190
Ethylbenzene	15	1.0		µg/L	1	6/26/2016 10:10:46 PM	C35190
Xylenes, Total	920	15		µg/L	10	6/27/2016 3:06:57 PM	B35244
Surr: 1,2-Dichloroethane-d4	92.7	70-130		%Rec	1	6/26/2016 10:10:46 PM	C35190
Surr: 4-Bromofluorobenzene	131	70-130	S	%Rec	1	6/26/2016 10:10:46 PM	C35190
Surr: Dibromofluoromethane	89.7	70-130		%Rec	1	6/26/2016 10:10:46 PM	C35190
Surr: Toluene-d8	98.6	70-130		%Rec	1	6/26/2016 10:10:46 PM	C35190

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606C20**

29-Jun-16

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **C35190**	RunNo: **35190**
Prep Date:	Analysis Date: **6/26/2016**	SeqNo: **1088895** 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-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.6	70	130			
Surr: Toluene-d8	9.1		10.00		91.4	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **C35190**	RunNo: **35190**
Prep Date:	Analysis Date: **6/26/2016**	SeqNo: **1089164** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	114	70	130			
Toluene	20	1.0	20.00	0	99.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.6	70	130			
Surr: Toluene-d8	9.3		10.00		93.3	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **B35244**	RunNo: **35244**
Prep Date:	Analysis Date: **6/27/2016**	SeqNo: **1089959** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.8	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.7	70	130			
Surr: Toluene-d8	9.4		10.00		93.9	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **B35244**	RunNo: **35244**
Prep Date:	Analysis Date: **6/27/2016**	SeqNo: **1089960** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.7	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.5	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1606C20**

29-Jun-16

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **B35244**	RunNo: **35244**
Prep Date:	Analysis Date: **6/27/2016**	SeqNo: **1089960** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Toluene-d8	9.1		10.00		90.9	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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 Number: 1606C20 RcptNo: 1

Received by/date: JA 06/22/16

Logged By: Ashley Gallegos 6/22/2016 8:10:00 AM AG

Completed By: Ashley Gallegos 6/22/2016 12:22:44 PM AG

Reviewed By: JO 06/22/16

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
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 ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.3	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: IRVIN COM # 1E

Project #:

Project Manager: JEFF BLAGG

Sampler: NELSON VELEZ NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.3

HALL ENVIRON ENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1604620	BTEX + ~~MTBE~~ + TMB's (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations Balance		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
6/8/16	0715	WATER	MW # 4	40 ml VOA - 2	HCl & Cool	-001	✓													✓		
6/8/16	0820	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-002	✓													✓		

Date: 6/21/16 Time: 2010 Relinquished by: [signature] Received by: Christine Walker Date: 6/21/16 Time: 2010

Date: 6/21/16 Time: 2040 Relinquished by: Christine Walker Received by: [signature] Date: 06/22/16 Time: 0810

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: John Ritchie

VID: VDRINKJWA1

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

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

September 02, 2016

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Irvin Com #1E OrderNo.: 1608H58

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 2 sample(s) on 8/31/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1608H58**
Date Reported: **9/2/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com #1E
Lab ID: 1608H58-001
Matrix: AQUEOUS
Client Sample ID: MW#4
Collection Date: 8/30/2016 11:00:00 AM
Received Date: 8/31/2016 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	9/1/2016 1:31:53 PM	SLW369
Toluene	ND	1.0		µg/L	1	9/1/2016 1:31:53 PM	SLW369
Ethylbenzene	ND	1.0		µg/L	1	9/1/2016 1:31:53 PM	SLW369
Xylenes, Total	ND	1.5		µg/L	1	9/1/2016 1:31:53 PM	SLW369
Surr: 1,2-Dichloroethane-d4	99.5	70-130		%Rec	1	9/1/2016 1:31:53 PM	SLW369
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	9/1/2016 1:31:53 PM	SLW369
Surr: Dibromofluoromethane	99.9	70-130		%Rec	1	9/1/2016 1:31:53 PM	SLW369
Surr: Toluene-d8	99.0	70-130		%Rec	1	9/1/2016 1:31:53 PM	SLW369

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com #1E
Lab ID: 1608H58-002

Client Sample ID: MW#6
Collection Date: 8/30/2016 12:00:00 PM
Matrix: AQUEOUS
Received Date: 8/31/2016 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	9/1/2016 12:34:17 PM	SLW369
Toluene	ND	1.0		µg/L	1	9/1/2016 12:34:17 PM	SLW369
Ethylbenzene	4.6	1.0		µg/L	1	9/1/2016 12:34:17 PM	SLW369
Xylenes, Total	570	15		µg/L	10	9/1/2016 3:56:05 PM	SLW369
Surr: 1,2-Dichloroethane-d4	93.2	70-130		%Rec	1	9/1/2016 12:34:17 PM	SLW369
Surr: 4-Bromofluorobenzene	125	70-130		%Rec	1	9/1/2016 12:34:17 PM	SLW369
Surr: Dibromofluoromethane	89.3	70-130		%Rec	1	9/1/2016 12:34:17 PM	SLW369
Surr: Toluene-d8	98.2	70-130		%Rec	1	9/1/2016 12:34:17 PM	SLW369

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1608H58**

02-Sep-16

Client: Blagg Engineering

Project: Irvin Com #1E

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SLW36947**	RunNo: **36947**
Prep Date:	Analysis Date: **9/1/2016**	SeqNo: **1144999** 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-d4	10		10.00		99.7	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		93.7	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **SLW36947**	RunNo: **36947**
Prep Date:	Analysis Date: **9/1/2016**	SeqNo: **1145000** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.6	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.8	70	130			
Surr: 4-Bromofluorobenzene	9.4		10.00		94.1	70	130			
Surr: Dibromofluoromethane	10		10.00		99.5	70	130			
Surr: Toluene-d8	9.9		10.00		99.1	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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 Number: 1608H58 | RcptNo: 1

Received by/date: AT 08/31/16

Logged By: Anne Thorne 8/31/2016 7:20:00 AM Anne Thorne

Completed By: Anne Thorne 8/31/2016 Anne Thorne

Reviewed By: 08/31/16

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
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 ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			

Chain-of-Custody Record

Client: **BLAGG ENGR. / BP AMERICA**

Mailing Address: **P.O. BOX 87**
BLOOMFIELD, NM 87413

Phone #: **(505) 632-1199**

Email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
IRVIN COM # 1E

Project #:

Project Manager:
JEFF BLAGG

Sampler: **NELSON VELEZ** NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.1°

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations Balance		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
30 per JBlagg						1608458																
8/29/16	1100	WATER	MW # 4	40 ml VOA - 2	HCl & Cool	-001	✓													✓		
30																						
8/29/16	1200	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-002	✓													✓		

Date	Time	Relinquished by:	Received by:	Date	Time
8/30/16	1710			8/30/16	1710
8/30/16	2020			08/31/16	0728

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: John Ritchie

VID: VDRINKJWA1

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.

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

December 27, 2016

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: IRVIN COM #1E OrderNo.: 1612A49

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/20/2016 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1612A49**
Date Reported: **12/27/2016**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM #1E
Lab ID: 1612A49-001
Matrix: AQUEOUS
Client Sample ID: MW #4
Collection Date: 12/19/2016 10:40:00 AM
Received Date: 12/20/2016 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	1.8	1.0		µg/L	1	12/21/2016 9:44:00 PM	SLW395
Toluene	ND	1.0		µg/L	1	12/21/2016 9:44:00 PM	SLW395
Ethylbenzene	ND	1.0		µg/L	1	12/21/2016 9:44:00 PM	SLW395
Xylenes, Total	ND	1.5		µg/L	1	12/21/2016 9:44:00 PM	SLW395
Surr: 1,2-Dichloroethane-d4	95.2	70-130		%Rec	1	12/21/2016 9:44:00 PM	SLW395
Surr: 4-Bromofluorobenzene	99.8	70-130		%Rec	1	12/21/2016 9:44:00 PM	SLW395
Surr: Dibromofluoromethane	93.6	70-130		%Rec	1	12/21/2016 9:44:00 PM	SLW395
Surr: Toluene-d8	99.2	70-130		%Rec	1	12/21/2016 9:44:00 PM	SLW395

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM #1E
Lab ID: 1612A49-002
Matrix: AQUEOUS
Client Sample ID: MW #6
Collection Date: 12/19/2016 11:40:00 AM
Received Date: 12/20/2016 8:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	2.0		µg/L	2	12/22/2016 12:40:00 PM	SLW395
Toluene	ND	2.0		µg/L	2	12/22/2016 12:40:00 PM	SLW395
Ethylbenzene	ND	2.0		µg/L	2	12/22/2016 12:40:00 PM	SLW395
Xylenes, Total	9.5	3.0		µg/L	2	12/22/2016 12:40:00 PM	SLW395
Surr: 1,2-Dichloroethane-d4	95.9	70-130		%Rec	2	12/22/2016 12:40:00 PM	SLW395
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	2	12/22/2016 12:40:00 PM	SLW395
Surr: Dibromofluoromethane	94.7	70-130		%Rec	2	12/22/2016 12:40:00 PM	SLW395
Surr: Toluene-d8	99.5	70-130		%Rec	2	12/22/2016 12:40:00 PM	SLW395

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1612A49**

27-Dec-16

Client: Blagg Engineering

Project: IRVIN COM #1E

Sample ID **100ng LCS** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **LCSW** Batch ID: **SLW39559** RunNo: **39559**

Prep Date: Analysis Date: **12/21/2016** SeqNo: **1239951** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	92.5	70	130			
Toluene	19	1.0	20.00	0	94.3	70	130			
Surr: 1,2-Dichloroethane-d4	9.7		10.00		97.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.6	70	130			
Surr: Toluene-d8	9.9		10.00		99.5	70	130			

Sample ID **rb** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **PBW** Batch ID: **SLW39559** RunNo: **39559**

Prep Date: Analysis Date: **12/21/2016** SeqNo: **1239952** 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-d4	9.8		10.00		98.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	9.6		10.00		95.7	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Sample ID **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **LCSW** Batch ID: **SLW39586** RunNo: **39586**

Prep Date: Analysis Date: **12/22/2016** SeqNo: **1240940** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.8	70	130			
Toluene	20	1.0	20.00	0	99.0	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.5	70	130			
Surr: Toluene-d8	10		10.00		99.6	70	130			

Sample ID **rb** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **PBW** Batch ID: **SLW39586** RunNo: **39586**

Prep Date: Analysis Date: **12/22/2016** SeqNo: **1240943** 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								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1612A49**

27-Dec-16

Client: Blagg Engineering

Project: IRVIN COM #1E

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **SLW39586**	RunNo: **39586**
Prep Date:	Analysis Date: **12/22/2016**	SeqNo: **1240943** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.2	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.5	70	130			
Surr: Toluene-d8	10		10.00		100	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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 Number: 1612A49 | RcptNo: 1

Received by/date: AG

Logged By: Lindsey Concha 12/20/2016 8:10:00 AM

Completed By: Lindsey Concha 12/20/16

Reviewed By: 12/20/16

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
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 ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

Chain-of-Custody Record

Client:	BLAGG ENGR. / BP AMERICA
Mailing Address:	P.O. BOX 87
	BLOOMFIELD, NM 87413
Phone #:	(505) 632-1199
email or Fax#:	
QA/QC Package:	☑ Standard ☐ Level 4 (Full Validation)
Accreditation:	☐ NELAP ☐ Other _____
☐ EDD (Type)	_____

Turn-Around Time: ☑ Standard ☐ Rush _____

Project Name: **IRVIN COM # 1E**

Project #:

Project Manager: **JEFF BLAGG**

Sampler: **NELSON VELEZ** NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 1°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1612A49	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations Balance		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
12/19/16	1040	WATER	MW # 4	40 ml VOA - 2	HCl & Cool	-001	✓													✓		
12/19/16	1140	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-002	✓													✓		

Date	Time	Relinquished by:	Received by:	Date	Time
12/19/16	1740			12/19/16	1740
12/19/16	1931			12/20/16	0810

Remarks:

BILL DIRECTLY TO BP:

200 Energy Court, Farmington, NM 87401 Attn.: John Ritchie

VID: VDRINKWJA1

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.

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

March 17, 2017

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Irvin Com 1E OrderNo.: 1703816

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/15/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1703816**
Date Reported: **3/17/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com 1E
Lab ID: 1703816-001
Matrix: AQUEOUS
Client Sample ID: MW #6
Collection Date: 3/14/2017 11:30:00 AM
Received Date: 3/15/2017 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	3/16/2017 5:16:28 PM	R41422
Toluene	ND	1.0		µg/L	1	3/16/2017 5:16:28 PM	R41422
Ethylbenzene	3.2	1.0		µg/L	1	3/16/2017 5:16:28 PM	R41422
Xylenes, Total	220	2.0		µg/L	1	3/16/2017 5:16:28 PM	R41422
Surr: 4-Bromofluorobenzene	96.6	80-120		%Rec	1	3/16/2017 5:16:28 PM	R41422

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1703816**

17-Mar-17

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R41422**	RunNo: **41422**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299249** 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	22		20.00		109	80	120			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R41422**	RunNo: **41422**
Prep Date:	Analysis Date: **3/16/2017**	SeqNo: **1299250** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.9	71.7	126			
Toluene	20	1.0	20.00	0	99.1	73.3	119			
Ethylbenzene	20	1.0	20.00	0	102	80	120			
Xylenes, Total	63	2.0	60.00	0	106	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		111	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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 Number: 1703816 | RcptNo: 1

Received by/date: AT 03/15/17

Logged By: **Ashley Gallegos** 3/15/2017 7:20:00 AM

Completed By: **Ashley Gallegos** 3/15/2017 3:11:42 PM

Reviewed By: aJ 03/15/17

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	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 bottles checked for pH: (<2 or >12 unless noted)
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	
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 with this order? Yes No NA ✔

Person Notified: Date

By Whom: Via: eMail Phone Fax In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

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

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: IRVIN COM # 1E

Project #:

Project Manager: JEFF BLAGG

Sampler: NELSON VELEZ NV

On Ice: ☒ Yes ☐ No

Sample Temperature: .0

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1703816	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations Balance		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
3/14/17	1130	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	√													√		

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/14/17	1610			3/14/17	1610
3/14/17	1911			03/15/17	0720

Remarks:
BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: John Ritchie
VID: VDRINKWJA1

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.

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

July 11, 2017

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Irvin Com 1E OrderNo.: 1707048

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 1 sample(s) on 7/1/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1707048**
Date Reported: **7/11/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com 1E
Lab ID: 1707048-001
Matrix: AQUEOUS
Client Sample ID: MW #6
Collection Date: 6/30/2017 11:30:00 AM
Received Date: 7/1/2017 10:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0	P	µg/L	1	7/10/2017 2:56:26 PM	B44109
Toluene	ND	1.0	P	µg/L	1	7/10/2017 2:56:26 PM	B44109
Ethylbenzene	ND	1.0	P	µg/L	1	7/10/2017 2:56:26 PM	B44109
Xylenes, Total	12	1.5	P	µg/L	1	7/10/2017 2:56:26 PM	B44109
Surr: 1,2-Dichloroethane-d4	110	70-130	P	%Rec	1	7/10/2017 2:56:26 PM	B44109
Surr: 4-Bromofluorobenzene	97.2	70-130	P	%Rec	1	7/10/2017 2:56:26 PM	B44109
Surr: Dibromofluoromethane	108	70-130	P	%Rec	1	7/10/2017 2:56:26 PM	B44109
Surr: Toluene-d8	98.6	70-130	P	%Rec	1	7/10/2017 2:56:26 PM	B44109

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1707048**

11-Jul-17

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **B44109**	RunNo: **44109**
Prep Date:	Analysis Date: **7/10/2017**	SeqNo: **1391811** 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-d4	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		95.0	70	130			
Surr: Dibromofluoromethane	10		10.00		101	70	130			
Surr: Toluene-d8	11		10.00		105	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **B44109**	RunNo: **44109**
Prep Date:	Analysis Date: **7/10/2017**	SeqNo: **1391812** 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	70	130			
Toluene	21	1.0	20.00	0	106	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.5	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.6	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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 Number: 1707048 | RcptNo: 1

Received By: Andy Freeman 7/1/2017 10:30:00 AM

Completed By: Ashley Gallegos 7/3/2017 11:54:51 AM

Reviewed By: ENM 7/3/17

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved 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 with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.8	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
IRVIN COM # 1E

Project #:

Project Manager:
JEFF BLAGG

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.8°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1707048	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations Balance		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
6/30/17	1130	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	√													√		

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
6/30/17	1710			6/30/17	1710
Date:	Time:	Relinquished by:	Received by:	Date	Time
6/30/17	1815			7/1/17	10:30

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: Steve Moskal

VID: VRITCJWFEC WBS ELEMENT: L1-0018L-E:IRVINCOM1E

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.

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

September 14, 2017

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: IRVIN COM 1E OrderNo.: 1709439

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/8/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1709439**
Date Reported: **9/14/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM 1E
Lab ID: 1709439-001
Matrix: AQUEOUS
Client Sample ID: MW #6
Collection Date: 9/7/2017 1:50:00 PM
Received Date: 9/8/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	9/14/2017 12:36:35 AM	B45593
Toluene	ND	1.0		µg/L	1	9/14/2017 12:36:35 AM	B45593
Ethylbenzene	ND	1.0		µg/L	1	9/14/2017 12:36:35 AM	B45593
Xylenes, Total	ND	2.0		µg/L	1	9/14/2017 12:36:35 AM	B45593
Surr: 4-Bromofluorobenzene	106	72.5-140		%Rec	1	9/14/2017 12:36:35 AM	B45593

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1709439**

14-Sep-17

Client: Blagg Engineering
Project: IRVIN COM 1E

Sample ID **RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **B45593**	RunNo: **45593**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446434** 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	21		20.00		103	72.5	140			

Sample ID **100NG BTEX LCSB**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **B45593**	RunNo: **45593**
Prep Date:	Analysis Date: **9/13/2017**	SeqNo: **1446435** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	71.7	126			
Toluene	20	1.0	20.00	0	99.6	73.3	119			
Ethylbenzene	20	1.0	20.00	0	102	80	120			
Xylenes, Total	64	2.0	60.00	0	106	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		108	72.5	140			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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 Number: 1709439 | RcptNo: 1

Received By: Anne Thorne 9/8/2017 7:00:00 AM

Completed By: Anne Thorne 9/8/2017 2:47:40 PM

Reviewed By: LB 9/11

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved 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 with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: IRVIN COM # 1E

Project #:

Project Manager: JEFF BLAGG

Sampler: NELSON VELEZ NV

On Ice: ☑ Yes ☐ No

Sample Temperature: 2.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 709439	BTEX + ~~MTBE + TMBs~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations Balance		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
9/7/17	1350	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	√													√		

Date	Time	Relinquished by:	Received by:	Date	Time
9/7/17	1647			9/7/17	1647
9/7/17	1810			09/08/17	0500

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: Steve Moskal
VID: VMOS6HQFEC WBS ELEMENT: L1-0018L-E:IRVINCOM1E

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.

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

January 03, 2018

Jeff Blagg

Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: IRVIN COM 1E OrderNo.: 1712F42

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/29/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1712F42**
Date Reported: **1/3/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: IRVIN COM 1E
Lab ID: 1712F42-001
Matrix: AQUEOUS
Client Sample ID: MW #6
Collection Date: 12/28/2017 1:10:00 PM
Received Date: 12/29/2017 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **AG**	
Benzene	ND	1.0		µg/L	1	1/2/2018 2:59:36 PM	R48137
Toluene	ND	1.0		µg/L	1	1/2/2018 2:59:36 PM	R48137
Ethylbenzene	ND	1.0		µg/L	1	1/2/2018 2:59:36 PM	R48137
Xylenes, Total	ND	1.5		µg/L	1	1/2/2018 2:59:36 PM	R48137
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	1/2/2018 2:59:36 PM	R48137
Surr: Toluene-d8	105	70-130		%Rec	1	1/2/2018 2:59:36 PM	R48137

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1712F42**

03-Jan-18

Client: Blagg Engineering

Project: IRVIN COM 1E

Sample ID **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R48137**	RunNo: **48137**
Prep Date:	Analysis Date: **1/2/2018**	SeqNo: **1544158** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	114	70	130			
Toluene	21	1.0	20.00	0	107	70	130			
Surr: 1,2-Dichloroethane-d4	0		10.00		0	70	130			S
Surr: 4-Bromofluorobenzene	9.0		10.00		90.3	70	130			
Surr: Dibromofluoromethane	0		10.00		0	70	130			S
Surr: Toluene-d8	11		10.00		108	70	130			

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R48137**	RunNo: **48137**
Prep Date:	Analysis Date: **1/2/2018**	SeqNo: **1544159** 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-d4	0		10.00		0	70	130			S
Surr: 4-Bromofluorobenzene	10		10.00		99.7	70	130			
Surr: Dibromofluoromethane	0		10.00		0	70	130			S
Surr: Toluene-d8	10		10.00		104	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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 Number: 1712F42 | RcptNo: 1

Received By: Sophia Campuzano 12/29/2017 8:00:00 AM

Completed By: Sophia Campuzano 12/29/2017 9:30:25 AM

Reviewed By: DDS / SRR 12/29/17

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 ☐	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 ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
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 ☐	

# of preserved bottles checked for pH: (<2 or >12 unless noted)

Adjusted?

Checked by:

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
IRVIN COM # 1E

Project #:

Project Manager:
JEFF BLAGG

Sampler: NELSON VELEZ NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1712F42	BTEX ~~+ MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	Total Dissolved Solids	8260B (VOA)	8270 (Semi-VOA)	Anions / Cations Balance		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
12/28/17	1310	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/28/17	1510			12/28/17	1812
Date:	Time:	Relinquished by:	Received by:	Date	Time
				12/29/17	0800

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: Steve Moskal
VID: VMOS6HQFEC WBS ELEMENT: L1-0018L-E:IRVINCOM1E

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.

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

April 12, 2018

Steve Moskal
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Irvin Com 1E OrderNo.: 1803G12

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/30/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com 1E
Lab ID: 1803G12-001

Client Sample ID: MW #6
Collection Date: 3/29/2018 2:15:00 PM
Matrix: AQUEOUS
Received Date: 3/30/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Toluene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Ethylbenzene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,2,4-Trimethylbenzene	1.6	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,3,5-Trimethylbenzene	1.5	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Naphthalene	ND	2.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1-Methylnaphthalene	ND	4.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
2-Methylnaphthalene	ND	4.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Acetone	ND	10		µg/L	1	4/11/2018 11:30:00 AM	R50485
Bromobenzene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Bromodichloromethane	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Bromoform	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Bromomethane	ND	3.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
2-Butanone	ND	10		µg/L	1	4/11/2018 11:30:00 AM	R50485
Carbon disulfide	ND	10		µg/L	1	4/11/2018 11:30:00 AM	R50485
Carbon Tetrachloride	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Chlorobenzene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Chloroethane	ND	2.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Chloroform	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Chloromethane	ND	3.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
2-Chlorotoluene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
4-Chlorotoluene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
cis-1,2-DCE	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Dibromochloromethane	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Dibromomethane	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,1-Dichloroethane	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,1-Dichloroethene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,2-Dichloropropane	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,3-Dichloropropane	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
2,2-Dichloropropane	ND	2.0		µg/L	1	4/11/2018 11:30:00 AM	R50485

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Com 1E
Lab ID: 1803G12-001
Matrix: AQUEOUS
Client Sample ID: MW #6
Collection Date: 3/29/2018 2:15:00 PM
Received Date: 3/30/2018 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,1-Dichloropropene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Hexachlorobutadiene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
2-Hexanone	ND	10		µg/L	1	4/11/2018 11:30:00 AM	R50485
Isopropylbenzene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
4-Isopropyltoluene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
4-Methyl-2-pentanone	ND	10		µg/L	1	4/11/2018 11:30:00 AM	R50485
Methylene Chloride	ND	3.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
n-Butylbenzene	ND	3.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
n-Propylbenzene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
sec-Butylbenzene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Styrene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
tert-Butylbenzene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
trans-1,2-DCE	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Trichlorofluoromethane	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Vinyl chloride	ND	1.0		µg/L	1	4/11/2018 11:30:00 AM	R50485
Xylenes, Total	ND	1.5		µg/L	1	4/11/2018 11:30:00 AM	R50485
Surr: 1,2-Dichloroethane-d4	77.7	70-130		%Rec	1	4/11/2018 11:30:00 AM	R50485
Surr: 4-Bromofluorobenzene	122	70-130		%Rec	1	4/11/2018 11:30:00 AM	R50485
Surr: Dibromofluoromethane	90.9	70-130		%Rec	1	4/11/2018 11:30:00 AM	R50485
Surr: Toluene-d8	103	70-130		%Rec	1	4/11/2018 11:30:00 AM	R50485

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

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1803G12**

12-Apr-18

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R50485**	RunNo: **50485**
Prep Date:	Analysis Date: **4/11/2018**	SeqNo: **1636941** 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								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1803G12**

12-Apr-18

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R50485**	RunNo: **50485**
Prep Date:	Analysis Date: **4/11/2018**	SeqNo: **1636941** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.7	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.9	70	130			
Surr: Dibromofluoromethane	9.5		10.00		95.1	70	130			
Surr: Toluene-d8	8.7		10.00		87.0	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R50485**	RunNo: **50485**
Prep Date:	Analysis Date: **4/11/2018**	SeqNo: **1636977** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	84.1	70	130			
Toluene	19	1.0	20.00	0	95.9	70	130			
Chlorobenzene	19	1.0	20.00	0	97.2	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1803G12**

12-Apr-18

Client: Blagg Engineering

Project: Irvin Com 1E

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R50485**	RunNo: **50485**
Prep Date:	Analysis Date: **4/11/2018**	SeqNo: **1636977** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	19	1.0	20.00	0	95.0	70	130			
Surr: 1,2-Dichloroethane-d4	8.3		10.00		82.8	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.5	70	130			
Surr: Dibromofluoromethane	9.1		10.00		91.3	70	130			
Surr: Toluene-d8	9.8		10.00		97.6	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
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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 Number: 1803G12 RcptNo: 1

Received By: Sophia Campuzano 3/30/2018 8:00:00 AM Sophia Campuzano

Completed By: Erin Melendrez 3/30/2018 8:37:34 AM

Reviewed By: DDS 3/30/18

LB: MW 3/30/18

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: MW 3/30/18 (<2 or >12 unless noted)
Adjusted? _____
Checked by: _____

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.9	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
IRVIN COM # 1E

Project #:

Project Manager:
STEVE MOSKAL

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0 -0.1(CF) = 1.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1803G12
3/29/18	1415	WATER	MW # 6	40 ml VOA - 2	HCl & Cool	-001

Analysis Request

BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Cation / Anion Balance	Total Dissolved Solids	8260B (VOA)	Nitrate N / Nitrite N	API Water (include TDS, pH, conductivity)		Grab sample	5 pt. composite sample
									✓				✓	

Date	Time	Relinquished by:	Received by:	Date	Time
3/29/18	1650			3/29/18	1650
3/29/18	1745			03/30/18	0800

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: Steve Moskal

WBS ELEMENT: L1-001CV-E:IRVINCOM1E

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

July 06, 2018

Steve Moskal
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 632-1199
FAX (505) 632-3903

RE: Irvin Come 1E OrderNo.: 1806B92

Dear Steve Moskal:

Hall Environmental Analysis Laboratory received 2 sample(s) on 6/20/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1806B92**
Date Reported: **7/6/2018**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Come 1E
Lab ID: 1806B92-001 **Matrix:** AQUEOUS

Client Sample ID: MW#7
Collection Date: 6/18/2018 2:15:00 PM
Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Fluoride	0.27	0.10		mg/L	1	7/3/2018 12:20:31 PM	R52476
Chloride	56	10		mg/L	20	6/20/2018 11:48:29 AM	R52126
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	6/20/2018 11:35:37 AM	R52126
Bromide	0.41	0.10		mg/L	1	6/20/2018 11:35:37 AM	R52126
Nitrogen, Nitrate (As N)	2.9	0.10		mg/L	1	6/20/2018 11:35:37 AM	R52126
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	6/20/2018 11:35:37 AM	R52126
Sulfate	580	10		mg/L	20	6/20/2018 11:48:29 AM	R52126
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	1700	5.0		µmhos/c	1	6/21/2018 7:17:18 PM	R52161
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	357.2	20.00		mg/L Ca	1	6/21/2018 7:17:18 PM	R52161
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/21/2018 7:17:18 PM	R52161
Total Alkalinity (as CaCO3)	357.2	20.00		mg/L Ca	1	6/21/2018 7:17:18 PM	R52161
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	1320	100	*D	mg/L	1	6/25/2018 4:16:00 PM	38842
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **JLF**	
Calcium	240	5.0		mg/L	5	6/22/2018 4:25:35 PM	A52172
Magnesium	39	1.0		mg/L	1	6/22/2018 3:54:13 PM	A52172
Potassium	1.8	1.0		mg/L	1	6/22/2018 3:54:13 PM	A52172
Sodium	110	5.0		mg/L	5	6/22/2018 4:25:35 PM	A52172
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Toluene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Ethylbenzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Naphthalene	ND	2.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1-Methylnaphthalene	ND	4.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
2-Methylnaphthalene	ND	4.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Acetone	ND	10		µg/L	1	6/22/2018 11:08:00 AM	B52236
Bromobenzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Bromodichloromethane	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Bromoform	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Bromomethane	ND	3.0		µg/L	1	6/22/2018 11:08:00 AM	B52236

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Come 1E
Lab ID: 1806B92-001 **Matrix:** AQUEOUS

Client Sample ID: MW#7
Collection Date: 6/18/2018 2:15:00 PM
Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
2-Butanone	ND	10		µg/L	1	6/22/2018 11:08:00 AM	B52236
Carbon disulfide	ND	10		µg/L	1	6/22/2018 11:08:00 AM	B52236
Carbon Tetrachloride	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Chlorobenzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Chloroethane	ND	2.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Chloroform	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Chloromethane	ND	3.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
2-Chlorotoluene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
4-Chlorotoluene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
cis-1,2-DCE	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Dibromochloromethane	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Dibromomethane	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,1-Dichloroethane	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,1-Dichloroethene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,2-Dichloropropane	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,3-Dichloropropane	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
2,2-Dichloropropane	ND	2.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,1-Dichloropropene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Hexachlorobutadiene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
2-Hexanone	ND	10		µg/L	1	6/22/2018 11:08:00 AM	B52236
Isopropylbenzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
4-Isopropyltoluene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
4-Methyl-2-pentanone	ND	10		µg/L	1	6/22/2018 11:08:00 AM	B52236
Methylene Chloride	ND	3.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
n-Butylbenzene	ND	3.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
n-Propylbenzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
sec-Butylbenzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Styrene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
tert-Butylbenzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
trans-1,2-DCE	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Come 1E
Lab ID: 1806B92-001 **Matrix:** AQUEOUS

Client Sample ID: MW#7
Collection Date: 6/18/2018 2:15:00 PM
Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Trichlorofluoromethane	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Vinyl chloride	ND	1.0		µg/L	1	6/22/2018 11:08:00 AM	B52236
Xylenes, Total	ND	1.5		µg/L	1	6/22/2018 11:08:00 AM	B52236
Surr: 1,2-Dichloroethane-d4	98.1	70-130		%Rec	1	6/22/2018 11:08:00 AM	B52236
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	6/22/2018 11:08:00 AM	B52236
Surr: Dibromofluoromethane	90.9	70-130		%Rec	1	6/22/2018 11:08:00 AM	B52236
Surr: Toluene-d8	88.1	70-130		%Rec	1	6/22/2018 11:08:00 AM	B52236

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Come 1E
Lab ID: 1806B92-002 **Matrix:** AQUEOUS

Client Sample ID: MW#8
Collection Date: 6/18/2018 3:15:00 PM
Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Fluoride	ND	0.50		mg/L	5	7/3/2018 12:59:05 PM	R52476
Chloride	60	10		mg/L	20	6/20/2018 12:33:07 PM	R52134
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	6/20/2018 12:20:42 PM	R52134
Bromide	0.41	0.10		mg/L	1	6/20/2018 12:20:42 PM	R52134
Nitrogen, Nitrate (As N)	2.1	0.10		mg/L	1	6/20/2018 12:20:42 PM	R52134
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	6/20/2018 12:20:42 PM	R52134
Sulfate	870	25		mg/L	50	7/3/2018 1:11:57 PM	R52476
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	2400	5.0		µmhos/c	1	6/21/2018 7:32:35 PM	R52161
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	377.8	20.00		mg/L Ca	1	6/21/2018 7:32:35 PM	R52161
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/21/2018 7:32:35 PM	R52161
Total Alkalinity (as CaCO3)	377.8	20.00		mg/L Ca	1	6/21/2018 7:32:35 PM	R52161
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	2030	100	*D	mg/L	1	6/25/2018 4:16:00 PM	38842
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **JLF**	
Calcium	450	5.0		mg/L	5	6/22/2018 4:27:26 PM	A52172
Magnesium	39	1.0		mg/L	1	6/22/2018 3:55:54 PM	A52172
Potassium	1.1	1.0		mg/L	1	6/22/2018 3:55:54 PM	A52172
Sodium	100	5.0		mg/L	5	6/22/2018 4:27:26 PM	A52172
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Toluene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Ethylbenzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Naphthalene	ND	2.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1-Methylnaphthalene	ND	4.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
2-Methylnaphthalene	ND	4.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Acetone	ND	10		µg/L	1	6/22/2018 11:32:00 AM	B52236
Bromobenzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Bromodichloromethane	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Bromoform	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Bromomethane	ND	3.0		µg/L	1	6/22/2018 11:32:00 AM	B52236

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Come 1E
Lab ID: 1806B92-002 **Matrix:** AQUEOUS

Client Sample ID: MW#8
Collection Date: 6/18/2018 3:15:00 PM
Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
2-Butanone	ND	10		µg/L	1	6/22/2018 11:32:00 AM	B52236
Carbon disulfide	ND	10		µg/L	1	6/22/2018 11:32:00 AM	B52236
Carbon Tetrachloride	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Chlorobenzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Chloroethane	ND	2.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Chloroform	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Chloromethane	ND	3.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
2-Chlorotoluene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
4-Chlorotoluene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
cis-1,2-DCE	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Dibromochloromethane	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Dibromomethane	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,1-Dichloroethane	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,1-Dichloroethene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,2-Dichloropropane	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,3-Dichloropropane	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
2,2-Dichloropropane	ND	2.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,1-Dichloropropene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Hexachlorobutadiene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
2-Hexanone	ND	10		µg/L	1	6/22/2018 11:32:00 AM	B52236
Isopropylbenzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
4-Isopropyltoluene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
4-Methyl-2-pentanone	ND	10		µg/L	1	6/22/2018 11:32:00 AM	B52236
Methylene Chloride	ND	3.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
n-Butylbenzene	ND	3.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
n-Propylbenzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
sec-Butylbenzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Styrene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
tert-Butylbenzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
trans-1,2-DCE	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Irvin Come 1E
Lab ID: 1806B92-002
Matrix: AQUEOUS
Client Sample ID: MW#8
Collection Date: 6/18/2018 3:15:00 PM
Received Date: 6/20/2018 7:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Trichlorofluoromethane	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Vinyl chloride	ND	1.0		µg/L	1	6/22/2018 11:32:00 AM	B52236
Xylenes, Total	ND	1.5		µg/L	1	6/22/2018 11:32:00 AM	B52236
Surr: 1,2-Dichloroethane-d4	98.1	70-130		%Rec	1	6/22/2018 11:32:00 AM	B52236
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	6/22/2018 11:32:00 AM	B52236
Surr: Dibromofluoromethane	91.9	70-130		%Rec	1	6/22/2018 11:32:00 AM	B52236
Surr: Toluene-d8	79.7	70-130		%Rec	1	6/22/2018 11:32:00 AM	B52236

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B92**

06-Jul-18

Client: Blagg Engineering

Project: Irvin Come 1E

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R52126**	RunNo: **52126**
Prep Date:	Analysis Date: **6/20/2018**	SeqNo: **1706575** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R52126**	RunNo: **52126**
Prep Date:	Analysis Date: **6/20/2018**	SeqNo: **1706576** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	96.8	90	110			
Nitrogen, Nitrite (As N)	0.98	0.10	1.000	0	98.0	90	110			
Bromide	2.5	0.10	2.500	0	99.3	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.2	90	110			
Sulfate	9.5	0.50	10.00	0	95.2	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R52126**	RunNo: **52126**
Prep Date:	Analysis Date: **6/20/2018**	SeqNo: **1706628** Units: ***mg/L***

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R52126**	RunNo: **52126**
Prep Date:	Analysis Date: **6/20/2018**	SeqNo: **1706629** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.0	0.50	5.000	0	101	90	110			
Nitrogen, Nitrite (As N)	1.0	0.10	1.000	0	101	90	110			
Bromide	2.6	0.10	2.500	0	102	90	110			
Nitrogen, Nitrate (As N)	2.6	0.10	2.500	0	104	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B92**

06-Jul-18

Client: Blagg Engineering

Project: Irvin Come 1E

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R52126**	RunNo: **52126**
Prep Date:	Analysis Date: **6/20/2018**	SeqNo: **1706629** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Orthophosphate (As P	5.1	0.50	5.000	0	101	90	110			
Sulfate	9.8	0.50	10.00	0	98.0	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R52134**	RunNo: **52134**
Prep Date:	Analysis Date: **6/20/2018**	SeqNo: **1707308** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R52134**	RunNo: **52134**
Prep Date:	Analysis Date: **6/20/2018**	SeqNo: **1707309** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	96.8	90	110			
Nitrogen, Nitrite (As N)	0.98	0.10	1.000	0	98.5	90	110			
Bromide	2.6	0.10	2.500	0	105	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	102	90	110			
Phosphorus, Orthophosphate (As P	5.1	0.50	5.000	0	101	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R52134**	RunNo: **52134**
Prep Date:	Analysis Date: **6/20/2018**	SeqNo: **1707362** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B92**

06-Jul-18

Client: Blagg Engineering
Project: Irvin Come 1E

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R52134**	RunNo: **52134**
Prep Date:	Analysis Date: **6/20/2018**	SeqNo: **1707363** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	93.8	90	110			
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	96.1	90	110			
Bromide	2.5	0.10	2.500	0	102	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.5	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.2	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R52134**	RunNo: **52134**
Prep Date:	Analysis Date: **6/21/2018**	SeqNo: **1707395** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R52134**	RunNo: **52134**
Prep Date:	Analysis Date: **6/21/2018**	SeqNo: **1707396** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.4	90	110			
Nitrogen, Nitrite (As N)	0.97	0.10	1.000	0	96.8	90	110			
Bromide	2.6	0.10	2.500	0	103	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	99.3	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	99.5	90	110			

Sample ID **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R52476**	RunNo: **52476**
Prep Date:	Analysis Date: **7/3/2018**	SeqNo: **1720725** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Sulfate	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B92**

06-Jul-18

Client: Blagg Engineering

Project: Irvin Come 1E

Sample ID **LCS-b**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R52476**	RunNo: **52476**
Prep Date:	Analysis Date: **7/3/2018**	SeqNo: **1720731** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	96.9	90	110			
Sulfate	9.1	0.50	10.00	0	90.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B92**

06-Jul-18

Client: Blagg Engineering

Project: Irvin Come 1E

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **B52236**	RunNo: **52236**
Prep Date:	Analysis Date: **6/22/2018**	SeqNo: **1711792** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.0	70	130			
Toluene	19	1.0	20.00	0	95.3	70	130			
Chlorobenzene	18	1.0	20.00	0	91.7	70	130			
1,1-Dichloroethene	20	1.0	20.00	0	99.4	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	92.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	9.2		10.00		91.5	70	130			
Surr: Toluene-d8	9.4		10.00		94.3	70	130			

Sample ID **rb3**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B52236**	RunNo: **52236**
Prep Date:	Analysis Date: **6/22/2018**	SeqNo: **1711793** 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								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B92**

06-Jul-18

Client: Blagg Engineering

Project: Irvin Come 1E

Sample ID **rb3**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B52236**	RunNo: **52236**
Prep Date:	Analysis Date: **6/22/2018**	SeqNo: **1711793** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B92**

06-Jul-18

Client: Blagg Engineering

Project: Irvin Come 1E

Sample ID **rb3**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **B52236**	RunNo: **52236**
Prep Date:	Analysis Date: **6/22/2018**	SeqNo: **1711793** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.1		10.00		90.7	70	130			
Surr: Toluene-d8	9.4		10.00		93.5	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B92**

06-Jul-18

Client: Blagg Engineering

Project: Irvin Come 1E

Sample ID	**Ics-1 ~20uS eC**	SampType:	**Ics**		TestCode:	**SM2510B: Specific Conductance**				
Client ID:	**LCSW**	Batch ID:	**R52161**		RunNo:	**52161**				
Prep Date:		Analysis Date:	**6/21/2018**		SeqNo:	**1708753**	Units:	**µmhos/cm**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	22	5.0	19.98	0	112	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B92**

06-Jul-18

Client: Blagg Engineering

Project: Irvin Come 1E

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A52172**	RunNo: **52172**
Prep Date:	Analysis Date: **6/22/2018**	SeqNo: **1709121** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A52172**	RunNo: **52172**
Prep Date:	Analysis Date: **6/22/2018**	SeqNo: **1709123** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	101	80	120			
Magnesium	51	1.0	50.00	0	101	80	120			
Potassium	49	1.0	50.00	0	98.6	80	120			
Sodium	51	1.0	50.00	0	102	80	120			

Sample ID **LCSD**	SampType: **LCSD**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSS02**	Batch ID: **A52172**	RunNo: **52172**
Prep Date:	Analysis Date: **6/22/2018**	SeqNo: **1709124** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	97.4	80	120	3.54	20	
Magnesium	49	1.0	50.00	0	97.7	80	120	3.53	20	
Potassium	48	1.0	50.00	0	95.2	80	120	3.55	20	
Sodium	50	1.0	50.00	0	101	80	120	1.24	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B92**

06-Jul-18

Client: Blagg Engineering

Project: Irvin Come 1E

Sample ID **mb-1 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**
Client ID: **PBW**	Batch ID: **R52161**	RunNo: **52161**
Prep Date:	Analysis Date: **6/21/2018**	SeqNo: **1708707** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID **lcs-1 alk**	SampType: **lcs**	TestCode: **SM2320B: Alkalinity**
Client ID: **LCSW**	Batch ID: **R52161**	RunNo: **52161**
Prep Date:	Analysis Date: **6/21/2018**	SeqNo: **1708708** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.16	20.00	80.00	0	99.0	90	110			

Sample ID **mb-2 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**
Client ID: **PBW**	Batch ID: **R52161**	RunNo: **52161**
Prep Date:	Analysis Date: **6/21/2018**	SeqNo: **1708730** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID **lcs-2 alk**	SampType: **lcs**	TestCode: **SM2320B: Alkalinity**
Client ID: **LCSW**	Batch ID: **R52161**	RunNo: **52161**
Prep Date:	Analysis Date: **6/21/2018**	SeqNo: **1708731** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.52	20.00	80.00	0	99.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1806B92**

06-Jul-18

Client: Blagg Engineering

Project: Irvin Come 1E

Sample ID **MB-38842**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **38842**	RunNo: **52218**
Prep Date: **6/22/2018**	Analysis Date: **6/25/2018**	SeqNo: **1710741** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID **LCS-38842**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **38842**	RunNo: **52218**
Prep Date: **6/22/2018**	Analysis Date: **6/25/2018**	SeqNo: **1710742** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

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 L

Client Name: BLAGG | Work Order Number: 1806B92 | RcptNo: 1

Received By: Isaiah Ortiz 6/20/2018 7:15:00 AM

Completed By: Michelle Garcia 6/20/2018 9:20:00 AM

Reviewed By: 06/20/18

Chain of Custody

		Yes	No	Not Present
1	Is Chain of Custody complete?	☑	☐	☐
2	How was the sample delivered?	Courier		

Log In

		Yes	No	NA
3	Was an attempt made to cool the samples?	☑	☐	☐
4	Were all samples received at a temperature of >0° C to 6.0°C	☑	☐	☐
5	Sample(s) in proper container(s)?	☑	☐	
6	Sufficient sample volume for indicated test(s)?	☑	☐	
7	Are samples (except VOA and ONG) properly preserved?	☑	☐	
8	Was preservative added to bottles?	☐	☑	☐
9	VOA vials have zero headspace?	☑	☐	☐ No VOA Vials
10	Were any sample containers received broken?	☐	☑	
11	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	☑	☐	
12	Are matrices correctly identified on Chain of Custody?	☑	☐	
13	Is it clear what analyses were requested?	☑	☐	
14	Were all holding times able to be met? (If no, notify customer for authorization.)	☑	☐	

# of preserved bottles checked for pH (<2 or >12 unless noted)

Adjusted?

Checked by:

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks: For metals analysis: poured off from provided 500 mL HDPE into a 250mL with HDPE & added approx. 0.4 mL HNO_3 for acceptable pH

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.4	Good	Not Present			

Held for 24hrs MW 6/20/18 @1100

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

Mailing Address: P.O. BOX 87
BLOOMFIELD, NM 87413

Phone #: (505) 632-1199

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation:
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name:
IRVIN COM # 1E

Project #:

Project Manager:
STEVE MOSKAL

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.4

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1806B92	BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	Cation / Anion Balance	Total Dissolved Solids		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
6/18/18	1415	WATER	MW # 7	40 ml VOA - 2	HCl & Cool	001										√				√		
6/18/18	1415	WATER	MW # 7	500 ml - 1	Cool												√	√		√		
6/14/18	1515	WATER	MW # 8	40 ml VOA - 2	HCl & Cool	002										√				√		
6/14/18	1515	WATER	MW # 8	500 ml - 1	Cool												√	√		√		

Date	Time	Relinquished by	Received by	Date	Time
6/19/18	1509		Christen Walls	6/19/18	1509
6/19/18	1810	Christen Walls	I. Ortiz courier	6/20/18	0715

Remarks:

BILL DIRECTLY TO BP:
200 Energy Court, Farmington, NM 87401 Attn.: Steve Moskal
SIO #: 190040007685
WBS ELEMENT: L1-001CV-E:1_IRVINCOM1E