AE Order Number Banner

Report Description

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.

App Number: pWCO0310639219

3RP - 392

BP AMERICA PRODUCTION COMPANY

6/22/2018

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: 200 Energy Court, Farmington, NM 87401	Telephone No.: 505-326-9497
Facility Name: Gallegos Canyon Unit Com H 180E	Facility Type: Natural gas well

Surface Owner: Federal	Mineral Owner: Federal	API No. 3004524869

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: San Juan
N	28	29N	12W	810	South	1,530	West	

Latitude 36.692567° **Longitude** -108.108277°

NATURE OF RELEASE

Type of Release: Historical	Volume of Release: Unknown	Volume Recovered: none
Source of Release: Unlined earthen pit with production tank	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: February 17, 2003
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom? OIL CONS. DIV DIST. 3	
By Whom?	Date and Hour: NOV 15 2016	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Soil impacts derived from an unlined earthen pit with production tank. Remedial actions taken include excavation and groundwater monitoring.

Describe Area Affected and Cleanup Action Taken.* Site remediation included excavation and groundwater monitoring to confirm groundwater impacts. Soil sample confirm excavation extents were reached and impacted soils removed from the site. Groundwater monitoring indicates impacts to groundwater from the release were remediated through excavation. Constituents above closure standards include fluoride, chloride, sulfate, nitrate, iron and total dissolved solids which are likely the result of background concentrations common in the San Juan Basin.

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	
Printed Name: Steve Moskal	Approved by Environmental Specialist:	
Title: Field Environmental Coordinator	Approval Date: 6/22/18	Expiration Date:
E-mail Address: steven.moskal@bp.com	Conditions of Approval: —	Attached ☐
Date: November 15, 2016 Phone: 505-326-9497		

* Attach Additional Sheets If Necessary

#NCS1817340010 3RP-392.

(96)

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

February 23, 2018

Mr. Steven Moskal
BP America Production Company
200 Energy Ct
Farmington, New Mexico 87401

Re: GCU Com H 180E
Addendum Information for June 2016 Closure Report
NMOCD Groundwater site: 3RP - 392

Dear Mr. Moskal:

At your request, Blagg Engineering, Inc. (BEI) conducted additional sampling of the monitor wells at the GCU Com H 180E pursuant to NMOCD stipulations for site closure. This sampling was performed on February 23, 2017 and included monitor wells MW-1, MW-2 and MW-4. Samples were delivered to Hall Environmental Laboratories in Albuquerque, New Mexico for general water chemistry testing that included cation/anion balance and total dissolved solids.

Laboratory analytical test results support the original conclusions in the June 2016 closure report, previously submitted to you, stating that the site meets NMOCD standards for closure. Summary information on the test results are as follows:

Monitor Well	pH (special units) (Field Measured)	TDS (ppm)	Sulfate (ppm)	Chloride (ppm)
MW-1 (Side Gradient)	7.04	4,560	2,700	220
MW-2 (Source Area)	6.98	4,920	3,200	110
MW-4 (Up Gradient	7.03	4,490	2,900	78
NMOCD Standard	6 - 9	1,000	600	250

Shallow groundwater in the San Juan Basin commonly has elevated TDS and sulfate and this conditions is present at the GCU Com H 180E well site. Groundwater from the up-gradient monitor well MW-4 tested TDS and sulfate above water standards, indicating that the elevated conditions found in monitor wells MW-1 and MW-2 is expected and normal.

Based on the laboratory results from the additional monitor well sampling, the original recommendation for closure at the GCU Com H 180E (3RP-392) remains unchanged. Questions or comments with respect to this transmittal may be directed to myself at (505)320-1183. BEI appreciates the opportunity to provide services to BP.

Respectfully,
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: 2018.02.23 09:08:51 -07'00'

Jeffrey C. Blagg, P.E.
President

Attachment: Lab Reports
Field Sampling Report

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU COM H # 180E - PROD. TANK REL.
UNIT N, SEC. 28, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : February 23, 2017

Filename : GCU Com H 180E mw log 2017-02-23.xls

DEVELOPER / SAMPLER : N J V

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.83	95.06	6.77	14.80	1010	7.04	3,500	9.8	8.00
2	-	-	6.68	16.25	1105	6.98	3,800	9.8	9.50
3	101.68	94.75	6.93	15.00	-	-	-	-	-
4	102.08	95.41	6.67	14.00	910	7.03	3,400	9.6	7.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	02/23/17	0600

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

Ideally a minimum of three (3) wellbore volumes: 2.00" well diameter = 0.49 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in all monitor wells sampled . Murky brown in appearance . Purged well using 2 inch submersible electric pump , new / clear vinyl tubing and with brass adjustable flow valve attachment added near sampling end of tubing . Collected samples from MW #1, #2, & #4 only

Top of casings : MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.40 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.50 ft. above grade .

on-site	8:15 AM	temp	36 F
off-site	11:15 AM	temp	40 F
sky cond.	Mostly sunny		
wind speed	5 - 20	direct.	West

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 06, 2017

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

RE: GCU COM H 180E OrderNo.: 1702A91

Dear Nelson Velez:

Hall Environmental Analysis Laboratory received 3 sample(s) on 2/24/2017 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 **1702A91**
Date Reported: **3/6/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM H 180E
Lab ID: 1702A91-001 **Matrix:** AQUEOUS

Client Sample ID: MW #1
Collection Date: 2/23/2017 10:10:00 AM
Received Date: 2/24/2017 8:08:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Fluoride	0.65	0.10		mg/L	1	2/24/2017 1:28:30 PM	R41001
Chloride	220	10		mg/L	20	2/24/2017 1:40:55 PM	R41001
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	2/24/2017 1:28:30 PM	R41001
Bromide	0.38	0.10		mg/L	1	2/24/2017 1:28:30 PM	R41001
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	2/24/2017 1:28:30 PM	R41001
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	2/24/2017 1:40:55 PM	R41001
Sulfate	2700	50		mg/L	100	2/28/2017 11:21:18 PM	A41069
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	5300	1.0		µmhos/cm	1	2/27/2017 7:58:45 PM	R41028
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	304.8	20.00		mg/L CaCO3	1	2/27/2017 7:58:45 PM	R41028
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	2/27/2017 7:58:45 PM	R41028
Total Alkalinity (as CaCO3)	304.8	20.00		mg/L CaCO3	1	2/27/2017 7:58:45 PM	R41028
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	4560	40.0	*D	mg/L	1	3/2/2017 12:42:00 PM	30438
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Calcium	430	5.0		mg/L	5	2/27/2017 11:35:38 AM	A41005
Magnesium	60	1.0		mg/L	1	2/27/2017 11:26:27 AM	A41005
Potassium	9.6	1.0		mg/L	1	2/27/2017 11:26:27 AM	A41005
Sodium	910	10		mg/L	10	2/27/2017 11:43:06 AM	A41005

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: GCU COM H 180E
Lab ID: 1702A91-002 **Matrix:** AQUEOUS

Client Sample ID: MW #2
Collection Date: 2/23/2017 11:05:00 AM
Received Date: 2/24/2017 8:08:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**LGT**
Fluoride	0.63	0.10		mg/L	1	2/24/2017 2:18:10 PM	R41001
Chloride	110	10		mg/L	20	2/24/2017 2:30:35 PM	R41001
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	2/24/2017 2:18:10 PM	R41001
Bromide	0.30	0.10		mg/L	1	2/24/2017 2:18:10 PM	R41001
Nitrogen, Nitrate (As N)	0.17	0.10		mg/L	1	2/24/2017 2:18:10 PM	R41001
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	2/24/2017 2:30:35 PM	R41001
Sulfate	3200	50		mg/L	100	2/28/2017 11:33:43 PM	A41069
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	5400	1.0		µmhos/cm	1	2/27/2017 8:12:45 PM	R41028
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	329.8	20.00		mg/L CaCO3	1	2/27/2017 8:12:45 PM	R41028
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	2/27/2017 8:12:45 PM	R41028
Total Alkalinity (as CaCO3)	329.8	20.00		mg/L CaCO3	1	2/27/2017 8:12:45 PM	R41028
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	4920	40.0	*D	mg/L	1	3/2/2017 12:42:00 PM	30438
EPA METHOD 6010B: DISSOLVED METALS						Analyst:	**pmf**
Calcium	490	10		mg/L	10	2/27/2017 11:36:39 AM	A41005
Magnesium	64	10		mg/L	10	2/27/2017 11:36:39 AM	A41005
Potassium	6.1	1.0		mg/L	1	2/27/2017 11:30:54 AM	A41005
Sodium	950	10		mg/L	10	2/27/2017 11:36:39 AM	A41005

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
W	Sample container temperature is out of limit as specified

Analytical Report
Lab Order **1702A91**
Date Reported: **3/6/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM H 180E
Lab ID: 1702A91-003 **Matrix:** AQUEOUS

Client Sample ID: MW #4
Collection Date: 2/23/2017 9:10:00 AM
Received Date: 2/24/2017 8:08:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Fluoride	0.84	0.10		mg/L	1	2/24/2017 2:42:59 PM	R41001
Chloride	78	10		mg/L	20	2/24/2017 2:55:24 PM	R41001
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	2/24/2017 2:42:59 PM	R41001
Bromide	0.23	0.10		mg/L	1	2/24/2017 2:42:59 PM	R41001
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	2/24/2017 2:42:59 PM	R41001
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	2/24/2017 2:55:24 PM	R41001
Sulfate	2900	50		mg/L	100	2/28/2017 11:46:08 PM	A41069
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	5100	1.0		µmhos/cm	1	2/27/2017 8:36:29 PM	R41028
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	329.0	20.00		mg/L CaCO3	1	2/27/2017 8:36:29 PM	R41028
Carbonate (As CaCO3)	ND	2.000		mg/L CaCO3	1	2/27/2017 8:36:29 PM	R41028
Total Alkalinity (as CaCO3)	329.0	20.00		mg/L CaCO3	1	2/27/2017 8:36:29 PM	R41028
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	4490	40.0	*D	mg/L	1	3/2/2017 12:42:00 PM	30438
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **pmf**	
Calcium	460	10		mg/L	10	2/27/2017 11:39:45 AM	A41005
Magnesium	70	1.0		mg/L	1	2/27/2017 11:34:27 AM	A41005
Potassium	5.5	1.0		mg/L	1	2/27/2017 11:34:27 AM	A41005
Sodium	870	10		mg/L	10	2/27/2017 11:39:45 AM	A41005

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#: **1702A91**

06-Mar-17

Client: Blagg Engineering

Project: GCU COM H 180E

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R41001**	RunNo: **41001**
Prep Date:	Analysis Date: **2/24/2017**	SeqNo: **1284114** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
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: **R41001**	RunNo: **41001**
Prep Date:	Analysis Date: **2/24/2017**	SeqNo: **1284115** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	103	90	110			
Chloride	4.7	0.50	5.000	0	94.1	90	110			
Nitrogen, Nitrite (As N)	0.94	0.10	1.000	0	94.2	90	110			
Bromide	2.4	0.10	2.500	0	94.9	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.9	90	110			
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	93.7	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A41069**	RunNo: **41069**
Prep Date:	Analysis Date: **2/28/2017**	SeqNo: **1286559** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A41069**	RunNo: **41069**
Prep Date:	Analysis Date: **2/28/2017**	SeqNo: **1286560** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.8	0.50	10.00	0	98.2	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
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#: **1702A91**

06-Mar-17

Client: Blagg Engineering

Project: GCU COM H 180E

Sample ID **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A41005**	RunNo: **41005**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1284294** 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-A**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A41005**	RunNo: **41005**
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1284295** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	102	80	120			
Magnesium	51	1.0	50.00	0	103	80	120			
Potassium	50	1.0	50.00	0	99.7	80	120			
Sodium	50	1.0	50.00	0	100	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1702A91**

06-Mar-17

Client: Blagg Engineering

Project: GCU COM H 180E

Sample ID **mb-1**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R41028**	RunNo: **41028**							
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1284932**	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**	SampType: **lcs**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R41028**	RunNo: **41028**							
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1284936**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.60	20.00	80.00	0	99.5	90	110			

Sample ID **mb-2**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R41028**	RunNo: **41028**							
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1284959**	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**	SampType: **lcs**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R41028**	RunNo: **41028**							
Prep Date:	Analysis Date: **2/27/2017**	SeqNo: **1284960**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.56	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
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#: **1702A91**

06-Mar-17

Client: Blagg Engineering

Project: GCU COM H 180E

Sample ID **MB-30438**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **30438**	RunNo: **41107**
Prep Date: **2/28/2017**	Analysis Date: **3/2/2017**	SeqNo: **1287558** 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-30438**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **30438**	RunNo: **41107**
Prep Date: **2/28/2017**	Analysis Date: **3/2/2017**	SeqNo: **1287559** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	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: 1702A91 | RcptNo: 1

Received by/date: AG 02/24/17

Logged By: Ashley Gallegos 2/24/2017 8:08:00 AM

Completed By: Ashley Gallegos 2/24/2017 8:43:01 AM

Reviewed By: 02/24/17

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?	aj ~~Yes~~ ✔	No ✓	
9. Was preservative added to bottles?	Yes ✓	~~No~~ ✔ aj	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: 3 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody?	Yes ✔	No	Adjusted? Yes
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: aj

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: For metals analysis: added 0.4mL HNO_3 to -001 → -001B for acceptable pH. Held 24 hours prior to analysis.

18. Cooler Information

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

2/24 @ 0927 aj

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:
GCU COM H # 180E

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1703A91	BTEX + MTBE + TMB's (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 80153 (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)	Cation / Anion Balance	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N / Nitrite N		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
2/23/17	1010	WATER	MW # 1	500 ml - 1	Cool	-001									√	√				√		
2/23/17	1105	WATER	MW # 2	250 ml-2	Cool	-002									√	√				√		
2/23/17	0910	WATER	MW # 4	500 ml - 1	Cool	-003									√	√				√		

Date	Time	Relinquished by	Received by	Date	Time
2/23/17	1611			2/23/17	1613
2/23/17	1841			02/24/17	0808

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.

bp

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

November 15, 2016

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

Re: Request for Permanent Closure
Gallegos Canyon Unit Com H 180E
API No. 30-045-24869; Unit letter N, Section 28, T29N, R12W; GPS: 36.692567°, -108.108277°

Dear Mr. Smith:

BP America Production Company has retained Blagg Engineering, Inc. to conduct environmental monitoring of groundwater at the Gallegos Canyon Unit Com H 180E. The land operated by the Bureau of Land Management.

Impacts were discovered in February of 2003 during the closure of unlined production tank pit with a follow up excavation. Groundwater impacts were suspected during the excavation activities. A groundwater sample was collected from the open excavation on February 17, 2003 with the results of elevated BTEX. The NMOCD Santa Fe was notified of the impacts on March 6, 2003, however no remediation number (3R) was found for this site. Three groundwater monitoring wells were installed (MW-1, 2 and 3) in 2011. MW-1 and 3 were below detection limits and sampled per the BP groundwater management plan section 2.3. MW-2 was below detection for 4 consecutive quarters and meets closure requirements detailed in the BP groundwater management plan. The results of the sampling indicate groundwater was remediated via excavation or natural attenuation between 2003 and 2011.

The groundwater was sampled from MW-2 had elevated fluoride, chloride, sulfate, nitrate, iron and total dissolved solids. Produced water from the onsite below grade tank was sampled for comparison. The results of the comparison sample demonstrated that the elevated sample results are likely derived from background concentrations common in the San Juan Basin.

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

Sincerely,

Steve Moskal
Field Environmental Coordinator

BP AMERICA PRODUCTION CO.

GROUNDWATER REMEDIATION REPORT

GCU COM H # 180E
(N) SECTION 28, T29N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO

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

JUNE 2016

PREPARED BY:
BLAGG ENGINEERING, INC.

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

TABLE OF CONTENTS

BP AMERICA PRODUCTION COMPANY
GCU COM H # 180E – Production Tank Pit
API #: 3004524869
SE¼ SW¼, Sec. 28, T29N, R12W

Pit Closure Date:	**02/17/2003**
NMOCD Notification Date:	**03/06/2003**
NMOCD Admin./Order #:	**3RP-392-0**
Monitor Well Installation Dates:	**08/23/2011 (MW#1), 09/12/2011 (MW#3), 02/15/2012 (MW#4), 03/18/2013 (MW#2),**
Monitor Well Sampling Dates:	**10/29/2011, 4/25/2013, 8/28/2013, 12/11/2013, 2/27/2014, 11/6/2015 - produced water only**

Pit Closure and Background:

The site's unlined earthen production tank pit was located on-site and on federal lease land. Pit closure of an apparent unlined earthen production tank pit was conducted in **February 2003** by removing impacted soils via excavation (refer to *pages 30 through 37*). The excavated area encompassed approximately 17 feet by 14 feet in dimension. The soil excavated was estimated at 40 cubic yards and landfarmed on-site. Groundwater was encountered during the soil excavation at approximately five (5) feet below grade. The exposed groundwater within the pit area was sampled and tested by a qualified laboratory in Farmington, New Mexico on **February 27, 2003** for benzene, toluene, ethylbenzene, and total xylenes (**BTEX**) per US EPA method 8020. The BTEX results of the groundwater sampling event is as follows;

Date	02/17/2003	NMWQCC Standards
Sample ID	PW1 @ GW (5ft.)	
benzene (ppb)	280	***10***
toluene (ppb)	1,100	***750***
ethylbenzene (ppb)	320	***750***
Total xylenes (ppb)	910	***620***

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

Only one (1) soil sample was collected during the initial excavation. The sample was collected and tested by Envirotech, Inc. on **February 19, 2003** for total petroleum hydrocarbon (**TPH**) analysis per US EPA method 8015 and BTEX per US EPA Method 8020. The TPH & BTEX results of the soil sampling event is as follows;

Date	02/17/2003	Regulatory standards
Sample ID	1 @ 3.5'	
benzene (ppb)	ND	***10,000***
Total BTEX (ppb)	92.6	***50,000***
OVM (ppm)	***643***	***100***
Soil TPH (ppm)	ND	***100***

Note: ppb = parts per billion, ppm = parts per million, OVM = Organic Vapor Meter, TPH = total petroleum hydrocarbons.

Groundwater impact was identified within the source area during the pit closure activity and was reported to the New Mexico Oil Conservation Division's (**NMOCD**) Santa Fe office on March 6, 2003. Documentation of groundwater impacts had been previously submitted to NMOCD's Santa Fe Office (see *pages 38 through 40*).

The reporting herein is for site monitoring of three (3) groundwater monitor wells (Bore Logs attached) from October 2011 to November 2015 to address the groundwater quality at the excavated pit area (Figure 1).

Groundwater Monitor Well Sampling Procedures:

A two (2) inch dedicated submersible electrical pump with new, clear vinyl tubing was utilized during all ten (10) quarterly sampling events. The groundwater samples were collected following US EPA: SW-846 protocol, were placed into laboratory supplied containers with appropriate preservative, and stored in an ice chest for express delivery to an analytical laboratory for testing under strict chain-of-custody procedures. Analytical testing for BTEX per US EPA Method 8021B was conducted.

Fluids generated during monitor well purging was managed by discarding into the site's separator below-grade tank (**BGT**) or above-grade tank (**AGT**) after March 2013. The BGT and AGT contents are eventually disposed through approved NMOCD operational procedures for removal of produced fluids.

The BGT was removed in March 2013 and the closure report filed with NMOCD adhering to Rule 19.15.17 NMAC (see pages 39 through 42). The complete BGT closure documentation can be located within NMOCD's online well file (filename: 30045248690000_42_wf.pdf).

Water Quality and Gradient Information:

BP initiated quarterly sampling and testing pursuant to BP's NMOCD approved Groundwater Management Plan (**GMP**) on October 29, 2011. A historical summary of laboratory analytical BTEX results are included within the table on the following page. Field data sheets, laboratory reports, and laboratory quality assurance/quality control information are also included within this report.

Groundwater contour map (Figure 2) reveal the relative elevations from the site wells shows an apparent northwest flow direction toward MW #3.

Summary and/or Recommendations:

Hydrocarbon impacted soils and groundwater at the site appear to have been remediated via excavation and possibly from natural attenuation. Monitor well MW #2 (source area) BTEX results tested at non-detectable levels for four (4) consecutive sampling events and met the requirements of section 2.1 of BP's GMP. MW #1 and MW #3 met the GMP requirements pursuant to section 2.3. MW #2 met section 2.2 of the GMP for fluoride, chloride, and nitrates as N. Sulfate and total dissolved solids (**TDS**) from MW #2 exceeded the New Mexico Water Quality Control Commission (**NMWQCC**) groundwater standards. However, produced water collected from the site's AGT on November 6, 2015 had sulfate and TDS levels well below the NMWQCC standards for groundwater.

Permanent closure of the unlined earthen production tank pit is recommended. All site monitor wells will be abandoned pursuant to section 6.2 of the GMP after review and formal approval by NMOCD is granted.

BP AMERICA PRODUCTION COMPANY

GROUNDWATER FIELD DATA & LABORATORY RESULTS

GCU Com H # 180E - Prod. Tank pit
UNIT N, SEC. 28, T29N, R12W

REVISED DATE: November 20, 2015
Submitted by Blagg Engineering, Inc.

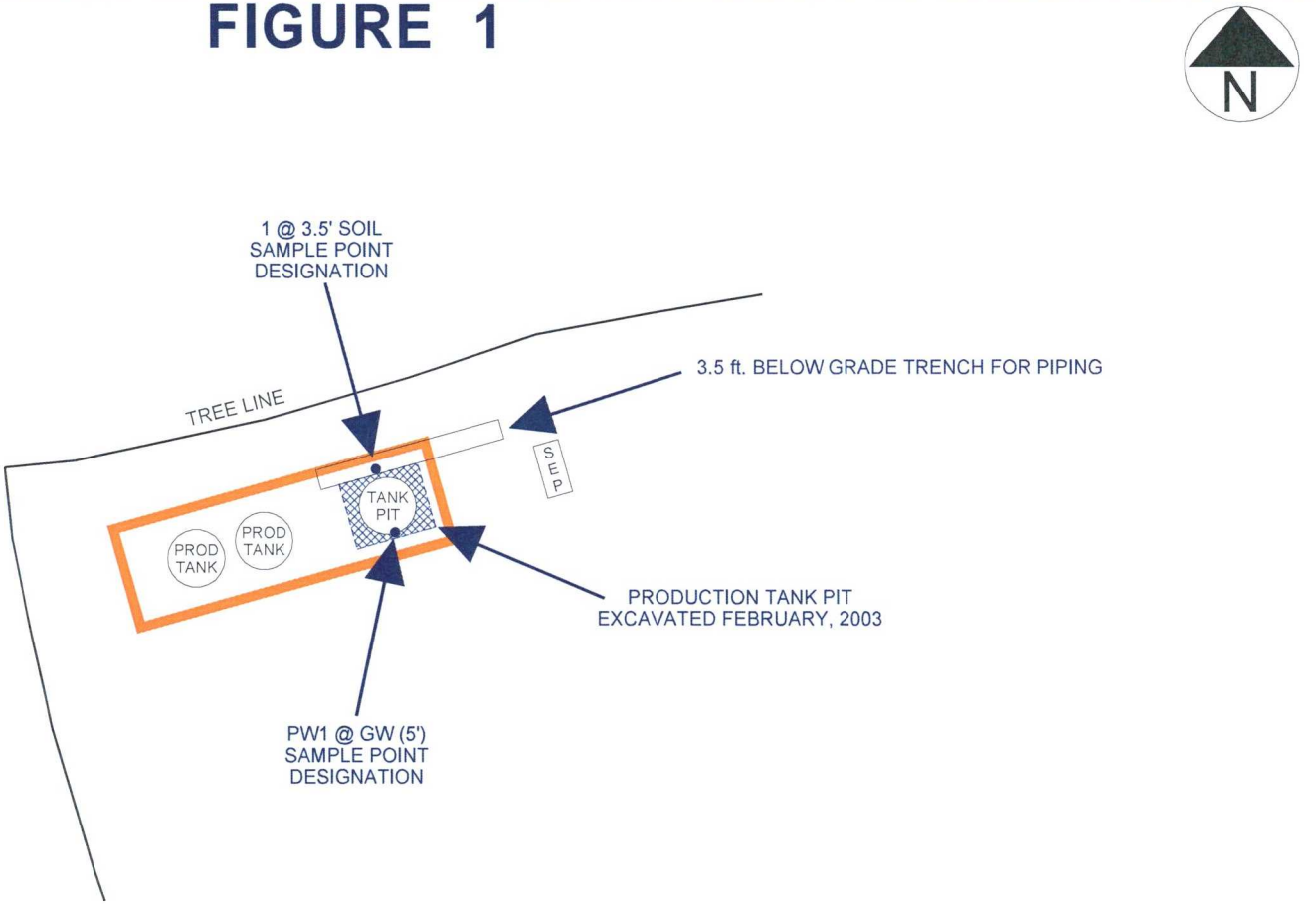
SAMPLE DATE	WELL NAME / NUMBER	DEPTH TO WATER (feet)	WELL DEPTH (feet)	TDS (mg/L)	CONDUCT. (µmhos)	pH	FREE PHASE PRODUCT (feet)	BTEX US EPA METHOD 8021B or 8260B: BENZENE (µg/L)	TOLUENE (µg/L)	ETHYL BENZENE (µg/L)	TOTAL XYLENES (µg/L)
10/29/11	MW #1	6.90	15.00	NA	4,600	7.46		ND	ND	ND	ND
04/25/13	MW #2	7.06	16.40	4,400	3,100	6.83		ND	ND	ND	ND
08/28/13		7.55			2,200	7.25		ND	ND	ND	ND
12/11/13		7.18			2,000	7.48		ND	ND	ND	ND
02/24/14		7.13			3,100	7.33		ND	ND	ND	ND
10/29/11	MW #3	7.01	15.00	NA	4,400	7.57		ND	ND	ND	ND
							NMWQCC GROUNDWATER STANDARDS	10	750	750	620

SAMPLE DATE	WELL NAME /NUMBER	Fluoride (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Nitrate-N (mg/L)	Iron (mg/L)	TDS (mg/L)
04/25/13	MW #2	1.3	88	**2,700**	ND	**2.0**	**4,440**
11/06/15	LP AGT Produced Water	NA	NA	**8.6**	NA	NA	**1,480**
NMWQCC GROUNDWATER STANDARDS		1.60	250	600	10	1.0	1,000

NOTES :

1) NMWQCC - New Mexico Water Quality Control Commission.
2) TDS - Total Dissolved Solids
3) mg/L - Milligrams per liter
4) Conduct. - Conductivity
5) µmhos - Micro-ohms
6) pH NMWQCC standards range between 6 -9
7) µg/L - Micrograms per liter
8) NA - Not available or not applicable
9) ND - Indidcates not detected at the reporting limits (less than regulatory standards of at least a magnitude of 10) .
10) LP AGT - Low profile above-grade tank (used for source level purposes).

FIGURE 1



BP AMERICA PRODUCTION CO.

GCU COM H #180E

SE/4 SW/4 SEC. 28, T29N, R12W

SAN JUAN COUNTY, NEW MEXICO

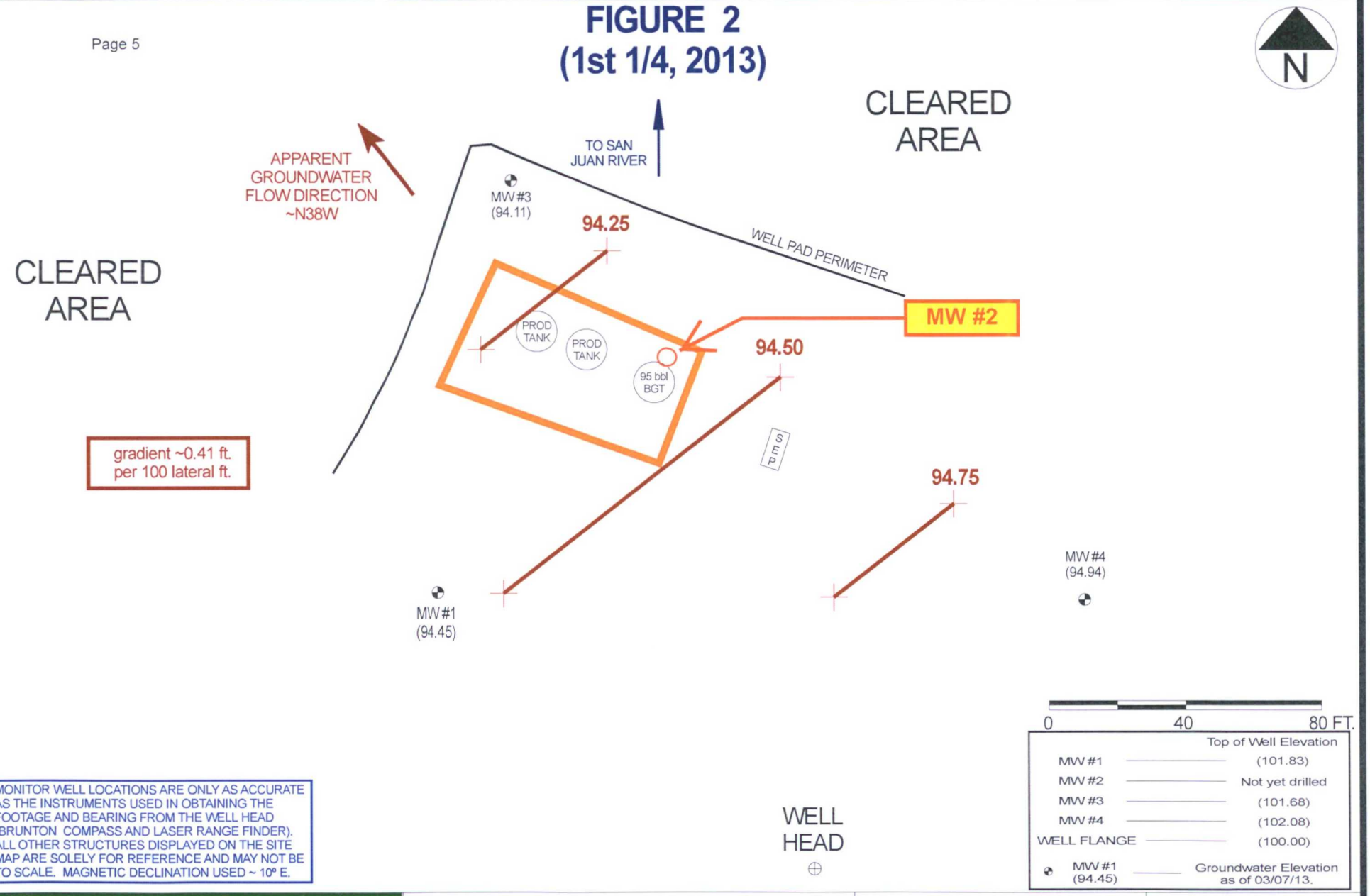
BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: PIT CLOSURE
DRAWN BY: NJV
FILENAME: GCU COM H 180E-SM.SKF
DRAFTED: 12-10-07 NJV

SITE MAP

02/03

FIGURE 2
(1st 1/4, 2013)



MONITOR WELL LOCATIONS ARE ONLY AS ACCURATE AS THE INSTRUMENTS USED IN OBTAINING THE FOOTAGE AND BEARING FROM THE WELL HEAD (BRUNTON COMPASS AND LASER RANGE FINDER). ALL OTHER STRUCTURES DISPLAYED ON THE SITE MAP ARE SOLELY FOR REFERENCE AND MAY NOT BE TO SCALE. MAGNETIC DECLINATION USED ~ 10° E.

BP AMERICA PRODUCTION CO.

GCU COM H #180E

SE/4 SW/4 SEC. 28, T29N, R12W

SAN JUAN COUNTY, NEW MEXICO

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

PROJECT: MW SURVEY
DRAWN BY: NJV
FILENAME: GCU COM H 180E-GW01.SKF
REVISED: 03-07-13 NJV

GROUNDWATER CONTOUR MAP
03/13

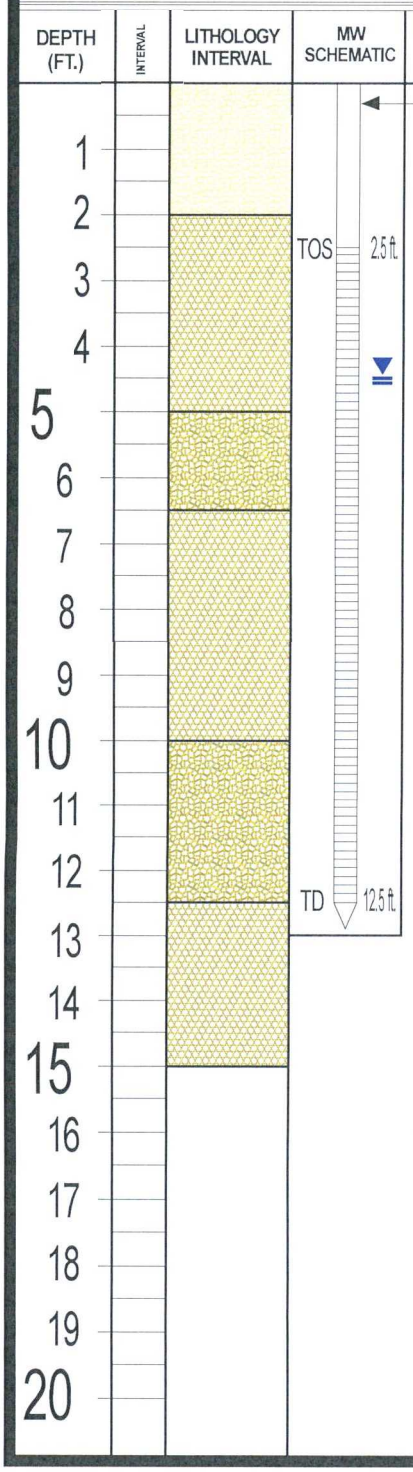
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 1

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO. (API #: 3004524869)
LOCATION NAME:	GCU Com H # 180E UNIT LETTER (N), SEC. 28, T29N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	137 FEET, N53.5W FROM WELL HEAD.

BORING #.....	BH - 1
MW #.....	1
PAGE #.....	1
DATE STARTED	08/23/11
DATE FINISHED	08/23/11
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.50 FT. ABOVE GRADE.

PALE YELLOWISH ORANGE SAND & GRAVEL, NON COHESIVE, LOOSE TO FIRM, DRY TO SLIGHTLY MOIST, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 2.0 FT. BELOW GRADE).

OLIVE GRAY SAND, NON COHESIVE, FIRM, SLIGHTLY MOIST TO WET, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (2.0 - 5.0 FT. BELOW GRADE).

GROUNDWATER ~ 4.40 ft. BELOW GRADE ; MEASURED 10/29/2011.

OLIVE GRAY SAND AND GRAVEL, NON COHESIVE, LOOSE, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (5.0 - 6.5 FT. BELOW GRADE).

OLIVE GRAY SAND, NON COHESIVE, LOOSE, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (6.5 - 10.0 FT. BELOW GRADE).

OLIVE GRAY SAND AND GRAVEL, NON COHESIVE, LOOSE, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (10.0 - 12.5 FT. BELOW GRADE).

OLIVE GRAY SAND, NON COHESIVE, LOOSE, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (12.5 - 15.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SAND & GRAVEL.

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

Monitor well consist of 2 inch PVC piping - casing from 2.5 ft. above-grade to 2.5 ft. below grade, 0.010 slotted screen between 2.5 to 12.5 ft. below grade, sand packed annular to 1.5 ft. below grade, bentonite grout to surface. Steel well protector enclosing exposed casing top, secured with locking cap and padlock.

DRAWING: GCU COM H 180E MW1-BH-1. SKF | DATE: 08/23/2011 | DWN BY: NJV

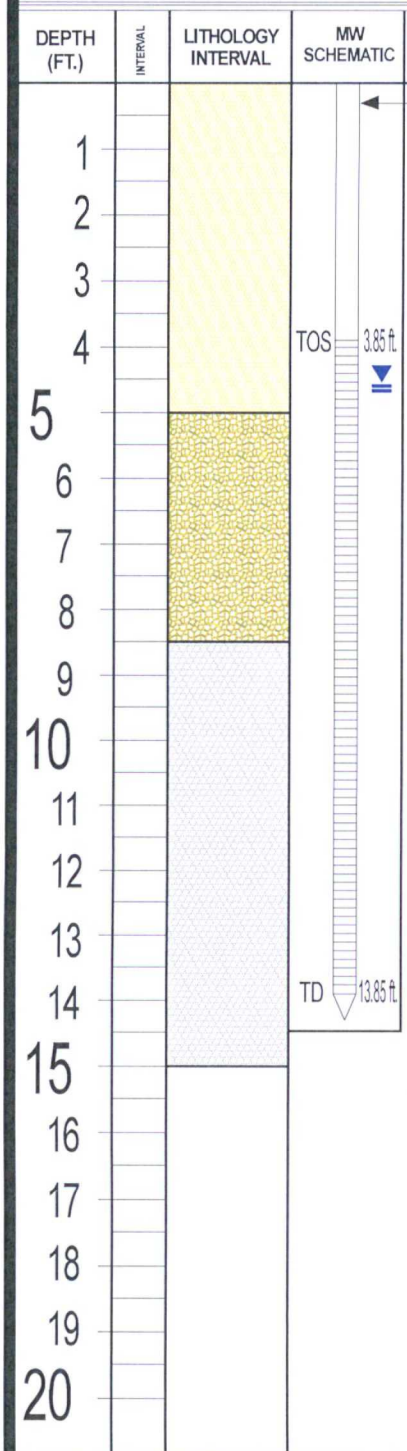
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 2

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO. (API #: 3004524869)
LOCATION NAME:	GCU Com H # 180E UNIT LETTER (N), SEC. 28, T29N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	157.5 FEET, N17W FROM WELL HEAD.

BORING #.....	BH - 4
MW #.....	2
PAGE #.....	2
DATE STARTED	03/18/13
DATE FINISHED	03/18/13
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.55 FT. ABOVE GRADE.

GRAYISH ORANGE SAND TO SILTY SAND (FILL MATERIAL), NON COHESIVE, LOOSE TO FIRM, DRY TO SLIGHTLY MOIST, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 2.5 FT. BELOW GRADE).

GROUNDWATER ~ 4.53 ft. BELOW GRADE ; MEASURED 4/25/2013.

OLIVE GRAY SAND AND GRAVEL, NON COHESIVE, FIRM TO LOOSE, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (5.0 - 8.5 FT. BELOW GRADE).

LIGHT MEDIUM GRAY SAND, NON COHESIVE, LOOSE, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (8.5 - 15.0 FT. BELOW GRADE).

NOTES:
- SAND TO SILTY SAND (FILL MATERIAL).
- SAND & GRAVEL.
- SAND.

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

Monitor well consist of 2 inch PVC piping - casing from 2.55 ft. above-grade to 3.85 ft. below grade, 0.010 slotted screen between 3.85 to 13.85 ft. below grade, sand packed annular to 2.5 ft. below grade, bentonite grout to surface. Steel well protector enclosing exposed casing top, secured with locking cap and padlock.

DRAWING: GCU COM H 180E MW2-BH4. SKF | DATE: 03/18/2013 | DWN BY: NJV

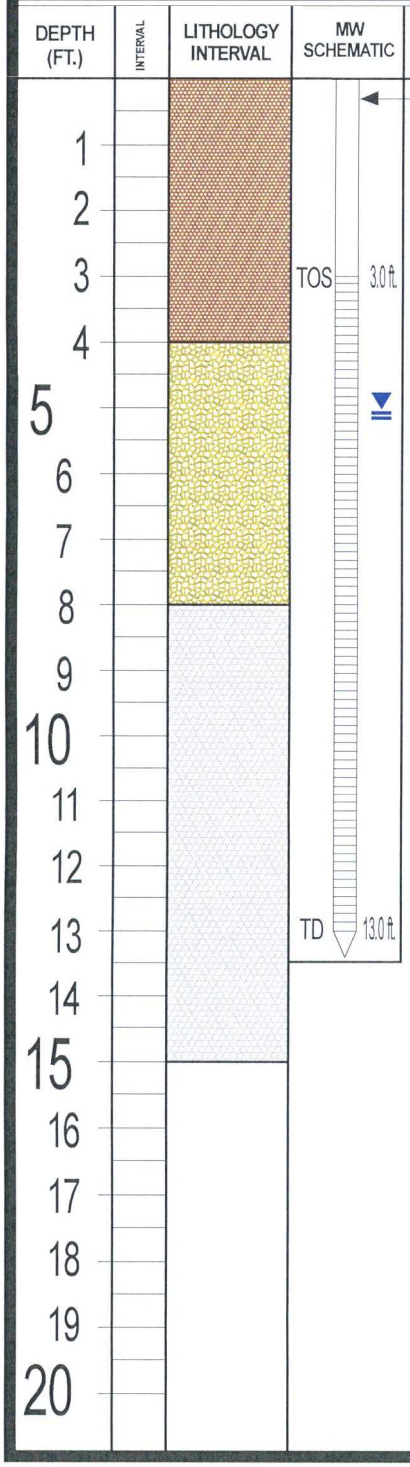
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 3

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO. (API #: 3004524869)
LOCATION NAME:	GCU Com H # 180E UNIT LETTER (N), SEC. 28, T29N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	221 FEET, N23.5W FROM WELL HEAD.

BORING #.....	BH - 2
MW #.....	3
PAGE #.....	3
DATE STARTED	09/12/11
DATE FINISHED	09/12/11
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FT. ABOVE GRADE.

DARK YELLOWISH BROWN SILTY SAND TO SILTY CLAY, NON COHESIVE TO COHESIVE, FIRM, DRY TO SLIGHTLY MOIST, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 4.0 FT. BELOW GRADE).

GROUNDWATER ~ 5.01 ft. BELOW GRADE ; MEASURED 10/29/2011.

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

LIGHT MEDIUM GRAY SAND, NON COHESIVE, LOOSE, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (8.0 - 15.0 FT. BELOW GRADE).

NOTES:

- SILTY SAND TO SILTY CLAY.
- SAND.
- SAND & GRAVEL.

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

Monitor well consist of 2 inch PVC piping - casing from 2.0 ft. above-grade to 3.0 ft. below grade, 0.010 slotted screen between 3.0 to 13.0 ft. below grade, sand packed annular to 2.0 ft. below grade, bentonite grout to surface. Steel well protector enclosing exposed casing top, secured with locking cap and padlock.

DRAWING: GCU COM H 180E MW3-BH-2. SKF | DATE: 09/12/2011 | DWN BY: NJV

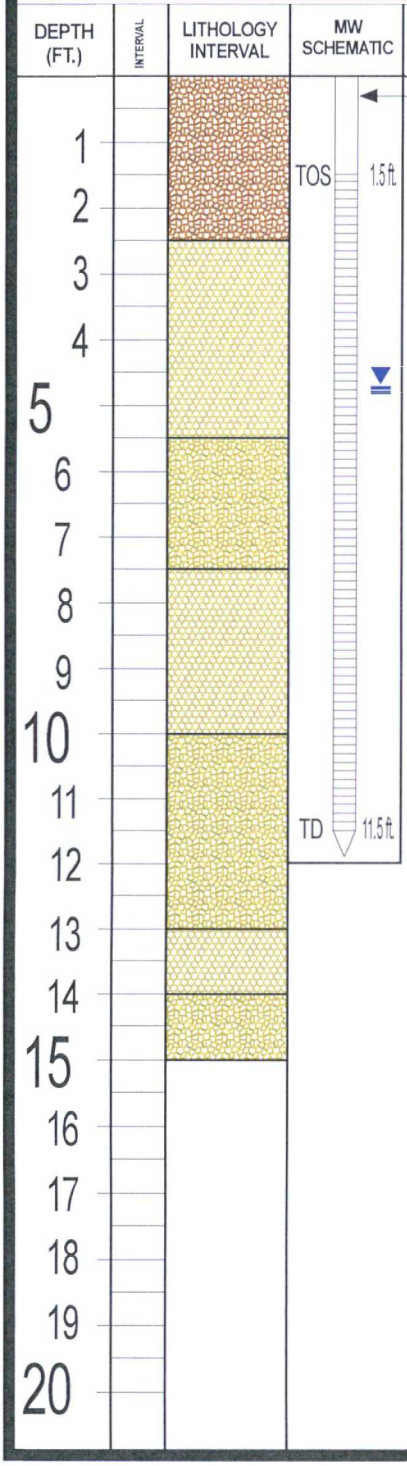
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 4

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO. (API #: 3004524869)
LOCATION NAME:	GCU Com H # 180E UNIT LETTER (N), SEC. 28, T29N, R12W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	112 FEET, N45E FROM WELL HEAD.

BORING #.....	BH - 3
MW #.....	4
PAGE #.....	4
DATE STARTED	02/15/12
DATE FINISHED	02/15/12
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.50 FT. ABOVE GRADE.

DARK YELLOWISH BROWN SAND AND GRAVEL, NON COHESIVE, LOOSE TO FIRM, DRY TO SLIGHTLY MOIST, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 2.5 FT. BELOW GRADE).

OLIVE GRAY SAND, NON COHESIVE, FIRM TO LOOSE, SLIGHTLY MOIST TO SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (2.5 - 5.5 FT. BELOW GRADE).

GROUNDWATER ~ 4.66 ft. BELOW GRADE ; MEASURED 12/11/2013.

OLIVE GRAY SAND AND GRAVEL, NON COHESIVE, LOOSE, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (5.5 - 7.5 FT. BELOW GRADE).

OLIVE GRAY SAND, NON COHESIVE, LOOSE, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (7.5 - 10.0 FT. BELOW GRADE).

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

OLIVE GRAY SAND, NON COHESIVE, LOOSE, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (13.0 - 14.0 FT. BELOW GRADE).

OLIVE GRAY SAND AND GRAVEL, NON COHESIVE, LOOSE, SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (14.0 - 15.0 FT. BELOW GRADE).

NOTES:
- SAND.
- SAND & GRAVEL.

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

Monitor well consist of 2 inch PVC piping - casing from 2.5 ft. above-grade to 1.5 ft. below grade, 0.010 slotted screen between 1.5 to 11.5 ft. below grade, sand packed annular to 1.0 ft. below grade, bentonite grout to surface. Steel well protector enclosing exposed casing top, secured with locking cap and padlock.

DRAWING: GCU COM H 180E MW4-BH3. SKF | DATE: 02/15/2012 | DWN BY: NJV

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

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

GCU COM H # 180E - PROD. TANK PIT
UNIT N, SEC. 28, T29N, R12W

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

Date : **October 29, 2011**

DEVELOPER / SAMPLER : N J V

Filename : **10-29-11.WK4**

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.81		6.90	15.00	1310	7.39	4,600	17.0	4.00
3	101.68		7.01	15.00	1415	7.57	4,400	16.8	4.00
					INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800		
					DATE & TIME =	10/28/11	0855		

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

Ideally a minimum of three (3) wellbore volumes:

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

Comments or note well diameter if not standard 2 ".

Monitor wells installed on 8/23/2011 (MW # 1) & 9/12/2011 (MW # 3) .
Excellent recovery in both MW 's . Both MW 's murky gray in appearance . Used submersible pump and vinyl clear tubing for purging and sampling . Collected samples from both MW 's for BTEX per US EPA Method 8021B .

Top of casing MW # 1 ~ 2.00 ft., MW # 3 ~ 2.00 ft. above grade .

on-site	12:40	temp	53 F
off-site	2:30	temp	55 F
sky cond.	Sunny		
wind speed	5 - 15	direct.	W

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU COM H # 180E - PROD. TANK REL.
UNIT N, SEC. 28, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : April 25, 2013

Filename : GCU Com H 180E mw log 04-25-13.xls

DEVELOPER / SAMPLER : N J V

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.83	-	-	15.00	-	-	-	-	-
2	-	-	7.08	16.40	0850	6.83	3,100	13.3	4.50
3	101.68	-	-	15.00	-	-	-	-	-
4	102.08	-	-	15.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	04/25/13	0700

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

Ideally a minimum of three (3) wellbore volumes: 2.00" well diameter = 0.49 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Installed MW #4 on 2/15/2012 (gradient purposes only) & MW #2 on 3/18/2013. Resurvey monitor well tops for MW #1, #2, & MW #4 on 3/7/2013 . MW #2 initial development completed on 4/12/2013 . Purged 15 gallons continuously . Depth to water = 7.16 ft. from top of casing.

Excellent recovery in MW #2 . Murky brown in appearance . Purged well using 2 inch submersible electric pump , new / clear vinyl tubing and with brass adjustable flow valve attachment added near sampling end of tubing. Collected sample from MW #2 only for BTEX per US EPA Method 8021B & general chemistry constituents.

Top of casings : MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.40 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.50 ft. above grade .

on-site	7:45 AM	temp	43 F
off-site	9:00 AM	temp	50 F
sky cond.		Mostly sunny	
wind speed	0 - 10	direct.	E

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU COM H # 180E - PROD. TANK REL.
UNIT N, SEC. 28, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : August 28, 2013
Filename : GCU Com H 180E mw log 08-28-13.xls

DEVELOPER / SAMPLER : N J V
PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.83	-	-	15.00	-	-	-	-	-
2	-	-	7.55	16.40	1050	7.25	2,200	22.2	4.25
3	101.68	-	-	15.00	-	-	-	-	-
4	102.08	-	-	15.00	-	-	-	-	-
			INSTRUMENT CALIBRATIONS =			4.01/7.00/10.00	2,800		
			DATE & TIME =			08/28/13	0700		

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

Ideally a minimum of three (3) wellbore volumes: 2.00" well diameter = 0.49 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW #2 . Murky brown in appearance . Purged well using 2 inch submersible electric pump , new / clear vinyl tubing and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW #2 only for BTEX per US EPA Method 8021B.

Top of casings : MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.40 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.50 ft. above grade .

on-site	10:00 AM	temp	72 F
off-site	11:00 AM	temp	75 F
sky cond.		Sunny	
wind speed	0 - 5	direct.	CALM

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU COM H # 180E - PROD. TANK REL.
UNIT N, SEC. 28, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : December 11, 2013

Filename : GCU Com H 180E mw log 12-11-13.xls

DEVELOPER / SAMPLER : N J V

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.83	94.52	7.31	15.00	-	-	-	-	-
2	-	-	7.18	16.40	0840	7.48	2,000	12.3	4.50
3	101.68	94.24	7.44	15.00	-	-	-	-	-
4	102.08	94.92	7.16	15.00	-	-	-	-	-
			INSTRUMENT CALIBRATIONS =			4.01/7.00/10.00	2,800		
			DATE & TIME =			12/09/13	0600		

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

Ideally a minimum of three (3) wellbore volumes: 2.00" well diameter = 0.49 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW #2 . Murky brown in appearance . Purged well using 2 inch submersible electric pump , new / clear vinyl tubing and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW #2 only for BTEX per US EPA Method 8021B.

Top of casings : MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.40 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.50 ft. above grade .

on-site	8:00 AM	temp	9 F
off-site	9:00 AM	temp	12 F
sky cond.		Sunny	
wind speed	Calm	direct.	NA

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU COM H # 180E - PROD. TANK REL.
UNIT N, SEC. 28, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : February 27, 2014

Filename : GCU Com H 180E mw log 02-27-14.xls

DEVELOPER / SAMPLER : N J V

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	101.83	94.59	7.24	15.00	-	-	-	-	-
2	-	-	7.13	16.40	0850	7.33	3,100	11	4.50
3	101.68	94.30	7.38	15.00	-	-	-	-	-
4	102.08	94.97	7.11	15.00	-	-	-	-	-
			INSTRUMENT CALIBRATIONS =			4.01/7.00/10.00	2,800		
			DATE & TIME =			02/24/14	0600		

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

Ideally a minimum of three (3) wellbore volumes: 2.00" well diameter = 0.49 gal./ft. of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW #2 . Murky brown in appearance . Purged well using 2 inch submersible electric pump , new / clear vinyl tubing and with brass adjustable flow valve attachment added near sampling end of tubing . Collected sample from MW #2 only for BTEX per US EPA Method 8021B.

Top of casings : MW # 1 ~ 2.00 ft. , MW # 2 ~ 2.40 ft. , MW # 3 ~ 2.00 ft. , MW # 4 ~ 2.50 ft. above grade .

on-site	8:00 AM	temp	72 F
off-site	9:00 AM	temp	77 F
sky cond.		Sunny	
wind speed	5 - 10	direct.	E

Hall Environmental Analysis Laboratory, Inc.

Date: *04-Nov-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW#1
Lab Order:	1111106	**Collection Date:**	10/29/2011 1:10:00 PM
Project:	GCU Com H #180E	**Date Received:**	11/1/2011
Lab ID:	1111106-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	11/2/2011 3:22:22 AM
Toluene	ND	1.0		µg/L	1	11/2/2011 3:22:22 AM
Ethylbenzene	ND	1.0		µg/L	1	11/2/2011 3:22:22 AM
Xylenes, Total	ND	2.0		µg/L	1	11/2/2011 3:22:22 AM
Surr: 4-Bromofluorobenzene	79.0	76.5-115		%REC	1	11/2/2011 3:22:22 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *04-Nov-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW#3
Lab Order:	1111106	**Collection Date:**	10/29/2011 2:15:00 PM
Project:	GCU Com H #180E	**Date Received:**	11/1/2011
Lab ID:	1111106-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	11/2/2011 3:52:26 AM
Toluene	ND	1.0		µg/L	1	11/2/2011 3:52:26 AM
Ethylbenzene	ND	1.0		µg/L	1	11/2/2011 3:52:26 AM
Xylenes, Total	ND	2.0		µg/L	1	11/2/2011 3:52:26 AM
Surr: 4-Bromofluorobenzene	75.4	76.5-115	S	%REC	1	11/2/2011 3:52:26 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Analytical Report
Lab Order **1304A87**
Date Reported: **5/13/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM H # 180E
Lab ID: 1304A87-001 **Matrix:** AQUEOUS

Client Sample ID: MW # 2
Collection Date: 4/25/2013 8:50:00 AM
Received Date: 4/26/2013 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	4/30/2013 6:28:26 PM
Toluene	ND	1.0		µg/L	1	4/30/2013 6:28:26 PM
Ethylbenzene	ND	1.0		µg/L	1	4/30/2013 6:28:26 PM
Xylenes, Total	ND	2.0		µg/L	1	4/30/2013 6:28:26 PM
Surr: 4-Bromofluorobenzene	103	69.4-129		%REC	1	4/30/2013 6:28:26 PM
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	1.3	0.50		mg/L	5	4/26/2013 9:41:54 PM
Chloride	88	2.5		mg/L	5	4/26/2013 9:41:54 PM
Nitrogen, Nitrite (As N)	ND	0.50		mg/L	5	4/26/2013 9:41:54 PM
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	4/26/2013 9:41:54 PM
Sulfate	2700	50	*	mg/L	100	5/3/2013 12:13:09 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Iron	2.0	0.10	*	mg/L	5	4/29/2013 1:10:44 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	4440	40.0	*	mg/L	1	5/2/2013 5:35:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	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

Analytical Report
Lab Order **1308D52**
Date Reported: **9/6/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM H # 180E
Lab ID: 1308D52-001 **Matrix:** AQUEOUS

Client Sample ID: MW # 2
Collection Date: 8/28/2013 10:50:00 AM
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 4:42:18 PM	R13040
Toluene	ND	1.0		µg/L	1	9/3/2013 4:42:18 PM	R13040
Ethylbenzene	ND	1.0		µg/L	1	9/3/2013 4:42:18 PM	R13040
Xylenes, Total	ND	2.0		µg/L	1	9/3/2013 4:42:18 PM	R13040
Surr: 1,2-Dichloroethane-d4	99.7	70-130		%REC	1	9/3/2013 4:42:18 PM	R13040
Surr: 4-Bromofluorobenzene	99.2	70-130		%REC	1	9/3/2013 4:42:18 PM	R13040
Surr: Dibromofluoromethane	114	70-130		%REC	1	9/3/2013 4:42:18 PM	R13040
Surr: Toluene-d8	94.0	70-130		%REC	1	9/3/2013 4:42:18 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		

Analytical Report
Lab Order **1312584**
Date Reported: **12/18/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU Com H #180E
Lab ID: 1312584-001 **Matrix:** AQUEOUS

Client Sample ID: MW #2
Collection Date: 12/11/2013 8:40:00 AM
Received Date: 12/13/2013 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/17/2013 5:07:04 PM	R15572
Toluene	ND	1.0		µg/L	1	12/17/2013 5:07:04 PM	R15572
Ethylbenzene	ND	1.0		µg/L	1	12/17/2013 5:07:04 PM	R15572
Xylenes, Total	ND	2.0		µg/L	1	12/17/2013 5:07:04 PM	R15572
Surr: 4-Bromofluorobenzene	97.6	85-136		%REC	1	12/17/2013 5:07:04 PM	R15572

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		

Analytical Report
Lab Order **1402B47**
Date Reported: **3/5/2014**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM H #180E
Lab ID: 1402B47-001 **Matrix:** AQUEOUS

Client Sample ID: MW #2
Collection Date: 2/27/2014 8:50:00 AM
Received Date: 2/28/2014 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **JMP**	
Benzene	ND	1.0		µg/L	1	3/3/2014 12:11:18 PM	R17069
Toluene	ND	1.0		µg/L	1	3/3/2014 12:11:18 PM	R17069
Ethylbenzene	ND	1.0		µg/L	1	3/3/2014 12:11:18 PM	R17069
Xylenes, Total	ND	2.0		µg/L	1	3/3/2014 12:11:18 PM	R17069
Surr: 4-Bromofluorobenzene	108	85-136		%REC	1	3/3/2014 12:11:18 PM	R17069

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		

Analytical Report
Lab Order **1511328**
Date Reported: **11/20/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM H #1 180E
Lab ID: 1511328-001 **Matrix:** AQUEOUS

Client Sample ID: LP AGT PRODUCED WATER
Collection Date: 11/6/2015 12:10:00 PM
Received Date: 11/7/2015 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Sulfate	8.6	5.0		mg/L	10	11/14/2015 3:31:33 AM	A30251
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **IDC**	
Total Dissolved Solids	1480	100	*D	mg/L	1	11/10/2015 4:57:00 PM	22255

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		

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:
GCU Com H # 180E

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.8

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. 1111060	BTEX + ~~MTBE + TMB's~~ (8021B)	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, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)				Air Bubbles (Y or N)
10/29/11	1310	WATER	MW # 1	40 ml VOA - 2	HCl & Cool	1	V															
10/29/11	1415	WATER	MW # 3	40 ml VOA - 2	HCl & Cool	2	V															

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/31/11	1150			10/31/11	1150
Date:	Time:	Relinquished by:	Received by:	Date	Time
10/31/11	1502			11/1/11	9:00

Remarks:

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

Work Order: N1492610 Paykey: ZPEACJDENV

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

Chain-of-Custody 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:
GCU COM H # 180E

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1304187	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,~~NO3,NO2,PO4,SO4~~)	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N / Nitrite N			Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
4/25/13	0850	WATER	MW # 2	40 ml VOA - 2	HCl & Cool	-001	√													√		
4/25/13	0850	WATER	MW # 2	500 ml - 1	Cool	-001								√	√					√		
4/25/13	0850	WATER	MW # 2	250 ml - 1	~~HCl~~ & Cool	-001										√				√		
4/25/13	0850	WATER	MW # 2	250 ml - 1	H_2SO_4	-001											√			√		

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/25/13	1604			4/25/13	1604
Date:	Time:	Relinquished by:	Received by:	Date	Time
4/25/13	1750			04/26/13	1000

Remarks:

Send invoice to :
Blagg Engineering, Inc.
P.O. Box 87
Bloomfield, NM 87413

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

Chain-of-Custody 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: GCU COM H # 180E

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1308D52	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
8/28/13	1050	WATER	MW # 2	40 ml VOA - 2	HCl & Cool	-001	✓													✓	

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/29/13	820		Christine Walters	8/29/13	820
8/29/13	1757	Christine Walters		08/30/13	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 data will be clearly notated on the analytical report.

Chain-of-Custody Record

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	Turn Around Time: ☑ Standard ☐ Rush
	Project Name: GCU COM H # 180E
Mailing Address: P.O. BOX 87	
BLOOMFIELD, NM 87413	Project #:
Phone #: (505) 632-1199	
email or Fax#:	Project Manager: NELSON VELEZ
QA/QC Package: ☑ Standard ☐ Level 4 (Full Validation)	Sampler: NELSON VELEZ NV
Accreditation: ☐ NELAP ☐ Other	On Ice: ☑ Yes ☐ No
☐ EDD (Type)	Sample Temperature: 1.0

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1312584	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
12/11/13	0840	WATER	MW # 2	40 ml VOA - 2	HCl & Cool	-001	✓													✓	

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/12/13	1453		Christine Walker	12/12/13	1453
12/12/13	1747	Christine Walker		12/13/13	1040

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.

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: GCU COM H # 180E

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1402847	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)
2/27/14	0850	WATER	MW # 2	40 ml VOA - 2	HCl & Cool	-001	✓													✓		

Date:	Time:	Relinquished by:	Received by:	Date	Time
2/27/14	1600			2/27/14	1600
2/27/14	1725			02/28/14	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 the analytical report.

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: GCU COM H #180E

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

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. 1511328	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	Nitrate N / Nitrite N	Manganese	Total Iron	Iron, Ferrous (filtered)	Anion / Cation Balance	Total Dissolved Solids	Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
11/6/15	1210	WATER	LP AGT PRODUCED WATER	500 ml - 1	Cool	-001												√	√	√		

Analysis Request

Relinquished by:	Date	Time	Received by:	Date	Time
	11/6/15	1243		11/6/15	1243
	11/6/15	1804		11/07/15	0815

Remarks: REPORT SULFATE & TDS ONLY.

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

Paykey: VHIXONEVRM

B1153

District I
P.O. Box 1980, Hobbs, NM
District II
Drawer DD, Artesia, NM
District III
1000 Rio Brazos Rd., Aztec, NM

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. BOX 2088
SANTA FE, NEW MEXICO 87504-2088

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

PIT REMEDIATION AND CLOSURE REPORT

Operator: BP AMERICA PRODUCTION CO. Telephone: (505) 326-9200

Address: 200 ENERGY COURT, FARMINGTON, NM 87401

Facility or Well Name: BCU Com H # 180E

Location: Unit or Qtr/Qtr Sec N Sec 28 T 29N R 12W County San Juan

Pit Type: Separator ___ Dehydrator ___ Other Production Tank

Land Type: BLM X, State ___, Fee ___, Other ___

Pit Location: (Attach diagram)

Pit dimensions: length NA, width NA, depth NA

Reference: wellhead X, other ___

Footage from reference: 153'

Direction from reference: ~~26~~ 14 Degrees ___ East North ✓ ___ of ✓ West South ___

Depth To Groundwater: (Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet 50 feet to 99 feet Greater than 100 feet	(20 points) (10 points) (0 points)	20 KAG ~~0~~
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources)	Yes No	(20 points) (0 points)	0
Distance To Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 100 feet 100 feet to 1000 feet Greater than 1000 feet	(20 points) (10 points) (0 points)	10 KAG ~~0~~
		RANKING SCORE (TOTAL POINTS):	30 KAG ~~0~~

revised: 09/11/02 bel1202.wpd

Prod Tank

Date Remediation Started: _____ Date Completed: 2-27-03

Remediation Method: (Check all appropriate sections) Excavation X Approx. cubic yards ~~NA~~ 40 (NV)

Landfarmed X (NV) Insitu Bioremediation _____

Other ~~CLOSE AS IS.~~ (NV)

Remediation Location: (i.e. landfarmed onsite, name and location of offsite facility) Onsite X Offsite _____

General Description of Remedial Action: Excavation. Test hole advanced. ~~No remediation necessary.~~ (NV)
Groundwater Encountered. MW REQUIRED FOLLOWING BP'S GROUNDWATER MANAGEMENT PLAN. STEEL TANK TO BE INSTALLED.

Groundwater Encountered: No ~~X~~ (NV) Yes X Depth 5'

Final Pit Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)

Sample location see Attached Documents

Sample depth 3.5' ~~(Test hole bottom)~~ (NV) TRENCH BOTTOM.

Sample date 2-17-03 Sample time 1102

Sample Results

Soil:	Benzene	(ppm)	ND	Water: Benzene	(ppb)	280
	Total BTEX	(ppm)	0.0926	Toluene	(ppb)	1,100
	Field Headspace	(ppm)	545	Ethylbenzene	(ppb)	320
	TPH	(ppm)	ND	Total Xylenes	(ppb)	910

Groundwater Sample: Yes X No X (NV) (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 2-27-03 PRINTED NAME Jeffrey C. Blagg

SIGNATURE Jeffrey C Blagg AND TITLE President P.E. # 11607

revised: 03/27/02 bcj1202.wpd

VHL

3004524869

CLIENT: BP

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

LOCATION NO: B1153
10502
COCR NO: 12155

FIELD REPORT: PIT CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: GCU Com H WELL #: 180E TYPE: PROD. TANK
QUAD/UNIT: N SEC: 28 TWP: 29N RNG: 12W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: 810'S/1530'W SE/SW CONTRACTOR: SIERRA (CALVIN)

DATE STARTED: 2/17/03
DATE FINISHED:
ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. 17 FT. x 14 FT. x 5 FT. DEEP. CUBIC YARDAGE: 40
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARM
LAND USE: RANGE - BLM LEASE: SF 078209B FORMATION: GP/DK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 153 FT. N26W ~~N~~ N14W FROM WELLHEAD.
DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: <1000'
NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM

OVM CALIB. READ. = 51.2 ppm
OVM CALIB. GAS = 100 ppm RF = 0.52
TIME: 1:00 am/pm DATE: 2/14/03

SOIL AND EXCAVATION DESCRIPTION:

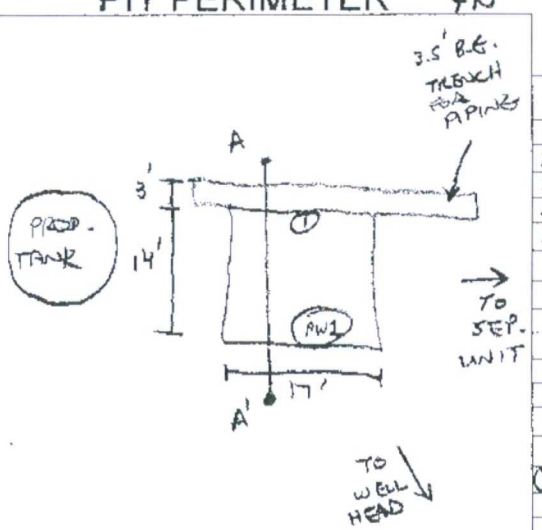
SOIL TYPE: (SAND) / SILTY SAND / SILT / SILTY CLAY / CLAY / (GRAVEL) / OTHER
SOIL COLOR: DK. YELL. ORANGE / LT. GRAY TO BLACK
COHESION (ALL OTHERS): (NON COHESIVE) SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE
CONSISTENCY (NON COHESIVE SOILS): (LOOSE) (FIRM) DENSE / VERY DENSE
PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC
DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD
MOISTURE: DRY / (SLIGHTLY MOIST) / MOIST / WET / (SATURATED) / SUPER SATURATED
DISCOLORATION/STAINING OBSERVED: (YES) / NO EXPLANATION - 1.5' - 5' BELOW GRADE (LT. GRAY TO BLACK)
HC ODOR DETECTED: (YES) NO EXPLANATION - EXCAVATION & OVM SAMPLE.
SAMPLE TYPE: (GRAB) / COMPOSITE - # OF PTS. —
ADDITIONAL COMMENTS: CREW EXCAVATED PIT TO INSTALL STEEL TANK & ENCOUNTERED IMPACTED SOIL. GW EXPOSED @ 5 FT. BELOW GRADE, NO SHEEN OBSERVED ON GW SURFACE.
(GROUNDWATER ENCOUNTERED)

FIELD 418.1 CALCULATIONS

SAMP. TIME	SAMP. ID	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. (ppm)

SCALE 0 FT

PIT PERIMETER



P.D. = PIT DEPRESSION; B.G. = BELOW GRADE; B = BELOW
T.H. = TEST HOLE; ~ = APPROX.; T.B. = TANK BOTTOM

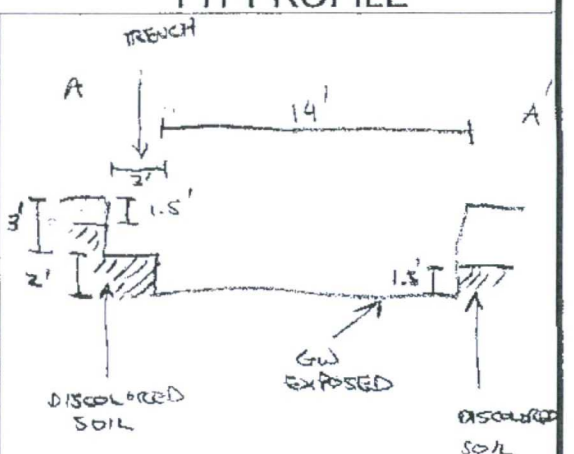
OVM READING

SAMPLE ID	FIELD HEADSPACE (ppm)
1 @ 3.5'	545
2 @	
3 @	
4 @	
5 @	

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	
① @ 3.5'	TPH (8015B)	1102	BOTH PASSED
"	BTEX (8021B)	"	
PW1 @ GW (5')	BTEX (8021B)	1100	BENZENE, ETHYL-BENZENE, & XYLENES FAILED

PIT PROFILE



TRAVEL NOTES: CALLOUT: 2/17/03 - MORN. ONSITE: 2/17/03 - MORN.

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	1 @ 3.5'	Date Reported:	02-19-03
Laboratory Number:	24868	Date Sampled:	02-17-03
Chain of Custody No:	10502	Date Received:	02-18-03
Sample Matrix:	Soil	Date Extracted:	02-19-03
Preservative:	Cool	Date Analyzed:	02-19-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **GCU Com H #180E Production Tank Pit Grab Sample.**

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	1 @ 3.5'	Date Reported:	02-19-03
Laboratory Number:	24868	Date Sampled:	02-17-03
Chain of Custody:	10502	Date Received:	02-18-03
Sample Matrix:	Soil	Date Analyzed:	02-19-03
Preservative:	Cool	Date Extracted:	02-19-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	14.6	1.5
p,m-Xylene	36.3	2.2
o-Xylene	41.7	1.0
Total BTEX	92.6	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	96 %
	1,4-difluorobenzene	96 %
	Bromochlorobenzene	96 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **GCU Com H #180E Production Tank Pit Grab Sample.**

Analyst

Review

612 E. Murray Drive
Farmington, NM 87401

Off: (505) 327-1072

iiná bá

P.O. Box 2606
Farmington, NM 87499

Fax: (505) 327-1496

Date: *28-Feb-03*

CLIENT:	Blagg Engineering	**Client Sample Info:**	Production Tank Pit
Work Order:	0302019	**Client Sample ID:**	PW1 @ GW (5ft.)
Project:	BP - GCU Com H #180E	**Collection Date:**	2/17/2003 11:00:00 AM
Lab ID:	0302019-001A	**Matrix:**	AQUEOUS

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: JEM
Benzene	280	5.0		µg/L	10	2/27/2003
Ethylbenzene	320	5.0		µg/L	10	2/27/2003
m,p-Xylene	660	10		µg/L	10	2/27/2003
o-Xylene	250	5.0		µg/L	10	2/27/2003
Toluene	1100	5.0		µg/L	10	2/27/2003

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit
J - Analyte detected below Practical Quantitation Limit
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted precision limits
E - Value above Upper Quantitation Limit - UQL

CHAIN OF CUSTODY RECORD

105C

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG 18P	GCU COM H #180E	

Sampler:

Client No.: 94084-010

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH (8015B)	BTEX (8021B)					Remarks
												PRESERVED COOL
												GRAB SAMPLE
① @ 3.5'	2/17/03	1102	24868	SOIL	1	✓	✓					PRODUCTION TANK PIT

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	2/18/03	0802.		2/18/03	0802
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

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

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

2155

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: 2/17/03

Page: 1 of 1

Purchase Order No.:	Project No.		
SEND INVOICE TO: Name	Jerry Black	REPORT RESULTS TO: Name	Melissa Velez — Title
Company	Black Excl. Inc. — Dept.	Company	Tmc
Address		Mailing Address	
City, State, Zip		City, State, Zip	
		Telephone No.	Telefax No. 652-3903

PROJECT LOCATION:
BP - Gallegos H #150E Production Tank Pit

SAMPLER'S SIGNATURE:
Melissa Velez

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	SAMPLE PRES.	Number of Containers	ANALYSIS REQUESTED: BTEX (8021)	LAB ID
Pit @ Gal (5')	2/17/03	1100	Water	Iced	1	✓	[illegible]

Relinquished by: Melissa Velez	Date/Time 2/18/03	Received by: Heather L	Date/Time 2/18/03 0930
Relinquished by: C	Date/Time 0827	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: _____ Date _____
(Client Signature Must Accompany Request)

Special Instructions / Remarks:
Cooler Temp: 6°C

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

3R - 392

GENERAL CORRESPONDENCE

YEAR(S): 2003

IR392

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

RECEIVED
MAR 19 2003
Oil Conservation Division

March 6, 2003

Mr. Roger Anderson
Chief of Environmental Bureau
State of New Mexico Oil Conservation Division **(NMOCD)**
2040 So. Pacheco
Santa Fe, New Mexico 87505

RE: Groundwater Impact
BP America Production Company (BP): GCU Com H # 180E Well site - Production Tank Pit
Legal Description: Unit N, Sec. 28, T29N, R12W, San Juan County, New Mexico

Dear Mr. Anderson:

Initial groundwater sample analytical results at the above referenced well site during pit closure activity indicated contamination to be above the State of New Mexico Water Quality Control Commission's regulatory standards for benzene, toluene, and total Xylenes. Sampling of the Production Tank pit was conducted February 17, 2003. Depth to water was estimated at five (5) feet below grade. Listed below is the summary analytical results for Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX) from the groundwater sample collected within the pit:

Parameter	Separator Pit (II) (parts per billion)
Benzene	*280*
Toluene	*1,100*
Ethylbenzene	320
Total Xylenes	*910*

Telecommunication notification was submitted to Mr. William Olson's voice recorder on March 6, 2003 at approximately 9:45 am. BP will implement its Groundwater Management Plan to address the findings related to this situation.

If you have any questions concerning this information, please do not hesitate to contact us at (505) 632-1199. Thank you for your cooperation.

Respectfully submitted,
Blagg Engineering, Inc.

Nelson Velez
Staff Geologist

cc: Denny Foust, Environmental Geologist, NMOCD, Aztec, NM
Brittany Benko, Environmental Coordinator, BP America Production Company, Farmington, NM

NV/nv GCU180E.LTR

IMPORTANT MESSAGE

FOR

DATE 3/6 TIME 8:06 A.M. P.M.

M Nelson Velez

OF Bleyl Engineering

PHONE 632-1191
AREA CODE NUMBER EXTENSION

☐ FAX

☐ MOBILE Notice of GW Contamination
AREA CODE NUMBER TIME TO CALL

TELEPHONED		PLEASE CALL	
CAME TO SEE YOU		WILL CALL AGAIN	
WANTS TO SEE YOU		RUSH	
RETURNED YOUR CALL	BP	SPECIAL ATTENTION	

MESSAGE

GCA # 180E

GW-9

B - 280 ppb

T - 1100 "

X - 910 "

SIGNED

TOPS FORM 3002P LITHO IN U.S.A.

CLIENT: BP

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

LOCATION NO: B1153

C.O.C. NO: 11650

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: Gch Com H WELL #: 180E PITS: PADD. TANK

QUAD/UNIT: N SEC: 28 TWP: 29N RNG: 12W PM: NM CNTY: SJ ST: NM

QTR/FOOTAGE: SE¼SW CONTRACTOR:

DATE STARTED: 1/19/04

DATE FINISHED:

ENVIRONMENTAL SPECIALIST: NV

SOIL REMEDIATION:

REMEDIATION SYSTEM: LANDFARM

APPROX. CUBIC YARDAGE: 40

LAND USE: RANGE - BLM

LIFT DEPTH (ft): 1

FIELD NOTES & REMARKS:

NMOCD RANKING SCORE: 30 NMOCD TPH CLOSURE STD: 100 PPM

DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: <1000'

SOIL TYPE: (SAND) / SILTY SAND / SILT / (SILTY CLAY) / CLAY / (GRAVEL) / OTHER

SOIL COLOR: MOD. BROWN → LT. GRAY

COHESION (ALL OTHERS): (NON COHESIVE) / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE

CONSISTENCY (NON COHESIVE SOILS): (LOOSE) / (FIRM) / DENSE / VERY DENSE

PLASTICITY (CLAYS): NON PLASTIC / (SLIGHTLY PLASTIC) / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC

DENSITY (COHESIVE CLAYS & SILTS): SOFT / (FIRM) / (STIFF) / VERY STIFF / HARD

MOISTURE: DRY / (SLIGHTLY MOIST) / (MOIST) / WET / SATURATED / SUPER SATURATED

DISCOLORATION/STAINING OBSERVED: (YES) / NO EXPLANATION - LT. GRAY IN SAMPLE PTS. (4) & (5)

HC ODOR DETECTED: YES / (NO) EXPLANATION -

SAMPLING DEPTHS (LANDFARMS): 12 (INCHES)

SAMPLE TYPE: GRAB / (COMPOSITE) - # OF PTS. 5

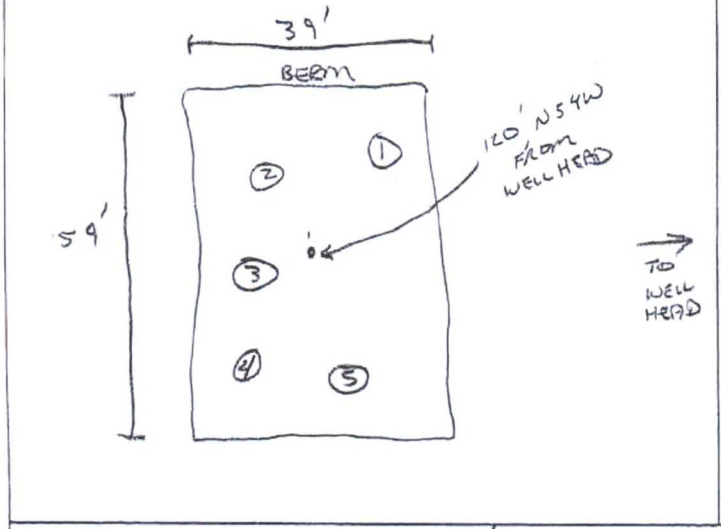
ADDITIONAL COMMENTS:

(CLOSED)

FIELD 418.1 CALCULATIONS

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

SKETCH/SAMPLE LOCATIONS



OVM CALIB. READ. 54.2 ppm
OVM CALIB. GAS = 100 ppm; RF = 0.52
TIME: 12:30 am/(pm) DATE: 1/14/04

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
LF-1	0.0

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	TPH (8015B)	1415	ND

TRAVEL NOTES: CALLOUT: N/A ONSITE: 1/19/04

revised: 07/16/01

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	LF-1	Date Reported:	01-20-04
Laboratory Number:	27590	Date Sampled:	01-19-04
Chain of Custody No:	11650	Date Received:	01-20-04
Sample Matrix:	Soil	Date Extracted:	01-20-04
Preservative:	Cool	Date Analyzed:	01-20-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**ND**	**0.2**
Diesel Range (C10 - C28)	**ND**	**0.1**
Total Petroleum Hydrocarbons	**ND**	**0.2**

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **GCU Com H #180E Landfarm 5 Pt. Composite.**

Analyst

Review

CHAIN OF CUSTODY RECORD

11650

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
BLAGG / BP	GCU com H #180E	

Sampler:	Client No.
NJV	94034-010

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH (8015B)						Remarks
												PRESERVED COOL ~~GRAB~~ 3 PT. COMPOSITE SAMPLE
LF-1	1/19/04	1415	27590	SOIL	1	✓						LANDFARM

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Nelson Velez	1/20/04	1021	Christine M Walden	1/20/04	1021
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

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

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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	01-20-TPH QA/QC	Date Reported:	01-20-04
Laboratory Number:	27574	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-20-04
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	04-29-03	1.8591E-002	1.8572E-002	**0.10%**	**0 - 15%**
Diesel Range C10 - C28	04-29-03	1.5507E-002	1.5492E-002	**0.10%**	**0 - 15%**

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	**ND**	**0.2**
Diesel Range C10 - C28	**ND**	**0.1**
Total Petroleum Hydrocarbons	**ND**	**0.2**

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	**ND**	**ND**	**0.0%**	**0 - 30%**
Diesel Range C10 - C28	**ND**	**ND**	**0.0%**	**0 - 30%**

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	**ND**	**250**	**250**	**100.0%**	**75 - 125%**
Diesel Range C10 - C28	**ND**	**250**	**250**	**100.0%**	**75 - 125%**

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **QA/QC for samples 27574 - 27576, 27578 - 27579, 27590.**

Analyst

Review

Page 43

CLIENT: BP

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

API #: 3004524869

TANK ID (if applicble): A

FIELD REPORT:

(circle one): [BGT CONFIRMATION] / RELEASE INVESTIGATION / OTHER:

PAGE #: 1 of 1

SITE INFORMATION:

SITE NAME: GCU COM H # 180E

DATE STARTED: 03/14/13

DATE FINISHED:

QUAD/UNIT: N SEC: 28 TWP: 29N RNG: 12W PM: NM CNTY: SJ ST: NM

1/4 -1/4/FOOTAGE: 810'S/1,530'W SE/SW LEASE TYPE: [FEDERAL] / STATE / FEE / INDIAN

LEASE #: NM073860 PROD. FORMATION: DK CONTRACTOR: ELKHORN MBF - C. ZELLITTI

ENVIRONMENTAL SPECIALIST(S): NJV

REFERENCE POINT:

WELL HEAD (W.H.) GPS COORD.: 36.69257 X 108.10813 GL ELEV.: 5,322'

1) 95 BGT (DW/DB)	GPS COORD.: 36.69298 X 108.10841	DISTANCE/BEARING FROM W.H.: 152', N18W
2)	GPS COORD.:	DISTANCE/BEARING FROM W.H.:
3)	GPS COORD.:	DISTANCE/BEARING FROM W.H.:
4)	GPS COORD.:	DISTANCE/BEARING FROM W.H.:

SAMPLING DATA:

CHAIN OF CUSTODY RECORD(S) # OR LAB USED: HALL

					OVM READING (ppm)
1) SAMPLE ID: 4PC-SW @ 2'-3' (95)	SAMPLE DATE: 03/14/13	SAMPLE TIME: 1525	LAB ANALYSIS: 418.1/8015B/8021B/300.0 (Cl)		NA
2) SAMPLE ID:	SAMPLE DATE:	SAMPLE TIME:	LAB ANALYSIS:		
3) SAMPLE ID:	SAMPLE DATE:	SAMPLE TIME:	LAB ANALYSIS:		
4) SAMPLE ID:	SAMPLE DATE:	SAMPLE TIME:	LAB ANALYSIS:		

SOIL DESCRIPTION:

SOIL TYPE: SAND / [SILTY SAND] / SILT / [SILTY CLAY] / CLAY / [GRAVEL] / OTHER

SOIL COLOR: MODERATE BROWN

COHESION (ALL OTHERS): NON COHESIVE / SLIGHTLY COHESIVE / [COHESIVE] / HIGHLY COHESIVE

PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / [COHESIVE] / MEDIUM PLASTIC / HIGHLY PLASTIC

CONSISTENCY (NON COHESIVE SOILS): LOOSE / [FIRM] / DENSE / VERY DENSE

DENSITY (COHESIVE CLAYS & SILTS): SOFT / [FIRM / STIFF] / VERY STIFF / HARD

MOISTURE: DRY / SLIGHTLY MOIST / [MOIST] / WET / SATURATED / SUPER SATURATED

HC ODOR DETECTED: YES / [NO] EXPLANATION -

SAMPLE TYPE: GRAB / [COMPOSITE] - # OF PTS. 4

DISCOLORATION/STAINING OBSERVED: YES / [NO] EXPLANATION -

ANY AREAS DISPLAYING WETNESS: YES / [NO] EXPLANATION -

APPARENT EVIDENCE OF A RELEASE OBSERVED AND/OR OCCURRED : YES / [NO] EXPLANATION :

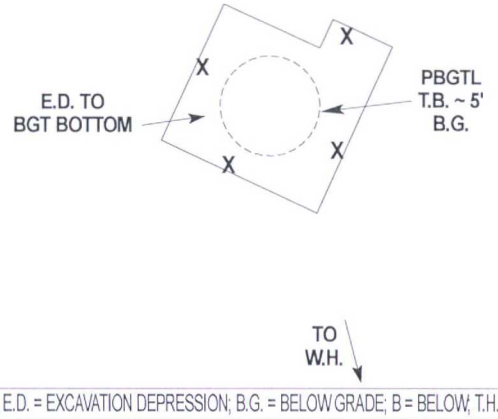
ADDITIONAL COMMENTS: NMOCD ENVIRONMENTAL ORDER # : 3RP-392-0 (03/06/03). COLLECTED 4 PT. COMPOSITE FROM ALL EXPOSED SIDEWALLS. GROUNDWATER MONITOR WELL TO BE INSTALLED.

SOIL IMPACT DIMENSION ESTIMATION: NA ft. X NA ft. X NA ft. EXCAVATION ESTIMATION (Cubic Yards) : NA

DEPTH TO GROUNDWATER: <50' NEAREST WATER SOURCE: >1,000' NEAREST SURFACE WATER: <1,000' NMOCD TPH CLOSURE STD: 100 ppm

SITE SKETCH

PLOT PLAN circle: attached



OVM CALIB. READ. = NA ppm RF = 0.52

OVM CALIB. GAS = NA ppm

TIME: NA am/pm DATE: NA

MISCELL. NOTES

WO: N15073570

PO #:

PK: ZEVH01BGT2

PJ #: Z2-00690-C

Permit date(s): 06/14/10

OCD Appr. date(s): 04/02/12

Tank ID	OVM = Organic Vapor Meter ppm = parts per million
A	BGT Sidewalls Visible: Y / (N)
	BGT Sidewalls Visible: Y / N
	BGT Sidewalls Visible: Y / N

Magnetic declination: 10° E

NOTES: BGT = BELOW-GRADE TANK; E.D. = EXCAVATION DEPRESSION; B.G. = BELOW GRADE; B = BELOW; T.H. = TEST HOLE; ~ = APPROX.; W.H. = WELL HEAD; T.B. = TANK BOTTOM; PBGTL = PREVIOUS BELOW-GRADE TANK LOCATION; SPD = SAMPLE POINT DESIGNATION; R.W. = RETAINING WALL; NA - NOT APPLICABLE OR NOT AVAILABLE; SW - SINGLE WALL; DW - DOUBLE WALL; SB - SINGLE BOTTOM; DB - DOUBLE BOTTOM.

TRAVEL NOTES: CALLOUT: ONSITE: 03/14/13

Analytical Report
Lab Order **1303706**
Date Reported: **3/26/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: GCU COM H #180E
Lab ID: 1303706-001 **Matrix:** SOIL

Client Sample ID: 4PC-SW @ 2'-3' (95)
Collection Date: 3/14/2013 3:25:00 PM
Received Date: 3/19/2013 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **MMD**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	3/23/2013 2:24:04 AM
Surr: DNOP	98.5	72.4-120		%REC	1	3/23/2013 2:24:04 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/22/2013 5:09:10 PM
Surr: BFB	92.7	84-116		%REC	1	3/22/2013 5:09:10 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.047		mg/Kg	1	3/22/2013 5:09:10 PM
Toluene	ND	0.047		mg/Kg	1	3/22/2013 5:09:10 PM
Ethylbenzene	ND	0.047		mg/Kg	1	3/22/2013 5:09:10 PM
Xylenes, Total	ND	0.095		mg/Kg	1	3/22/2013 5:09:10 PM
Surr: 4-Bromofluorobenzene	97.2	80-120		%REC	1	3/22/2013 5:09:10 PM
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Chloride	180	30		mg/Kg	20	3/25/2013 1:16:54 PM
EPA METHOD 418.1: TPH						Analyst: **LRW**
Petroleum Hydrocarbons, TR	ND	20		mg/Kg	1	3/25/2013

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

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:
GCU COM H # 180E

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 2 2

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 (A10322/13, 4)	Container Type and #	Preservative Type	HEAL No. 1303706	BTEX + ~~MTBE~~ + TMB's (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / ~~MRO~~) NV	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
3/14/13	1525	SOIL	~~SPC~~-SW @ 2'-3' (95)	4 oz. - 2	Cool	-001	✓		✓	✓								✓			✓

Date: 3/18/13 Time: 808 Relinquished by: [signature] Received by: Christine Walker Date: 3/18/13 Time: 808

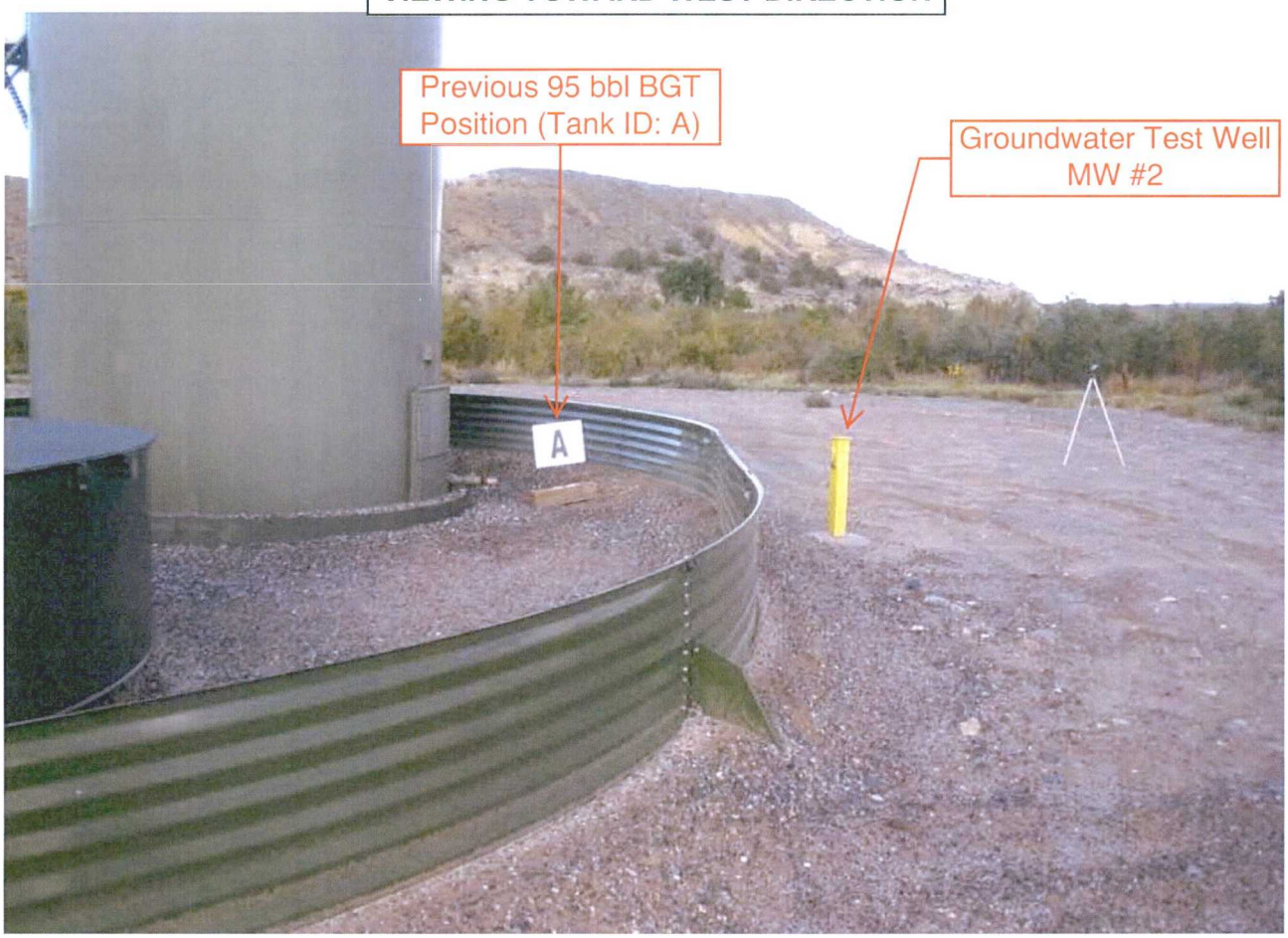
Date: 3/18/13 Time: 1749 Relinquished by: Christine Walker Received by: [signature] Date: 03/19/13 Time: 0955

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

Work Order: N15073570 Paykey: ZEVH01BGT2

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.

VIEWING TOWARD WEST DIRECTION



QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU Com H #180E **Work Order:** 1111106

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles											
Sample ID: b 8		*MBLK*				Batch ID:	**R48803**	Analysis Date:	11/1/2011 2:33:42 PM		
Benzene	ND	µg/L	1.0								
Toluene	ND	µg/L	1.0								
Ethylbenzene	ND	µg/L	1.0								
Xylenes, Total	ND	µg/L	2.0								
Sample ID: 100NG BTEX LCS		*LCS*				Batch ID:	**R48803**	Analysis Date:	11/1/2011 2:03:31 PM		
Benzene	20.57	µg/L	1.0	20	0	103	80	120			
Toluene	21.02	µg/L	1.0	20	0	105	80	120			
Ethylbenzene	21.10	µg/L	1.0	20	0	106	80	120			
Xylenes, Total	64.79	µg/L	2.0	60	0	108	80	120			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date Received: 11/1/2011

Work Order Number 1111106 | Received by: MMG

Checklist completed by: Signature 11/1/11 Date | Sample ID labels checked by: TO Initials

Matrix: | Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace? No VOA vials submitted ☐		Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	*<2 >12 unless noted below.*
Container/Temp Blank temperature?	**1.8°**	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303706**

26-Mar-13

Client: Blagg Engineering

Project: GCU COM H #180E

Sample ID	**MB-6631**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**6631**	RunNo:	**9397**					
Prep Date:	**3/25/2013**	Analysis Date:	**3/25/2013**	SeqNo:	**268226**	Units:	**mg/Kg**			

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

Sample ID	**LCS-6631**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**6631**	RunNo:	**9397**					
Prep Date:	**3/25/2013**	Analysis Date:	**3/25/2013**	SeqNo:	**268227**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.8	90	110			

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#: **1303706**

26-Mar-13

Client: Blagg Engineering

Project: GCU COM H #180E

Sample ID	**MB-6618**	SampType:	**MBLK**		TestCode:	**EPA Method 418.1: TPH**				
Client ID:	**PBS**	Batch ID:	**6618**		RunNo:	**9391**				
Prep Date:	**3/22/2013**	Analysis Date:	**3/25/2013**		SeqNo:	**268093**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	ND	20								

Sample ID	**LCS-6618**	SampType:	**LCS**		TestCode:	**EPA Method 418.1: TPH**				
Client ID:	**LCSS**	Batch ID:	**6618**		RunNo:	**9391**				
Prep Date:	**3/22/2013**	Analysis Date:	**3/25/2013**		SeqNo:	**268094**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	93	20	100.0	0	93.1	80	120			

Sample ID	**LCSD-6618**	SampType:	**LCSD**		TestCode:	**EPA Method 418.1: TPH**				
Client ID:	**LCSS02**	Batch ID:	**6618**		RunNo:	**9391**				
Prep Date:	**3/22/2013**	Analysis Date:	**3/25/2013**		SeqNo:	**268095**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Petroleum Hydrocarbons, TR	96	20	100.0	0	95.6	80	120	2.69	20	

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#: **1303706**

26-Mar-13

Client: Blagg Engineering

Project: GCU COM H #180E

Sample ID **MB-6604**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **6604**	RunNo: **9311**
Prep Date: **3/21/2013**	Analysis Date: **3/21/2013**	SeqNo: **265889** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	12		10.00		122	72.4	120			S

Sample ID **LCS-6604**	SampType: **LCS**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **6604**	RunNo: **9311**
Prep Date: **3/21/2013**	Analysis Date: **3/21/2013**	SeqNo: **265890** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.2	47.4	122			
Surr: DNOP	5.0		5.000		101	72.4	120			

Sample ID **MB-6604**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **6604**	RunNo: **9345**
Prep Date: **3/21/2013**	Analysis Date: **3/22/2013**	SeqNo: **267512** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.7		10.00		96.8	72.4	120			

Sample ID **LCS-6604**	SampType: **LCS**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **6604**	RunNo: **9345**
Prep Date: **3/21/2013**	Analysis Date: **3/22/2013**	SeqNo: **267513** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	107	47.4	122			
Surr: DNOP	5.2		5.000		104	72.4	120			

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#: **1303706**

26-Mar-13

Client: Blagg Engineering

Project: GCU COM H #180E

Sample ID **MB-6607**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBS**	Batch ID: **6607**	RunNo: **9381**
Prep Date: **3/21/2013**	Analysis Date: **3/22/2013**	SeqNo: **267718** 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	920		1000		92.2	84	116			

Sample ID **LCS-6607**	SampType: **LCS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **LCSS**	Batch ID: **6607**	RunNo: **9381**
Prep Date: **3/21/2013**	Analysis Date: **3/22/2013**	SeqNo: **267719** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	62.6	136			
Surr: BFB	950		1000		94.7	84	116			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit
- 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
- S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303706**

26-Mar-13

Client: Blagg Engineering

Project: GCU COM H #180E

Sample ID **MB-6607**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **6607**	RunNo: **9381**
Prep Date: **3/21/2013**	Analysis Date: **3/22/2013**	SeqNo: **267746** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		99.4	80	120			

Sample ID **LCS-6607**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **6607**	RunNo: **9381**
Prep Date: **3/21/2013**	Analysis Date: **3/22/2013**	SeqNo: **267747** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.050	1.000	0	89.2	80	120			
Toluene	0.92	0.050	1.000	0	92.2	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.2	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			

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

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: 1303706

Received by/date: AG 03/19/13

Logged By: **Michelle Garcia** 3/19/2013 9:55:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 3/19/2013 10:18:18 AM Michelle Garcia

Reviewed By: MG 03/21/13

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: per NV Sample ID is 4 PC-SWe 2'-3' (95)

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.2	Good	Yes			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1304A87**

13-May-13

Client: Blagg Engineering

Project: GCU COM H # 180E

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R10183**	RunNo: **10183**
Prep Date:	Analysis Date: **4/29/2013**	SeqNo: **289964** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R10183**	RunNo: **10183**
Prep Date:	Analysis Date: **4/29/2013**	SeqNo: **289965** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.52	0.020	0.5000	0	105	85	115			

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#: **1304A87**

13-May-13

Client: Blagg Engineering

Project: GCU COM H # 180E

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R10191**	RunNo: **10191**
Prep Date:	Analysis Date: **4/26/2013**	SeqNo: **290383** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R10191**	RunNo: **10191**
Prep Date:	Analysis Date: **4/26/2013**	SeqNo: **290384** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.47	0.10	0.5000	0	94.2	90	110			
Chloride	4.7	0.50	5.000	0	93.4	90	110			
Nitrogen, Nitrite (As N)	0.92	0.10	1.000	0	91.8	90	110			
Nitrogen, Nitrate (As N)	2.4	0.10	2.500	0	97.9	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R10191**	RunNo: **10191**
Prep Date:	Analysis Date: **4/26/2013**	SeqNo: **290438** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R10191**	RunNo: **10191**
Prep Date:	Analysis Date: **4/26/2013**	SeqNo: **290439** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.2	90	110			
Chloride	4.8	0.50	5.000	0	96.3	90	110			
Nitrogen, Nitrite (As N)	0.95	0.10	1.000	0	95.5	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R10287**	RunNo: **10287**
Prep Date:	Analysis Date: **5/2/2013**	SeqNo: **293290** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit
- 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
- S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1304A87**

13-May-13

Client: Blagg Engineering

Project: GCU COM H # 180E

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R10287**	RunNo: **10287**
Prep Date:	Analysis Date: **5/2/2013**	SeqNo: **293291** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.5	0.50	10.00	0	95.4	90	110			

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#: **1304A87**

13-May-13

Client: Blagg Engineering

Project: GCU COM H # 180E

Sample ID: **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R10219**	RunNo: **10219**
Prep Date:	Analysis Date: **4/30/2013**	SeqNo: **291518** 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		99.0	69.4	129			

Sample ID: **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R10219**	RunNo: **10219**
Prep Date:	Analysis Date: **4/30/2013**	SeqNo: **291519** 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	80	120			
Toluene	21	1.0	20.00	0	103	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	21		20.00		107	69.4	129			

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#: **1304A87**

13-May-13

Client: Blagg Engineering

Project: GCU COM H # 180E

Sample ID: **MB-7237**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **7237**	RunNo: **10278**
Prep Date: **5/1/2013**	Analysis Date: **5/2/2013**	SeqNo: **293040** 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-7237**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **7237**	RunNo: **10278**
Prep Date: **5/1/2013**	Analysis Date: **5/2/2013**	SeqNo: **293041** 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
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

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: 1304A87 RcptNo: 1

Received by/date: AG 04/26/13

Logged By: **Lindsay Mangin** 4/26/2013 10:00:00 AM

Completed By: **Lindsay Mangin** 4/26/2013 12:35:11 PM

Reviewed By: 04/26/13

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
(<2 or >12 unless noted)
Adjusted? 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			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1308D52**

06-Sep-13

Client: Blagg Engineering

Project: GCU COM H # 180E

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			

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: 1308D52 RcptNo: 1

Received by/date: 08/30/13

Logged By: Lindsay Mangin 8/30/2013 10:00:00 AM

Completed By: Lindsay Mangin 8/30/2013 1:09:10 PM

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 ☑	
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	4.9	Good	Yes			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1312584**

18-Dec-13

Client: Blagg Engineering
Project: GCU Com H #180E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R15572**	RunNo: **15572**
Prep Date:	Analysis Date: **12/17/2013**	SeqNo: **448255** 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		97.8	85	136			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R15572**	RunNo: **15572**
Prep Date:	Analysis Date: **12/17/2013**	SeqNo: **448256** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	80	120			
Toluene	21	1.0	20.00	0	105	80	120			
Ethylbenzene	21	1.0	20.00	0	103	80	120			
Xylenes, Total	63	2.0	60.00	0	105	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		102	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

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: 1312584 | RcptNo: 1

Received by/date: RM 12/13/13

Logged By: Ashley Gallegos 12/13/2013 10:40:00 AM AG

Completed By: Ashley Gallegos 12/13/2013 11:13:00 AM AG

Reviewed By: dam

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			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1402B47**

05-Mar-14

Client: Blagg Engineering
Project: GCU COM H #180E

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R17037**	RunNo: **17037**
Prep Date:	Analysis Date: **2/28/2014**	SeqNo: **490141** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	20		20.00		102	85	136			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R17037**	RunNo: **17037**
Prep Date:	Analysis Date: **2/28/2014**	SeqNo: **490142** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	23		20.00		114	85	136			

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R17069**	RunNo: **17069**
Prep Date:	Analysis Date: **3/3/2014**	SeqNo: **490953** 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	85	136			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R17069**	RunNo: **17069**
Prep Date:	Analysis Date: **3/3/2014**	SeqNo: **490954** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.7	80	120			
Toluene	19	1.0	20.00	0	97.2	80	120			
Ethylbenzene	20	1.0	20.00	0	98.9	80	120			
Xylenes, Total	59	2.0	60.00	0	98.9	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		111	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.
- 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: 1402B47 RcptNo: 1

Received by/date: AG 02/28/14

Logged By: Michelle Garcia 2/28/2014 10:00:00 AM Michelle Garcia

Completed By: Michelle Garcia 2/28/2014 2:22:19 PM Michelle Garcia

Reviewed By: IO 02/28/2014

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 ☐	Checked by:
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

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			

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1511328**

20-Nov-15

Client: Blagg Engineering

Project: GCU COM H #1 180E

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **A30251**	RunNo: **30251**							
Prep Date:	Analysis Date: **11/14/2015**	SeqNo: **922191**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **A30251**	RunNo: **30251**							
Prep Date:	Analysis Date: **11/14/2015**	SeqNo: **922192**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.6	0.50	10.00	0	96.5	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
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#: **1511328**

20-Nov-15

Client: Blagg Engineering

Project: GCU COM H #1 180E

Sample ID **MB-22255**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **22255**	RunNo: **30139**
Prep Date: **11/9/2015**	Analysis Date: **11/10/2015**	SeqNo: **918270** 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-22255**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **22255**	RunNo: **30139**
Prep Date: **11/9/2015**	Analysis Date: **11/10/2015**	SeqNo: **918271** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	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		

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: 1511328 RcptNo: 1

Received by/date: LM 11/09/15

Logged By: Anne Thorne 11/7/2015 8:45:00 AM Anne Thorne

Completed By: Anne Thorne 11/9/2015 Anne Thorne

Reviewed By:

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			