

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 CONS. DIV DIST. 3

AUG 11 2015

Form C-141
Revised August 8, 2011

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

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

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 170E	Facility Type: Natural gas well	
Surface Owner: Private	Mineral Owner: Private	API No. 3004524175

LOCATION OF RELEASE

Unit Letter E	Section 35	Township 29N	Range 12W	Feet from the 1,755	North/South Line North	Feet from the 910	East/West Line West	County: San Juan
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Latitude 36.68554

Longitude -108.07407

NATURE OF RELEASE



Type of Release: condensate/oil	Volume of Release: unknown	Volume Recovered: none
Source of Release: Fiberglass flow line discovered during the removal of a 95 bbl BGT.	Date and Hour of Occurrence: unknown	Date and Hour of Discovery: September 25, 2014
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		

Describe Cause of Problem and Remedial Action Taken.* SUPPLEMENTAL INFORMATION

During removal of a below grade tank, contaminated soil was discovered. Initial investigation determined a fiberglass flow line between the wellhead and the separator to be leaking. Groundwater was found at an average depth of 5 feet below ground surface. Impacted soil was excavated and removed and 3 groundwater investigation wells were drilled and installed. Groundwater was analyzed and results determined concentrations below detection limits for BTEX, but exceeded standards for sulfate and TDS. Sampling of produced water at the well was performed to determine sulfate and TDS values and to verify if the elevated concentration in the samples collected from the investigation wells are related to produced water.

Describe Area Affected and Cleanup Action Taken.* Groundwater investigation wells (3) were installed in the area with impacted soil that was excavated and laboratory results for BTEX were non-detect. However, lab results for sulfate were 1,500 ppm (MW-2) and 1,700 ppm (MW-3) with TDS contration 2,660 ppm (MW-2) and 2,940 ppm (MW-3). A sample of the produced water from the well was taken and analyzed for sulfate and TDS to determine if produced water had impacted the groundwater. The analysis of the produced water resulted in sulfate of 190 ppm and TDS of 648 ppm. The laboratory results of the produced water sample determined concentrations for both sulfate and TDS to be below the concentrations found in the investigation wells. The results indicate the produced water had no impact on the groundwater.

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: 8/12/15	Expiration Date:
E-mail Address: steven.moskal@bp.com		Conditions of Approval:	Attached <input type="checkbox"/>
Date: August 6, 2015	Phone: 505-326-9497		

* Attach Additional Sheets If Necessary

#NCS 143 25 49 116

BP America: GCU 170E
(E) Sec 35 – T29N – R12W
San Juan County, New Mexico
API: 30-045-24175

Summary Record of Impact Remediation

September 25, 2014 Soils impacted with hydrocarbons encountered during trenching for new flow line between wellhead and separator. Original source of impacts not evident, but appeared to be historical in nature with no integrity issues found on any current flow lines or equipment. Shallow groundwater encountered throughout location at an approximate depth of 5' below grade.

Site Closure Standard Determined at 100 ppm TPH based on:

Horizontal Distance to San Juan River < 1,000 feet (10 points)
Nearest Water Well > 1,000 feet (0 points)
Depth to Groundwater < 25 feet (20 points)

A same day immediate investigation of the extent of impacts was conducted and it was determined that impacts were limited to a small area on the well pad, with no imminent threat to surface water or off-site water sources.

October 9, 2014 Begin remediation of site by excavation of impacts with trackhoe.

October 13, 2014 Excavation size approximately 50' x 50' x 7' deep (approximately 3' below the water table). Sample the east and west sidewalls, and SE & SW corners.

October 15, 2014 Final excavation size approximately 65' x 50' x 7' deep. Sample south and east sidewalls.

Final laboratory test results from Envirotech laboratory are summarized below:

Sample ID	Date/Time	Map ID	TPH 8015B (mg/Kg)	BTEX 8021 (mg/Kg)	Chloride (mg/Kg)
West Wall 3-pt @ 4'	10/13/2014 14:10	1	ND	ND	ND
SW Corner @ 4'	10/13/2014 14:15	2	95	ND	ND
North Wall 3-pt @ 4'	10/13/2014 14:20	3	ND	ND	ND
SE Corner @ 4'	10/13/2014 14:25	4	61.4	ND	ND
South Wall 3-pt @ 4'	10/15/2014 10:42	5	81.7	ND	ND
East Wall 3-pt @ 4'	10/15/2014 10:50	6	ND	ND	ND

October 17, 2015 Excavation crew completes backfilling. Total estimated soils transported to landfarm = 486 CY.

December 2, 2015 Install 3 groundwater monitor wells at site to evaluate water quality.

January 23, 2015 Develop monitor wells.

January 26, 2015 Sample source area monitor well MW-2 and down-gradient monitor well MW-3

February 4, 2015 Receive laboratory test reports from monitor well sampling. BTEX non-detect in both wells, find TDS and Sulfate in excess of NMWQCC standards.

February 12, 2015 Sample produced water from on-site low profile tank and submit to laboratory for testing of TDS and Sulfate

February 23, 2015 Receive laboratory test reports from produced water sampling. Lab results indicate that elevated TDS and Sulfate in groundwater is naturally occurring and not from a produced water release from the production operations. (Note: Summary lab results from monitor well and produced water sampling found in following table).

BP - GCU 170E

Imagery Date: 11/17/2013.



BP AMERICA PRODUCTION COMPANY

GCU 170E - (Fiberglass flowline and Unknown Release discovered during 95 BGT closure)

Unit Letter E, Section 35, T29N, R12W - API Number: 30-045-24175

Field & Laboratory Data from Groundwater Monitor Wells

FIELD PARAMETERS								
SAMPLE ID	SAMPLE DATE	SAMPLE TIME	DEPTH TO WATER (feet)	TOTAL MW LENGTH (feet)	pH	Conductivity (µmhos/cm)	Temperature (°Celcius)	Volume Purged (gallons)
MW # 2 (source area)	01/26/15	1445	5.90	14.50	7.35	NA	10.9	3.50
MW # 3 (source area)	01/26/15	1045	6.20	14.70	7.40	NA	12.8	3.50
95 bbl AGT PRODUCED WATER	02/12/15	1100	NA	NA	NA	NA	NA	NA
NMWQCC STANDARDS -					6 - 9			

LABORATORY PARAMETERS									
SAMPLE ID	Fluoride (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Nitrate- Nitrite as N (mg/L)	TDS (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl - benzene (µg/L)	Total Xylenes (µg/L)
MW # 2 (source area)	0.72	28	1,500	ND	2,660	ND	ND	ND	ND
MW # 3 (source area)	0.75	46	1,700	ND	2,940	ND	ND	ND	ND
95 bbl AGT PRODUCED WATER	NA	NA	190	NA	648	NA	NA	NA	NA
NMWQCC STANDARDS -	1.6	250	600	10	1,000	10	750	750	620

Notes:

Depth to water measured from casing top of monitor well.

Groundwater standards are applied to values assigned in blue highlighted boxes or confirmed background levels, which ever is higher.

MW - Monitor well

µmhos/cm - Micromhos per centimeter

TDS - Total dissolved solids

mg/L - Milligram per Liter

µg/L - Microgram per liter

ND - Not detected at Reporting Limit

NA - Not available or not applicable

NMWQCC - New Mexico Water Quality Control Commission

Analytical Report

Lab Order 1501901

Date Reported: 2/4/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: MW # 2

Project: GCU #170E

Collection Date: 1/26/2015 2:45:00 PM

Lab ID: 1501901-001

Matrix: AQUEOUS

Received Date: 1/27/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	1.0		µg/L	1	1/27/2015 3:38:34 PM	R23926
Toluene	ND	1.0		µg/L	1	1/27/2015 3:38:34 PM	R23926
Ethylbenzene	ND	1.0		µg/L	1	1/27/2015 3:38:34 PM	R23926
Xylenes, Total	ND	2.0		µg/L	1	1/27/2015 3:38:34 PM	R23926
Surr: 4-Bromofluorobenzene	122	66.6-167		%REC	1	1/27/2015 3:38:34 PM	R23926
EPA METHOD 300.0: ANIONS							Analyst: lgp
Fluoride	0.72	0.50		mg/L	5	1/27/2015 1:36:05 PM	R23942
Chloride	28	2.5		mg/L	5	1/27/2015 1:36:05 PM	R23942
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	1/27/2015 1:36:05 PM	R23942
Sulfate	1500	25		mg/L	50	2/2/2015 12:48:05 PM	R24057
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	2660	40.0	*	mg/L	1	1/30/2015 5:10:00 PM	17454

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 1501901

Date Reported: 2/4/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: MW # 3

Project: GCU #170E

Collection Date: 1/26/2015 10:45:00 AM

Lab ID: 1501901-002

Matrix: AQUEOUS

Received Date: 1/27/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	1.0		µg/L	1	1/27/2015 4:33:12 PM	R23926
Toluene	ND	1.0		µg/L	1	1/27/2015 4:33:12 PM	R23926
Ethylbenzene	ND	1.0		µg/L	1	1/27/2015 4:33:12 PM	R23926
Xylenes, Total	ND	2.0		µg/L	1	1/27/2015 4:33:12 PM	R23926
Surr: 4-Bromofluorobenzene	117	66.6-167		%REC	1	1/27/2015 4:33:12 PM	R23926
EPA METHOD 300.0: ANIONS							Analyst: lgp
Fluoride	0.75	0.50		mg/L	5	1/27/2015 2:25:43 PM	R23942
Chloride	46	2.5		mg/L	5	1/27/2015 2:25:43 PM	R23942
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	1/27/2015 2:25:43 PM	R23942
Sulfate	1700	25		mg/L	50	1/29/2015 12:02:09 AM	R23965
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	2940	100	*	mg/L	1	1/30/2015 5:10:00 PM	17454

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1501901

04-Feb-15

Client: Blagg Engineering

Project: GCU #170E

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R23942			RunNo: 23942					
Prep Date:		Analysis Date: 1/27/2015			SeqNo: 706139		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, Nitrate (As N)	ND	0.10								

Sample ID	LCS		SampType: LCS		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSW		Batch ID: R23942		RunNo: 23942					
Prep Date:			Analysis Date: 1/27/2015		SeqNo: 706140		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	99.3	90	110			
Chloride	4.8	0.50	5.000	0	96.7	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	102	90	110			

Sample ID	MB-17444		SampType: MBLK		TestCode: EPA Method 300.0: Anions					
Client ID:	PBW		Batch ID: R23965		RunNo: 23965					
Prep Date:			Analysis Date: 1/28/2015		SeqNo: 706782		Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								

Sample ID	LCS-17444			SampType:	LCS		TestCode:	EPA Method 300.0: Anions			
Client ID:	LCSW			Batch ID:	R23965		RunNo:	23965			
Prep Date:				Analysis Date:	1/28/2015		SeqNo:	706783		Units:	mg/L
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Sulfate	9.9	0.50	10.00	0	99.2	90	110				

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions					
Client ID:	PBW	Batch ID: R23965			RunNo: 23965					
Prep Date:		Analysis Date: 1/28/2015			SeqNo: 706790		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: R23965		RunNo: 23965					
Prep Date:			Analysis Date: 1/28/2015		SeqNo: 706791		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	96.3	90	110			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1501901

04-Feb-15

Client: Blagg Engineering

Project: GCU #170E

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions						
Client ID:	PBW	Batch ID: R24057			RunNo: 24057						
Prep Date:		Analysis Date: 2/2/2015			SeqNo: 708996		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: R24057			RunNo: 24057						
Prep Date:		Analysis Date: 2/2/2015			SeqNo: 708998		Units: mg/L				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate		10	0.50	10.00	0	99.7	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 |
| O RSD is greater than RSDlimit | P Sample pH greater than 2. |
| R RPD outside accepted recovery limits | RL Reporting Detection Limit |
| S Spike Recovery outside accepted recovery limits | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1501901

04-Feb-15

Client: Blagg Engineering

Project: GCU #170E

Sample ID: 5ML RB	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBW	Batch ID: R23926	RunNo: 23926								
Prep Date:	Analysis Date: 1/27/2015	SeqNo: 705588	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	24		20.00		121	66.6	167			

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSW	Batch ID: R23926	RunNo: 23926								
Prep Date:	Analysis Date: 1/27/2015	SeqNo: 705589	Units: µg/L							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.4	80	120			
Toluene	20	1.0	20.00	0	98.9	80	120			
Ethylbenzene	20	1.0	20.00	0	101	80	120			
Xylenes, Total	64	2.0	60.00	0	107	80	120			
Surr: 4-Bromofluorobenzene	25		20.00		123	66.6	167			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1501901

04-Feb-15

Client: Blagg Engineering

Project: GCU #170E

Sample ID	MB-17454	SampType:	MBLK	TestCode:	SM2540C MOD: Total Dissolved Solids					
Client ID:	PBW	Batch ID:	17454	RunNo:	24012					
Prep Date:	1/29/2015	Analysis Date:	1/30/2015	SeqNo:	708015	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-17454	SampType:	LCS	TestCode:	SM2540C MOD: Total Dissolved Solids					
Client ID:	LCSW	Batch ID:	17454	RunNo:	24012					
Prep Date:	1/29/2015	Analysis Date:	1/30/2015	SeqNo:	708016	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.
- 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
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: 1501901

RcptNo: 1

Received by/date:

Logged By: Lindsay Mangin

1/27/2015 7:00:00 AM

Completed By: Lindsay Mangin

1/27/2015 7:42:08 AM

Reviewed By:

TO

01/27/15

[Signature]
[Signature]

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 $>0^{\circ}\text{C}$ 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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			

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) _____

Sample Temperature: 2

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

[illegible]

Date:	Time:	Relinquished by:	Received by:	Date	Time
1/26/15	1643	[Signature]	[Signature]	1/26/15	1643
Date:	Time:	Relinquished by:	Received by:	Date	Time
1/26/15	1747	Christina Jaeger	[Signature]	01/27/15	0700

Paykey: ZEVH01REME

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.

Analytical Report

Lab Order **1502620**

Date Reported: **2/23/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering

Client Sample ID: LP AGT Produced Water

Project: GCU #170E

Collection Date: 2/12/2015 11:00:00 AM

Lab ID: 1502620-001

Matrix: AQUEOUS

Received Date: 2/13/2015 7:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: JRR
Sulfate	190	5.0		mg/L	10	2/13/2015 12:32:55 PM	R24319
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	648	40.0	*	mg/L	1	2/19/2015 10:52:00 AM	17789

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1502620

23-Feb-15

Client: Blagg Engineering

Project: GCU #170E

Sample ID	MB	SampType: MBLK			TestCode: EPA Method 300.0: Anions						
Client ID:	PBW	Batch ID: R24319			RunNo: 24319						
Prep Date:		Analysis Date: 2/13/2015			SeqNo: 716676		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: R24319			RunNo: 24319						
Prep Date:		Analysis Date: 2/13/2015			SeqNo: 716677		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	96.2	90	110			

Qualifiers:

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

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH Not In Range
RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1502620

23-Feb-15

Client: Blagg Engineering

Project: GCU #170E

Sample ID	MB-17789	SampType:	MBLK	TestCode:	SM2540C MOD: Total Dissolved Solids					
Client ID:	PBW	Batch ID:	17789	RunNo:	24401					
Prep Date:	2/17/2015	Analysis Date:	2/19/2015	SeqNo:	718882	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-17789	SampType:	LCS	TestCode:	SM2540C MOD: Total Dissolved Solids					
Client ID:	LCSW	Batch ID:	17789	RunNo:	24401					
Prep Date:	2/17/2015	Analysis Date:	2/19/2015	SeqNo:	718883	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.
E Value above quantitation range
J Analyte detected below quantitation limits
O RSD is greater than RSDlimit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
P Sample pH Not In Range
RL Reporting Detection Limit



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87105
TEL: 505-345-3975 FAX: 505-345-4103
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG

Work Order Number: 1502620

RcptNo. 1

Received by/date:

LM 02/13/15

Logged By: Ashley Gallegos

2/13/2015 7:15:00 AM

Ag

Completed By: Ashley Gallegos

2/13/2015 10:01:47 AM

Ag

Reviewed By:

CS

02/13/15

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			



BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: GCU 170E
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
15-Oct-14 15:14

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
West Wall 3-pt @ 4'	P410051-01A	Soil	10/13/14	10/13/14	Glass Jar, 4 oz.
SW Corner @ 4'	P410051-02A	Soil	10/13/14	10/13/14	Glass Jar, 4 oz.
North Wall 3-pt @ 4'	P410051-03A	Soil	10/13/14	10/13/14	Glass Jar, 4 oz.
SE Corner @ 4'	P410051-04A	Soil	10/13/14	10/13/14	Glass Jar, 4 oz.

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BP America Production Co.
 PO Box 22024
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 Project Name: GCU 170E
 Project Number: 03143-0424
 Project Manager: Jeff Blagg

Reported:
 15-Oct-14 15:14

West Wall 3-pt @ 4'
P410051-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		95.3 %	50-150		1442010	10/13/14	10/14/14	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	9.98	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	40.0	mg/kg	2	1442006	10/14/14	10/14/14	EPA 8015D	
<i>Surrogate: o-Terphenyl</i>		99.1 %	50-200		1442006	10/14/14	10/14/14	EPA 8015D	
<i>Surrogate: 4-Bromochlorobenzene-FID</i>		87.0 %	50-150		1442010	10/13/14	10/14/14	EPA 8015D	
Cation/Anion Analysis									
Chloride	ND	9.92	mg/kg	1	1442012	10/14/14	10/14/14	EPA 300.0	

Overhead View Map ID: 1

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 Project Name: GCU 170E
 Project Number: 03143-0424
 Project Manager: Jeff Blagg

Reported:
 15-Oct-14 15:14

SW Corner @ 4'
P410051-02 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		96.5 %		50-150	1442010	10/13/14	10/14/14	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	9.99	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8015D	
Diesel Range Organics (C10-C28)	95.0	34.9	mg/kg	1	1442006	10/14/14	10/14/14	EPA 8015D	
Surrogate: o-Terphenyl		92.9 %		50-200	1442006	10/14/14	10/14/14	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		89.2 %		50-150	1442010	10/13/14	10/14/14	EPA 8015D	
Cation/Anion Analysis									
Chloride	ND	9.90	mg/kg	1	1442012	10/14/14	10/14/14	EPA 300.0	

Overhead View Map ID: 2

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BP America Production Co.
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 Project Name: GCU 170E
 Project Number: 03143-0424
 Project Manager: Jeff Blagg

Reported:
 15-Oct-14 15:14

North Wall 3-pt @ 4'
P410051-03 (Solid)

Analyte	Result	Reporting			Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units							
Volatile Organics by EPA 8021										
Benzene	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B		
Toluene	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B		
Ethylbenzene	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B		
p,m-Xylene	ND	0.20	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B		
o-Xylene	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B		
Total Xylenes	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B		
Total BTEX	ND	0.10	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8021B		
Surrogate: 4-Bromochlorobenzene-PID		96.9 %		50-150	1442010	10/13/14	10/14/14	EPA 8021B		
Nonhalogenated Organics by 8015										
Gasoline Range Organics (C6-C10)	ND	9.98	mg/kg	1	1442010	10/13/14	10/14/14	EPA 8015D		
Diesel Range Organics (C10-C28)	ND	35.0	mg/kg	1	1442006	10/14/14	10/14/14	EPA 8015D		
Surrogate: o-Terphenyl		102 %		50-200	1442006	10/14/14	10/14/14	EPA 8015D		
Surrogate: 4-Bromochlorobenzene-FID		88.5 %		50-150	1442010	10/13/14	10/14/14	EPA 8015D		
Cation/Anion Analysis										
Chloride	ND	9.89	mg/kg	1	1442012	10/14/14	10/14/14	EPA 300.0		

Overhead View Map ID: 3

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BP America Production Co.
 PO Box 22024
 Tulsa OK, 74121-2024

 Project Name: GCU 170E
 Project Number: 03143-0424
 Project Manager: Jeff Blagg

Reported:
 15-Oct-14 15:14

SE Corner @ 4'
P410051-04 (Solid)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Volatile Organics by EPA 8021										
Benzene	ND	0.10	mg/kg	1		1442010	10/13/14	10/14/14	EPA 8021B	
Toluene	ND	0.10	mg/kg	1		1442010	10/13/14	10/14/14	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1		1442010	10/13/14	10/14/14	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1		1442010	10/13/14	10/14/14	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1		1442010	10/13/14	10/14/14	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1		1442010	10/13/14	10/14/14	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1		1442010	10/13/14	10/14/14	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		97.0 %	50-150			1442010	10/13/14	10/14/14	EPA 8021B	
Nonhalogenated Organics by 8015										
Gasoline Range Organics (C6-C10)	ND	9.98	mg/kg	1		1442010	10/13/14	10/14/14	EPA 8015D	
Diesel Range Organics (C10-C28)	61.4	40.0	mg/kg	2		1442006	10/14/14	10/14/14	EPA 8015D	
Surrogate: o-Terphenyl		96.7 %	50-200			1442006	10/14/14	10/14/14	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		88.6 %	50-150			1442010	10/13/14	10/14/14	EPA 8015D	
Cation/Anion Analysis										
Chloride	ND	9.83	mg/kg	1		1442012	10/14/14	10/14/14	EPA 300.0	

Overhead View Map ID: 4

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BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: GCU 170E
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
15-Oct-14 15:14

Volatile Organics by EPA 8021 - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch 1442010 - Purge and Trap EPA 5030A

Blank (1442010-BLK1)

Prepared: 13-Oct-14 Analyzed: 14-Oct-14

Benzene	ND	0.10	mg/kg							
Toluene	ND	0.10	"							
Ethylbenzene	ND	0.10	"							
p,m-Xylene	ND	0.20	"							
o-Xylene	ND	0.10	"							
Total Xylenes	ND	0.10	"							
Total BTEX	ND	0.10	"							
Surrogate: 4-Bromochlorobenzene-PID	0.389		"	0.400		97.3	50-150			

LCS (1442010-BS1)

Prepared: 13-Oct-14 Analyzed: 14-Oct-14

Benzene	20.6	0.10	mg/kg	20.0		103	75-125			
Toluene	20.9	0.10	"	20.0		105	70-125			
Ethylbenzene	21.0	0.10	"	20.0		105	75-125			
p,m-Xylene	42.4	0.20	"	39.9		106	80-125			
o-Xylene	20.9	0.10	"	20.0		104	75-125			
Surrogate: 4-Bromochlorobenzene-PID	0.405		"	0.399		101	50-150			

Matrix Spike (1442010-MS1)

Source: P410050-01

Prepared: 13-Oct-14 Analyzed: 14-Oct-14

Benzene	19.8	0.10	mg/kg	20.0	ND	99.0	75-125			
Toluene	20.0	0.10	"	20.0	ND	100	70-125			
Ethylbenzene	20.2	0.10	"	20.0	ND	101	75-125			
p,m-Xylene	40.8	0.20	"	40.0	ND	102	80-125			
o-Xylene	20.2	0.10	"	20.0	0.11	100	75-125			
Surrogate: 4-Bromochlorobenzene-PID	0.408		"	0.400		102	50-150			

Matrix Spike Dup (1442010-MSD1)

Source: P410050-01

Prepared: 13-Oct-14 Analyzed: 14-Oct-14

Benzene	20.0	0.10	mg/kg	20.0	ND	100	75-125	0.928	15	
Toluene	20.2	0.10	"	20.0	ND	101	70-125	1.00	15	
Ethylbenzene	20.3	0.10	"	20.0	ND	102	75-125	0.589	15	
p,m-Xylene	41.2	0.20	"	39.9	ND	103	80-125	0.837	15	
o-Xylene	20.3	0.10	"	20.0	0.11	101	75-125	0.785	15	
Surrogate: 4-Bromochlorobenzene-PID	0.409		"	0.399		102	50-150			

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laboratory@envirotech-inc.com



BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: GCU 170E
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
15-Oct-14 15:14

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1442006 - DRO Extraction EPA 3550M										
Blank (1442006-BLK1)				Prepared: 13-Oct-14 Analyzed: 14-Oct-14						
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Surrogate: o-Terphenyl	33.4		"	39.9		83.7	50-200			
LCS (1442006-BS1)				Prepared: 13-Oct-14 Analyzed: 14-Oct-14						
Diesel Range Organics (C10-C28)	429	25.0	mg/kg	500		85.8	38-132			
Surrogate: o-Terphenyl	40.8		"	40.0		102	50-200			
Matrix Spike (1442006-MS1)				Source: P410044-01		Prepared: 13-Oct-14 Analyzed: 14-Oct-14				
Diesel Range Organics (C10-C28)	635	34.9	mg/kg	499	ND	127	38-132			
Surrogate: o-Terphenyl	48.8		"	39.9		122	50-200			
Matrix Spike Dup (1442006-MSD1)				Source: P410044-01		Prepared: 13-Oct-14 Analyzed: 14-Oct-14				
Diesel Range Organics (C10-C28)	662	35.0	mg/kg	499	ND	132	38-132	4.03	20	
Surrogate: o-Terphenyl	50.5		"	40.0		127	50-200			

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BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: GCU 170E
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
15-Oct-14 15:14

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1442010 - Purge and Trap EPA 5030A										
Blank (1442010-BLK1)				Prepared: 13-Oct-14 Analyzed: 14-Oct-14						
Gasoline Range Organics (C6-C10)	ND	10.0	mg/kg							
Surrogate: 4-Bromochlorobenzene-FID	0.358		"	0.400		89.5	50-150			
LCS (1442010-BS1)				Prepared: 13-Oct-14 Analyzed: 14-Oct-14						
Gasoline Range Organics (C6-C10)	296	9.99	mg/kg	292		101	80-120			
Surrogate: 4-Bromochlorobenzene-FID	0.370		"	0.399		92.6	50-150			
Matrix Spike (1442010-MS1)				Source: P410050-01		Prepared: 13-Oct-14 Analyzed: 14-Oct-14				
Gasoline Range Organics (C6-C10)	284	9.99	mg/kg	292	ND	97.4	75-125			
Surrogate: 4-Bromochlorobenzene-FID	0.371		"	0.400		92.7	50-150			
Matrix Spike Dup (1442010-MSD1)				Source: P410050-01		Prepared: 13-Oct-14 Analyzed: 14-Oct-14				
Gasoline Range Organics (C6-C10)	287	9.99	mg/kg	292	ND	98.5	75-125	1.02	15	
Surrogate: 4-Bromochlorobenzene-FID	0.372		"	0.399		93.1	50-150			

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BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: GCU 170E
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
15-Oct-14 15:14

Cation/Anion Analysis - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1442012 - Anion Extraction EPA 300.0										
Blank (1442012-BLK1)				Prepared & Analyzed: 14-Oct-14						
Chloride	ND	9.96	mg/kg							
LCS (1442012-BS1)				Prepared & Analyzed: 14-Oct-14						
Chloride	499	9.88	mg/kg	494		101	90-110			
Matrix Spike (1442012-MS1)				Prepared & Analyzed: 14-Oct-14						
Chloride	516	9.95	mg/kg	498	ND	104	80-120			
Matrix Spike Dup (1442012-MSD1)				Prepared & Analyzed: 14-Oct-14						
Chloride	519	9.97	mg/kg	499	ND	104	80-120	0.616	20	

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laboratory@envirotech-inc.com

CHAIN OF CUSTODY RECORD

17879

Client: BP America			Project Name / Location: GCU 170E			ANALYSIS / PARAMETERS															
Email results to: jeffeblogg@AOC.com peace.jeffrey@BP.com			Sampler Name: J. Blagg			TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE				Sample Cool	Sample Intact	
Client Phone No.: 505-320-1183			Client No.: 03143-0424																		
Sample No. / Identification	Sample Date	Sample Time	Lab No.	No./Volume of Containers	Preservative																
					HNO ₃	HCl															
West Wall 3-pt @ 4'	10/13/2014	1410	P410051-01	1 x 403				X	X							X				✓	✓
SW Corner @ 4'	"	1415	P410051-02	"				X	X							X				✓	✓
North Wall 3-pt @ 4'	"	1420	P410051-03	"				X	X							X				✓	✓
SE Corner @ 4'	"	1425	P410051-04	"				X	X							X				✓	✓
RUSH Bill BP																					
Relinquished by: (Signature) J. Blagg					Date 10/13/2014	Time 1510	Received by: (Signature) Demetrios					Date 10/13/14	Time 1510								
Relinquished by: (Signature)							Received by: (Signature)														
Sample Matrix Soil <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Sludge <input type="checkbox"/> Aqueous <input type="checkbox"/> Other <input type="checkbox"/>																					
<input type="checkbox"/> Sample(s) dropped off after hours to secure drop off area.																					

RUSH



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BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: GCU 170E
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
17-Oct-14 09:34

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
South Wall 3-pt @ 4'	P410060-01A	Soil	10/14/14	10/15/14	Glass Jar, 4 oz.
East Wall 3-pt @ 4'	P410060-02A	Soil	10/14/14	10/15/14	Glass Jar, 4 oz.

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BP America Production Co.
 PO Box 22024
 Tulsa OK, 74121-2024

 Project Name: GCU 170E
 Project Number: 03143-0424
 Project Manager: Jeff Blagg

Reported:
 17-Oct-14 09:34

South Wall 3-pt @ 4'
P410060-01 (Solid)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Volatile Organics by EPA 8021										
Benzene	ND	0.10	mg/kg	1		1442019	10/15/14	10/16/14	EPA 8021B	
Toluene	ND	0.10	mg/kg	1		1442019	10/15/14	10/16/14	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1		1442019	10/15/14	10/16/14	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1		1442019	10/15/14	10/16/14	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1		1442019	10/15/14	10/16/14	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1		1442019	10/15/14	10/16/14	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1		1442019	10/15/14	10/16/14	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		104 %		50-150		1442019	10/15/14	10/16/14	EPA 8021B	
Nonhalogenated Organics by 8015										
Gasoline Range Organics (C6-C10)	14.4	9.99	mg/kg	1		1442019	10/15/14	10/16/14	EPA 8015D	
Diesel Range Organics (C10-C28)	67.3	25.0	mg/kg	1		1442023	10/15/14	10/16/14	EPA 8015D	
Surrogate: o-Terphenyl		82.7 %		50-200		1442023	10/15/14	10/16/14	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		97.6 %		50-150		1442019	10/15/14	10/16/14	EPA 8015D	
Cation/Anion Analysis										
Chloride	ND	9.96	mg/kg	1		1442020	10/15/14	10/15/14	EPA 300.0	

Overhead View Map ID: 5

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BP America Production Co.
 PO Box 22024
 Tulsa OK, 74121-2024

 Project Name: GCU 170E
 Project Number: 03143-0424
 Project Manager: Jeff Blagg

Reported:
 17-Oct-14 09:34

East Wall 3-pt @ 4'
P410060-02 (Solid)

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1442019	10/15/14	10/16/14	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1442019	10/15/14	10/16/14	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1442019	10/15/14	10/16/14	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1442019	10/15/14	10/16/14	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1442019	10/15/14	10/16/14	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1442019	10/15/14	10/16/14	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1442019	10/15/14	10/16/14	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		101 %	50-150		1442019	10/15/14	10/16/14	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	9.99	mg/kg	1	1442019	10/15/14	10/16/14	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1442023	10/15/14	10/16/14	EPA 8015D	
Surrogate: o-Terphenyl		82.1 %	50-200		1442023	10/15/14	10/16/14	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		91.6 %	50-150		1442019	10/15/14	10/16/14	EPA 8015D	
Cation/Anion Analysis									
Chloride	ND	9.98	mg/kg	1	1442020	10/15/14	10/15/14	EPA 300.0	

Overhead View Map ID: 6

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BP America Production Co.	Project Name:	GCU 170E	
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Jeff Blagg	Reported: 17-Oct-14 09:34

Volatile Organics by EPA 8021 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1442019 - Purge and Trap EPA 5030A

Blank (1442019-BLK1)				Prepared: 14-Oct-14 Analyzed: 16-Oct-14						
Benzene	ND	0.10	mg/kg							
Toluene	ND	0.10	"							
Ethylbenzene	ND	0.10	"							
p,m-Xylene	ND	0.20	"							
o-Xylene	ND	0.10	"							
Total Xylenes	ND	0.10	"							
Total BTEX	ND	0.10	"							
Surrogate: 4-Bromochlorobenzene-PID	0.395		"	0.400		98.9	50-150			

LCS (1442019-BS1)				Prepared: 14-Oct-14 Analyzed: 16-Oct-14						
Benzene	18.5	0.10	mg/kg	20.0		92.5	75-125			
Toluene	18.6	0.10	"	20.0		92.9	70-125			
Ethylbenzene	18.7	0.10	"	20.0		93.4	75-125			
p,m-Xylene	37.7	0.20	"	40.0		94.5	80-125			
o-Xylene	18.6	0.10	"	20.0		93.1	75-125			
Surrogate: 4-Bromochlorobenzene-PID	0.404		"	0.400		101	50-150			

Matrix Spike (1442019-MS1)				Source: P410054-01	Prepared: 14-Oct-14 Analyzed: 16-Oct-14					
Benzene	19.9	0.10	mg/kg	20.0	ND	99.3	75-125			
Toluene	20.0	0.10	"	20.0	ND	100	70-125			
Ethylbenzene	20.1	0.10	"	20.0	ND	100	75-125			
p,m-Xylene	40.6	0.20	"	40.0	ND	102	80-125			
o-Xylene	20.1	0.10	"	20.0	0.11	100	75-125			
Surrogate: 4-Bromochlorobenzene-PID	0.411		"	0.400		103	50-150			

Matrix Spike Dup (1442019-MSD1)				Source: P410054-01	Prepared: 14-Oct-14 Analyzed: 16-Oct-14					
Benzene	20.0	0.10	mg/kg	20.0	ND	100	75-125	0.769	15	
Toluene	20.1	0.10	"	20.0	ND	101	70-125	0.718	15	
Ethylbenzene	20.2	0.10	"	20.0	ND	101	75-125	0.634	15	
p,m-Xylene	40.9	0.20	"	40.0	ND	102	80-125	0.686	15	
o-Xylene	20.3	0.10	"	20.0	0.11	101	75-125	0.844	15	
Surrogate: 4-Bromochlorobenzene-PID	0.409		"	0.400		102	50-150			

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BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: GCU 170E
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
17-Oct-14 09:34

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1442019 - Purge and Trap EPA 5030A										
Blank (1442019-BLK1)				Prepared: 14-Oct-14 Analyzed: 16-Oct-14						
Gasoline Range Organics (C6-C10)	ND	9.99	mg/kg							
Surrogate: 4-Bromochlorobenzene-FID	0.361		"	0.400		90.4	50-150			
LCS (1442019-BS1)				Prepared: 14-Oct-14 Analyzed: 16-Oct-14						
Gasoline Range Organics (C6-C10)	265	9.99	mg/kg	292		90.9	80-120			
Surrogate: 4-Bromochlorobenzene-FID	0.369		"	0.400		92.2	50-150			
Matrix Spike (1442019-MS1)				Source: P410054-01		Prepared: 14-Oct-14 Analyzed: 16-Oct-14				
Gasoline Range Organics (C6-C10)	285	10.0	mg/kg	292	ND	97.6	75-125			
Surrogate: 4-Bromochlorobenzene-FID	0.374		"	0.400		93.5	50-150			
Matrix Spike Dup (1442019-MSD1)				Source: P410054-01		Prepared: 14-Oct-14 Analyzed: 16-Oct-14				
Gasoline Range Organics (C6-C10)	287	9.99	mg/kg	292	ND	98.5	75-125	0.798	15	
Surrogate: 4-Bromochlorobenzene-FID	0.374		"	0.400		93.5	50-150			

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BP America Production Co.	Project Name:	GCU 170E	Reported: 17-Oct-14 09:34
PO Box 22024	Project Number:	03143-0424	
Tulsa OK, 74121-2024	Project Manager:	Jeff Blagg	

Nonhalogenated Organics by 8015 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1442023 - DRO Extraction EPA 3550M

Blank (1442023-BLK1)				Prepared: 15-Oct-14 Analyzed: 16-Oct-14						
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Surrogate: o-Terphenyl	38.8		"	40.0		97.2	50-200			
LCS (1442023-BS1)				Prepared: 15-Oct-14 Analyzed: 16-Oct-14						
Diesel Range Organics (C10-C28)	464	24.9	mg/kg	499		92.9	38-132			
Surrogate: o-Terphenyl	45.8		"	39.9		115	50-200			
Matrix Spike (1442023-MS1)				Source: P410060-01		Prepared: 15-Oct-14 Analyzed: 16-Oct-14				
Diesel Range Organics (C10-C28)	444	25.0	mg/kg	500	67.3	75.5	38-132			
Surrogate: o-Terphenyl	34.6		"	40.0		86.7	50-200			
Matrix Spike Dup (1442023-MSD1)				Source: P410060-01		Prepared: 15-Oct-14 Analyzed: 16-Oct-14				
Diesel Range Organics (C10-C28)	543	25.0	mg/kg	500	67.3	95.1	38-132	19.9	20	
Surrogate: o-Terphenyl	43.2		"	40.0		108	50-200			

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BP America Production Co.
 PO Box 22024
 Tulsa OK, 74121-2024

 Project Name: GCU 170E
 Project Number: 03143-0424
 Project Manager: Jeff Blagg

Reported:
 17-Oct-14 09:34

Cation/Anion Analysis - Quality Control
Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1442020 - Anion Extraction EPA 300.0										
Blank (1442020-BLK1)				Prepared & Analyzed: 15-Oct-14						
Chloride	ND	9.99	mg/kg							
LCS (1442020-BS1)				Prepared & Analyzed: 15-Oct-14						
Chloride	501	9.93	mg/kg	497		101	90-110			
Matrix Spike (1442020-MS1)				Prepared & Analyzed: 15-Oct-14						
Chloride	511	9.94	mg/kg	497	ND	103	80-120			
Matrix Spike Dup (1442020-MSD1)				Prepared & Analyzed: 15-Oct-14						
Chloride	514	9.94	mg/kg	497	ND	103	80-120	0.674	20	

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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

03143-0976 Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: BP America Production Company 200 Energy Ct. Farmington, NM 87401	
2. Originating Site: GCU 170E	
3. Location of Material (Street Address, City, State or ULSTR): Unit: E Section: 35 T29N R12W	
4. Source and Description of Waste: hydrocarbon/condensate impacted soil from historical release on location	
Estimated Volume _____ yd ³ / bbls Known Volume (to be entered by the operator at the end of the haul) <u>486</u> yd ³ / bbls	
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS I, <u>Courtney Cochran</u> , representative or authorized agent for <u>BP America Production Company</u> do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) <input checked="" type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. <u>Operator Use Only: Waste Acceptance Frequency</u> <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input type="checkbox"/> Per Load <input type="checkbox"/> RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items) <input type="checkbox"/> MSDS Information <input type="checkbox"/> RCRA Hazardous Waste Analysis <input checked="" type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description in Box 4) GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS <u>Courtney Cochran</u> , representative for <u>BP America Production Company</u> authorize Envirotech to complete the required testing/sign the Generator Waste Testing Certification. I, <u>Kendra Runing</u> , representative for <u>Envirotech, Inc</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.	
5. Transporter: <u>Crossfire</u>	

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Envirotech Inc. Soil Remediation Facility Permit # NM-01-0011

Address of Facility: #43 Road 7175, South of Bloomfield, New Mexico

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ **APPROVED**

☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: Kendra Runing

TITLE: Waste Coordinator DATE: 10-13-14

SIGNATURE: Kendra Runing

TELEPHONE NO.: 505-632-0615