

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

MAY 16 2016

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: Jeff Peace
Address: 200 Energy Court, Farmington, NM 87401	Telephone No.: 505-326-9479
Facility Name: Gallegos Canyon Unit Com I 181	Facility Type: Natural gas well
Surface Owner: Federal	Mineral Owner: Federal
API No. 3004507707	

LOCATION OF RELEASE

Unit Letter F	Section 34	Township 29N	Range 12W	Feet from the 1,650	North/South Line North	Feet from the 1,650	East/West Line West	County: San Juan
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Latitude 36.68577 Longitude -108.08992

NATURE OF RELEASE

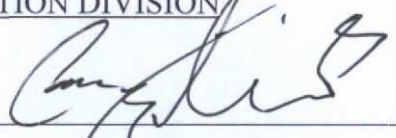
Type of Release: Oil/condensate	Volume of Release: unknown	Volume Recovered: none
Source of Release: Unknown – Discovered during BGT closure; likely earthen pit.	Date and Hour of Occurrence: unknown	Date and Hour of Discovery: February 2, 2014
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
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 were found during the closure of a 95 bbl BGT. BGT did not have an obvious signs of failed integrity. Existing groundwater monitoring wells were sampled to determine presence of impacts; none groundwater impacts found. An extensive excavation of impacted soils removed approximately 17,000 square feet were excavated and transported off site for landfarm treatment. Additional groundwater monitoring wells were installed to determine impacts. No additional impacts were found.

Describe Area Affected and Cleanup Action Taken.* Approximately 17,000 square feet of soil was excavated and removed from the site for offsite landfarm treatment. The area of excavation measured approximately 150' x 120' x 4' impact thickness with a total of approximately 2,700 cubic yards removed. The extents of impacted soils were determined and removed from the site. Laboratory results are attached. Groundwater impacts were suspected. Monitoring wells were installed, purged and sampled. Results of the laboratory analysis of the groundwater samples determined insignificant impacts to groundwater below groundwater quality standards. Laboratory results are attached.

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: <u>5/17/16</u>	Expiration Date: <u>5/17/16</u>
E-mail Address: steven.moskal@bp.com	Conditions of Approval:	Attached ☐
Date: May 16, 2016	Phone: 505-326-9497	

* Attach Additional Sheets If Necessary

#NCS 1411851126

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BP AMERICA PRODUCTION CO.

REMEDIATION REPORT

**GCU COM I 181
API #: 300-45-07707
(F) SECTION 34, T29N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO**

**PREPARED FOR:
NEW MEXICO OIL CONSERVATION DIVISION
1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410**

MAY 2016

**PREPARED BY:
BLAGG ENGINEERING, INC.**

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

BP AMERICA PRODUCTION COMPANY

REMEDATION OF UNIDENTIFIED SOURCE(S)

GCU Com I 181

API #: 30-045-07707

Legal Description: (Unit Letter F, Sec. 34 -T29N -R12W, NMPM)

CHRONOLOGICAL EVENT SUMMATION

1. **February 6, 2014:** BP begins closure of 95 bbl below-grade tank (BGT) at site. Apparent soil impacts discovered during removal process. BGT did not appear to have lost integrity, therefore, source of release was undetermined. Groundwater observed approximately six (6) feet below grade (B.G.).
2. **November 4, 2014:** Groundwater sample collected from pre-existing monitor well MW-A (same as MW #36) and analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) per US EPA Method 8021B. All constituents tested as not detected (ND) at the reporting limit (RL) noted on the Laboratory Analytical Report. See following tables for all field and/or lab results collected from this point forward.
3. **November 11, 2014:** Groundwater samples collected from other pre-existing monitor wells for BTEX (MW #5, #7R, #32R, and #47). All sample constituents test ND except MW #32R (benzene – 1.3 microgram per liter or µg/L).
4. **February 23, 2015:** BP begins remediation via excavation with trackhoe. One (1) soil sample from the impacted soil area was collected.
5. **February 26, 2015:** 2nd sampling event conducted. Three (3) soil samples were collected.
6. **March 4, 2015:** 3rd sampling event conducted. Two (2) soil samples were collected.
7. **March 5, 2015:** 4th sampling event conducted. Two (2) soil samples were collected.
8. **March 6, 2015:** 5th sampling event conducted. One (1) soil samples were collected.
9. **March 9, 2015:** 6th sampling event conducted. Four (4) soil samples were collected.
10. **March 13, 2015:** 7th sampling event conducted. Three (3) soil samples were collected with two (2) separate Chain-of-Custody Records submitted.
11. **March 19, 2015:** 8th and final soil sampling event conducted. Excavation dimensions measured approximately 150 ft. X 120 ft. X 4 ft. (average impact thickness). Approximately 2,700 cubic yards were removed and transported to BP's Crouch Mesa Facility.
12. **March 20, 2015:** Upon receiving preliminary lab results from previous day's sampling event, backfilling commenced with clean, non-wasting fill material/soil.
13. **April 29, 2015:** Water sample collected from nearby pond (Nunez Private Pond) and analyzed for BTEX only. All constituents test ND.
14. **June 3, 2015:** Two (2) groundwater monitor wells MW #101 (close proximity to BGT foot print area) and MW #102 (in suspected down gradient position) were installed using CME-95 mobile drill rig (see following aerial map and Bore / Test Hole Reports).

15. **June 24, 2015:** Development/purging of both monitor wells MW #101 and MW #102 was initially conducted to 1) eliminate sediment accumulation during the installation process, and 2) determine/observe rudimentary recovery rates.
16. **June 25, 2015:** Completed sampling of monitor wells MW #101, MW #102, and relinquished to a laboratory representative that same day. The samples were later analyzed for BTEX per US EPA Method 8021B and for anion/cation balance per US EPA Method 300.1. All BTEX constituents were ND at the laboratory RL. The fluoride, chloride, and nitrate levels were below the allowable concentration standard established by the New Mexico Water Quality Control Commission.
17. **November 6, 2015:** Sampled on-site low profile above-grade disposal tank produced water from GCU Com H 180E (API #: 3004524869, unit letter N, Section 28, T29N, R12W) to evaluate the sulfate and TDS from same gas producing formation [Dakota (DK)]. Test results indicate that elevated levels recorded in monitor wells MW #101 and MW #102 do not appear to be from the gas production formation water and most likely are naturally occurring.

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BP - GCU Com I 181

(F) Sec. 34, T29N, R12W
API #: 3004507707
Imagery Date: 03/15/2015

AERIAL MAP #1

To MW #47
446 ft., N45W
from well head

To MW #32R
413 ft., N40.5W
from well head

MW #102

MW #7R

MW #101

MW #36
MW - A

MW #5

WH

N

100 ft

BP - GCU Com I 181

(F) Sec. 34, T29N, R12W
API #: 3004507707

Imagery Date: 03/15/2015

AERIAL MAP #2

MW #47

MW #32R

MW #10R

MW #102

Google earth

100 ft



FIGURE 1

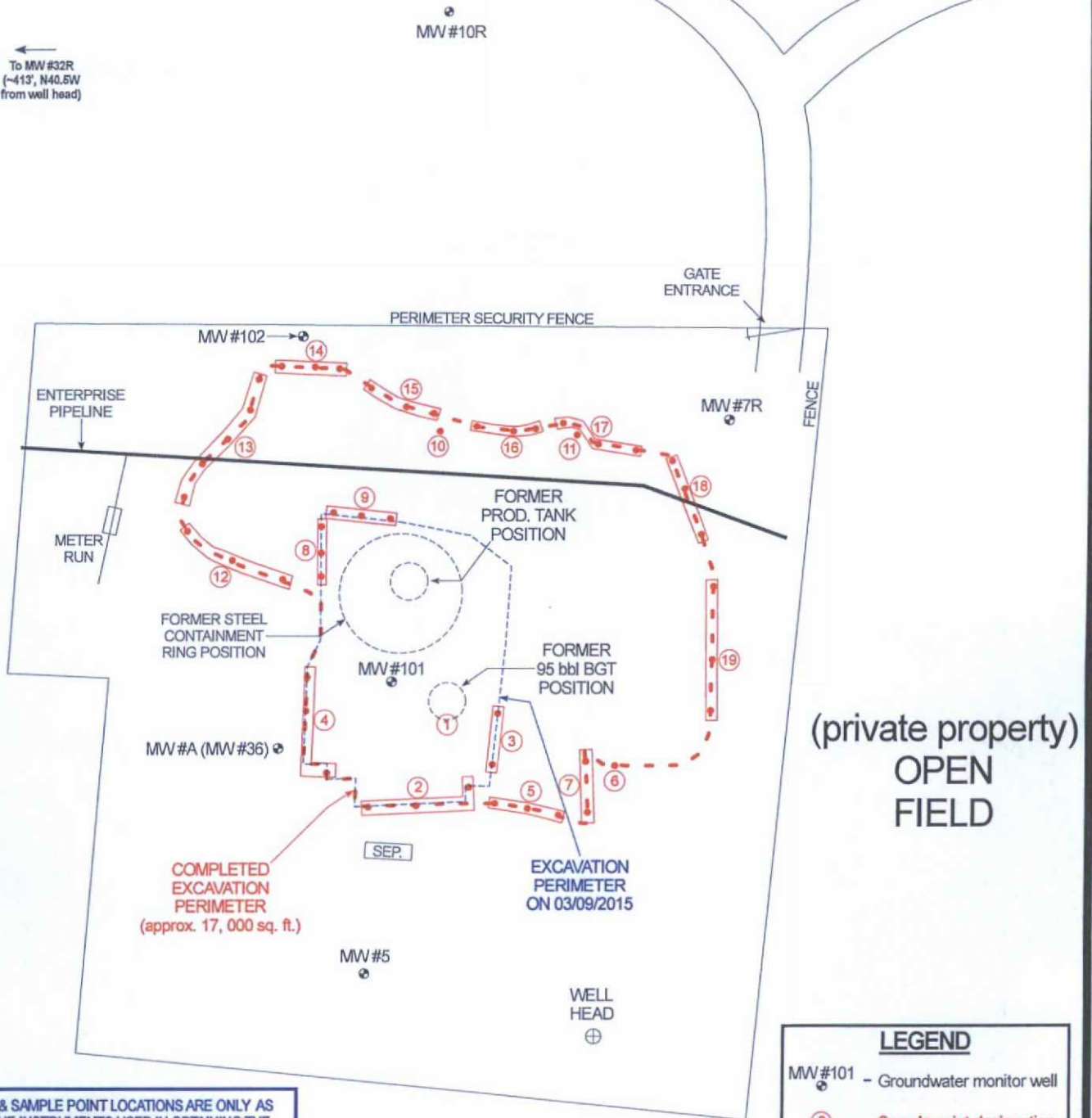


← To CR 5500

ACCESS ROAD

← To MW #47
(~446', N45W
from well head)

← To MW #32R
(~413', N40.5W
from well head)



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

1 INCH = 50 FT.

0 50 100 FT.

LEGEND

- MW #101 - Groundwater monitor well
- ② - Sample point designation (see Summary Table 1 sample ID map number)
- Composite sample group

BP AMERICA PRODUCTION CO.

GCU COM I # 181

SE/4 NW/4 SEC. 34, 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: REMEDIATION

DRAWN BY: NJV

FILENAME: GCU COM I 181-REM.SKF

REVISED: 04-29-16

**SITE
MAP**

03/15

BP AMERICA PRODUCTION COMPANY

GCU Com I # 181 - (Cleanup - Release of Undetermined Origin)

Table 1

Unit Letter F, Section 34, T29N, R12W - API Number: 30-045-07707

SAMPLE ID & MAP NUMBER	SAMPLE DATE	SAMPLE TIME	SAMPLING COLLECTION	FIELD OVM READING (ppm)	TPH - cumulative (ppm)	Benzene (ppm)	BTEX - cumulative (ppm)	Soil Description / Comments
Impact Grab @ 4'	1	02/23/15	0910	grab	680	219.8	NA	MEDIUM GRAY SAND, EXCAVATED
3PC - SSW @ 3'-4'	2	02/26/15	1013	3 pt. comp.	NA	ND	ND	MODERATE BROWN SILTY SAND TO SILTY CLAY
2PC - E/SE-SW @ 4'	3	02/26/15	1016	2 pt. comp.	NA	869	21.25	MEDIUM GRAY SAND, EXCAVATED
3PC - WSW @ 4'	4	02/26/15	1021	3 pt. comp.	NA	ND	ND	DARK YELLOWISH ORANGE SAND
South Wall East Extent 3-pt. @ 3'-5'	5	03/05/15	1430	3 pt. comp.	23	ND	ND	
Grab @ 4' 87' N4E	6	03/05/15	1440	grab	70.4	ND	ND	
East Wall @ 5' 2-pt. Comp 72'-90' N2W	7	03/06/15	1125	2 pt. comp.	481	53.7	ND	
West Wall North 3-pt. @ 4'-5'	8	03/09/15	1444	3 pt. comp.	573	1,290	0.57	EXCAVATED
North Wall West 3-pt. @ 4'-5'	9	03/09/15	1455	3 pt. comp.	882	740	1.7	EXCAVATED
TH 199' N14W @ 4'-5'	10	03/09/15	1505	grab	78	ND	ND	
TH 192' N2W @ 4'-5'	11	03/09/15	1510	grab	754	153	0.13	EXCAVATED
East Wall 3-pt. @ 3'-5'	12	03/13/15	0930	3 pt. comp.	0.0	ND	ND	
NW corner 3-pt. @ 3'-5'	13	03/13/15	0940	5 pt. comp.	39	ND	ND	
282' N23W @ 3'-5'	14	03/19/15	0925	3 pt. comp.	399	54.6	2.09	
210' N17W @ 3'-5'	15	03/19/15	0932	3 pt. comp.	0.0	ND	ND	
195' N8W @ 3'-5'	16	03/19/15	0935	3 pt. comp.	0.0	ND	ND	
189' N0W @ 3'-5'	17	03/19/15	0938	3 pt. comp.	18.6	ND	ND	
177' N9E @ 3'-5'	18	03/19/15	0942	3 pt. comp.	8.4	ND	ND	
126' N17E @ 3'-5'	19	03/19/15	0948	3 pt. comp.	2.79	24.8	0.54	

NMOCD RELEASE CLOSURE STANDARDS (soils) -

100 100 10 50

SAMPLE ID	SAMPLE DATE	SAMPLE TIME	DEPTH TO WATER (feet)	TOTAL CASING LENGTH OF WELL (feet)	Volume Purged (gallons)	pH	Conductivity (µmhos/cm)	Temperature (°Celsius)	Benzene (ppb)	Toluene (ppb)	Ethyl - benzene (ppb)	Total Xylenes (ppb)
MW-A (same as MW # 36)	11/04/14	1250	5.17	12.87	4.00	7.20	1,320	18.5	ND	ND	ND	ND
MW # 5	11/11/14	1023	4.74	15.00	5.25	7.50	2,740	15.5	ND	ND	ND	ND
MW # 7R	11/11/14	1520	7.78	17.00	9.00	7.14	1,400	17.2	ND	ND	ND	ND
MW # 32R	11/11/14	1420	5.94	10.00	4.00	7.32	1,200	17.3	1.3	ND	ND	ND
MW # 47	11/11/14	1320	7.5	15.00	8.50	7.29	1,000	18.0	ND	ND	ND	ND
Nunez Private Pond	04/29/15	1013	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND
NMWQCC STANDARDS (groundwater) -						6 - 9			10	750	750	620

Notes:

OVM - Organic vapor meter or photo-ionization detector (PID).
 TPH - Total petroleum hydrocarbons by US EPA Method 8015B.
 BTEX - Benzene, toluene, ethylbenzene, total xylenes by US EPA Method 8021B.
 ppm - Parts per million or milligram per kilogram (mg/kg).

ppb - Parts per billion or microgram per liter (µg/L).
 ND - Not detected at laboratory Reporting Limit.
 NA - Not available and/or applicable.

NMOCD - New Mexico Oil Conservation Division.
 NMWQCC - New Mexico Water Quality Control Commission.

NMOCD RELEASE CLOSURE STANDARDS REFERENCE: "Guidelines for Remediation of Leaks, Spills and Releases" dated: August 13, 1993.

NMWQCC STANDARDS REFERENCE: "Water Quality Standards for Interstate and Intrastate Surface Waters in New Mexico (20.6.4 NMAC)" Effective date: October 12, 2000.

OVM CALIBRATION: RESPONSE FACTOR = 0.52, CALIBRATION GAS - 100 ppm ISOBUTYLENE.

BP AMERICA PRODUCTION COMPANY
GCU Com I # 181 (DK) - (Undetermined Release Discovered Beneath 95 BGT)
 Unit Letter F, Section 34, T29N, R12W - API Number: 30-045-07707

Table 2

Field & Laboratory Data from Groundwater Monitor Wells

SAMPLE ID	FIELD PARAMETERS							
	SAMPLE DATE	SAMPLE TIME	DEPTH TO WATER (feet)	TOTAL MW LENGTH (feet)	pH	Conductivity (µmhos/cm)	Temperature (°Celcius)	Volume Purged (gallons)
MW # 101 (source area)	06/25/15	1050	7.71	13.90	6.86	4,000	16.7	2.50
MW # 102 (down gradient)	06/25/15	1145	6.91	14.95	7.18	4,000	16.9	3.25
GCU Com H 180E (DK) LP AGT PRODUCED WATER	11/06/15	1210	NA	NA	NA	NA	NA	NA

NMWQCC STANDARDS -

6 - 9

SAMPLE ID	LABORATORY PARAMETERS								
	Fluoride (mg/L)	Chloride (mg/L)	Nitrate- Nitrite as N (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl - benzene (µg/L)	Total Xylenes (µg/L)
MW # 101 (source area)	ND	43	5.0	2,800	4,300	ND	ND	ND	ND
MW # 102 (down gradient)	0.98	33	ND	2,200	3,550	ND	ND	ND	ND
GCU Com H 180E (DK) LP AGT PRODUCED WATER	NA	NA	NA	8.6	1,480	NA	NA	NA	NA
NMWQCC STANDARDS -	1.6	250	10	600	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

BLAGG ENGINEERING, INC.

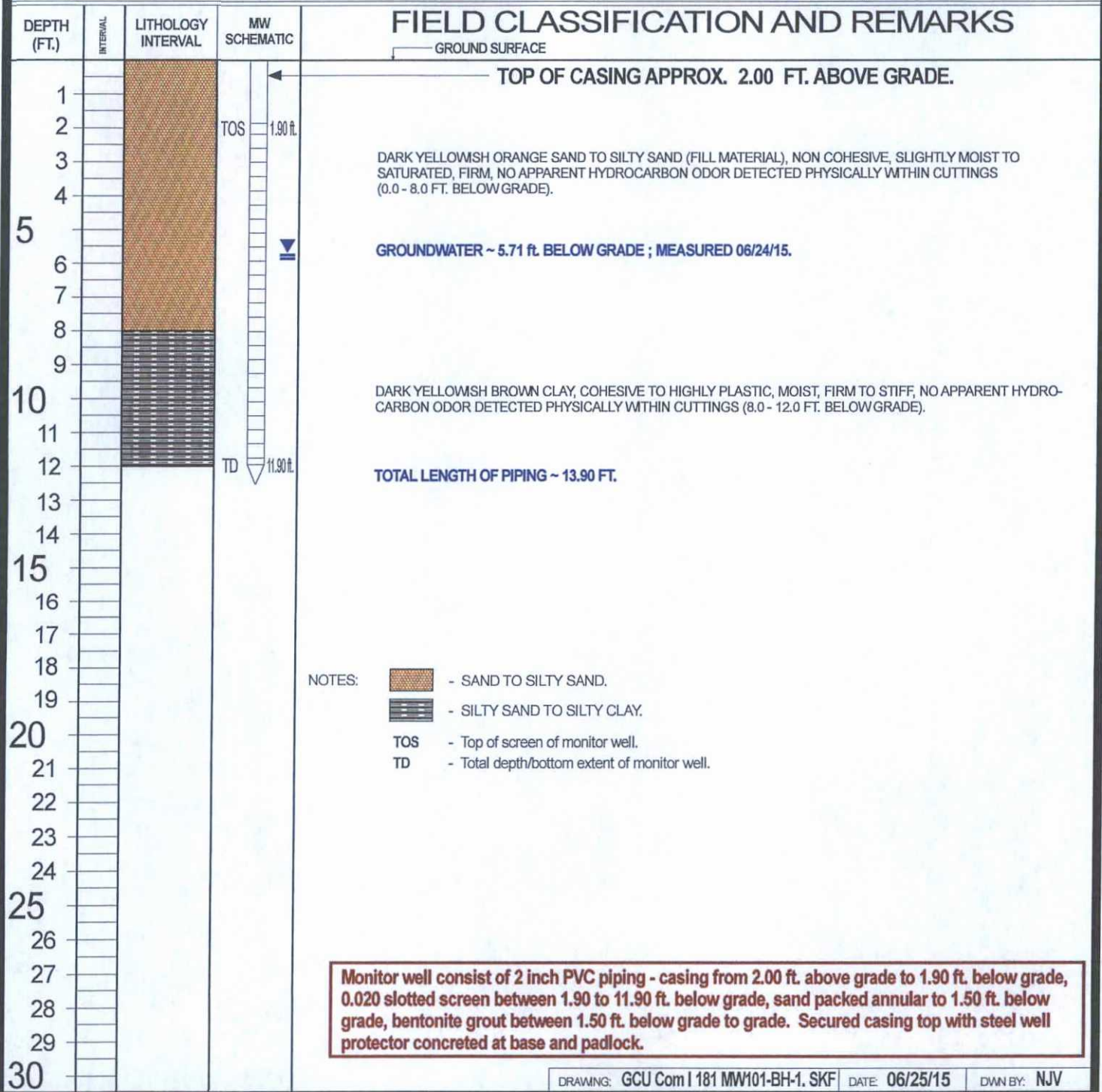
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW# 101

BORE / TEST HOLE REPORT

CLIENT: **BP AMERICA PRODUCTION CO.**
LOCATION NAME: **GCU Com I # 181 API: 3004507707 UNIT F, SEC. 34, T29N, R12W**
CONTRACTOR: **BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER**
BORING LOCATION: **131 FEET, N 30 W FROM WELL HEAD.**

BORING #..... **BH - 1**
MW#..... **101**
PAGE #..... **1**
DATE STARTED **06/03/15**
DATE FINISHED **06/03/15**
OPERATOR..... **KP**
LOGGED BY..... **JCB**



BLAGG ENGINEERING, INC.

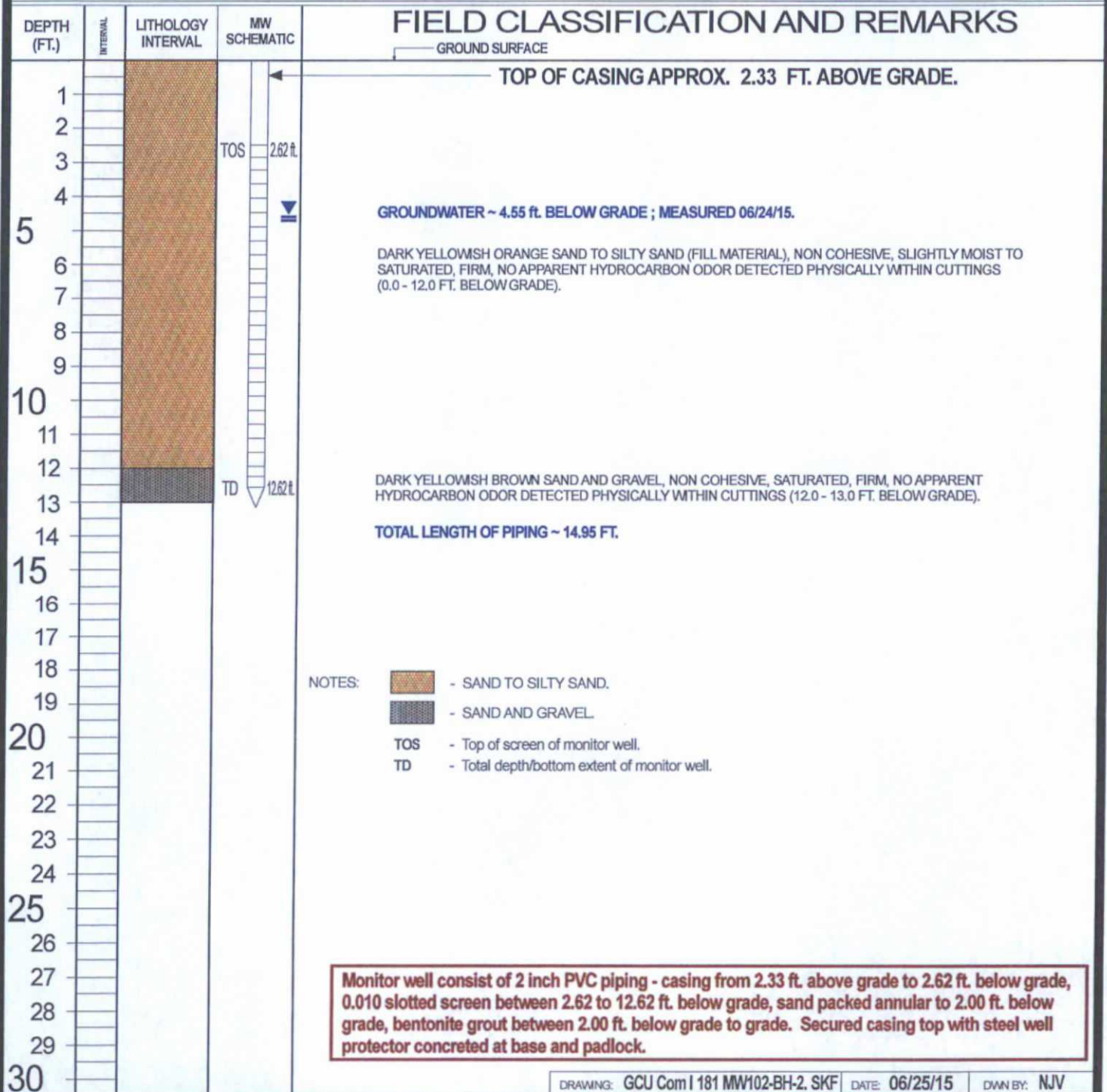
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 102

BORE / TEST HOLE REPORT

CLIENT: **BP AMERICA PRODUCTION CO.**
LOCATION NAME: **GCU Com I # 181 API: 3004507707 UNIT F, SEC. 34, T29N, R12W**
CONTRACTOR: **BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.**
EQUIPMENT USED: **MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER**
BORING LOCATION: **242.5 FEET, N 23 W FROM WELL HEAD.**

BORING #..... **BH - 2**
MW #..... **102**
PAGE #..... **2**
DATE STARTED **06/03/15**
DATE FINISHED **06/03/15**
OPERATOR..... **KP**
LOGGED BY..... **JCB**



BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU COM I # 181
UNIT F, SEC. 34, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : November 11, 2014
Filename : GCU Com I 181 mw log 2014-11-11.xls

DEVELOPER / SAMPLER : J C B & N J V
PROJECT MANAGER : J C B

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
5	99.31	94.57	4.74	15.00	1023	7.50	2,740	15.5	5.25
7R	101.97	94.19	7.78	17.00	1520	7.14	1,400	17.2	9.00
32R	99.32	93.38	5.94	10.00	1420	7.32	1,200	17.3	4.00
47	98.34	90.84	7.50	15.00	1320	7.29	1,000	18.0	8.50

INSTRUMENT CALIBRATIONS =
DATE & TIME =

4.01/7.00/10.00	2,800
11/11/14	1300

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft.}$ $h = 1 \text{ ft.}$) (i.e. 4" MW $r = (2/12) \text{ ft.}$ $h = 1 \text{ ft.}$)

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 listed . Collected samples for BTEX per US EPA Method 8021B and chloride only .
Purged well using 2 inch submersible electrical pump, new/clear vinyl tubing, and with brass adjustable flow valve attachment
added near sampling end of tubing.

on-site	12:00 PM	temp	67 F
off-site	3:30 PM	temp	76 F
sky cond.	Sunny		
wind speed	0 - 10	direct.	SE - W

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : N / A

GCU COM I # 181
UNIT F, SEC. 34, T29N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : June 25, 2015

DEVELOPER / SAMPLER : N J V

Filename : GCU Com I 181 mw log 2015-06-25.xls

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.)
5	99.31		-	15.00	-	-	-	-	-
7R	101.97		-	17.00	-	-	-	-	-
36	99.30		-	12.87	-	-	-	-	-
101	101.71		7.71	13.90	1050	6.86	4,000	16.7	2.50
102	100.50		6.91	14.95	1145	7.18	4,000	16.9	3.25

INSTRUMENT CALIBRATIONS =

DATE & TIME =

4.01/7.00/10.00	2,800
06/25/15	0700

NOTES : Volume of water purged from well prior to sampling: $V = \pi \times r^2 \times h \times 7.48 \text{ gal./ft}^3 \times 3 \text{ (wellbores)}$.
(i.e. 2" MW $r = (1/12) \text{ ft.}$ $h = 1 \text{ ft.}$) (i.e. 4" MW $r = (2/12) \text{ ft.}$ $h = 1 \text{ ft.}$)

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".

Monitor wells MW #102 & MW #102 installed on June 3 , 2015, initially developed on June 24, 2015.

Excellent recovery in MW #101 & #102 . Collected samples for BTEX per US EPA Method 8021B and cation/anion balance from MW #101 & #102 only . Purged well using 2 inch submersible electrical pump, new/clear vinyl tubing, and with brass adjustable flow valve attachment added near sampling end of tubing.

Top of casing MW # 101 ~ 2.00 ft. , MW # 102 ~ 2.33 ft. above grade .

on-site	9:40 AM	temp	76 F
off-site	12:00 PM	temp	85 F
sky cond.	Sunny		
wind speed	0 - 5	direct.	Calm

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

 Project Name: GCU Com I 181
 Project Number: 03143-0424
 Project Manager: BP America Production Co.

 Reported:
 25-Feb-15 13:31

Impact Grab @ -4'
P502077-01 (Solid)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Nonhalogenated Organics by 8015										
Gasoline Range Organics (C6-C10)	183	9.87	mg/kg	1		1509003	02/23/15	02/23/15	EPA 8015D	
Diesel Range Organics (C10-C28)	36.8	24.5	mg/kg	1		1509009	02/23/15	02/23/15	EPA 8015D	
Surrogate: o-Terphenyl		97.9 %		50-200		1509009	02/23/15	02/23/15	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		87.6 %		50-150		1509003	02/23/15	02/23/15	EPA 8015D	

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

 Project Name: GCU Com I 181
 Project Number: 03143-0424
 Project Manager: Jeff Blagg

 Reported:
 02-Mar-15 14:35

3PC - SSW @ 3'-4'
P502090-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		80.8 %		50-150	1509035	02/26/15	02/26/15	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	9.98	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	24.6	mg/kg	1	1509034	02/26/15	02/26/15	EPA 8015D	
Surrogate: o-Terphenyl		97.4 %		50-200	1509034	02/26/15	02/26/15	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		82.2 %		50-150	1509035	02/26/15	02/26/15	EPA 8015D	
Cation/Anion Analysis									
Chloride	15.6	9.97	mg/kg	1	1509038	02/27/15	02/27/15	EPA 300.0	

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

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
02-Mar-15 14:35

2PC - E/SE-SW @ 4'
P502090-02 (Solid)

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
Toluene	1.48	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
Ethylbenzene	3.17	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
p,m-Xylene	13.2	0.20	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
o-Xylene	3.40	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
Total Xylenes	16.6	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
Total BTEX	21.2	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		99.3 %		50-150	1509035	02/26/15	02/26/15	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	429	9.98	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8015D	
Diesel Range Organics (C10-C28)	440	24.8	mg/kg	1	1509034	02/26/15	02/26/15	EPA 8015D	
Surrogate: o-Terphenyl		102 %		50-200	1509034	02/26/15	02/26/15	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		85.9 %		50-150	1509035	02/26/15	02/26/15	EPA 8015D	
Cation/Anion Analysis									
Chloride	55.5	9.83	mg/kg	1	1509038	02/27/15	02/27/15	EPA 300.0	

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

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
02-Mar-15 14:35

3PC - WSW @ 4'
P502090-03 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		81.1 %		50-150	1509035	02/26/15	02/26/15	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	9.83	mg/kg	1	1509035	02/26/15	02/26/15	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	29.7	mg/kg	1	1509034	02/26/15	02/26/15	EPA 8015D	
<i>Surrogate: o-Terphenyl</i>		92.0 %		50-200	1509034	02/26/15	02/26/15	EPA 8015D	
<i>Surrogate: 4-Bromochlorobenzene-FID</i>		82.3 %		50-150	1509035	02/26/15	02/26/15	EPA 8015D	
Cation/Anion Analysis									
Chloride	62.7	9.91	mg/kg	1	1509038	02/27/15	02/27/15	EPA 300.0	

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 Project Name: GCU Com I 181
 Project Number: 03143-0424
 Project Manager: Jeff Blagg

 Reported:
 12-Mar-15 09:40

South Wall East Extent 3-pt 3'-5'
P503020-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		92.8 %		50-150	1510023	03/05/15	03/06/15	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	9.86	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	30.0	mg/kg	1	1510024	03/05/15	03/06/15	EPA 8015D	
Surrogate: o-Terphenyl		117 %		50-200	1510024	03/05/15	03/06/15	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		87.3 %		50-150	1510023	03/05/15	03/06/15	EPA 8015D	
Cation/Anion Analysis									
Chloride	44.5	9.90	mg/kg	1	1510025	03/06/15	03/06/15	EPA 300.0	

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 Project Name: GCU Com I 181
 Project Number: 03143-0424
 Project Manager: Jeff Blagg

 Reported:
 12-Mar-15 09:40

Grab @ -4' 87' N4E
P503020-02 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		95.4 %		50-150	1510023	03/05/15	03/06/15	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	9.90	mg/kg	1	1510023	03/05/15	03/06/15	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	29.7	mg/kg	1	1510024	03/05/15	03/06/15	EPA 8015D	
Surrogate: o-Terphenyl		94.3 %		50-200	1510024	03/05/15	03/06/15	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		90.9 %		50-150	1510023	03/05/15	03/06/15	EPA 8015D	
Cation/Anion Analysis									
Chloride	12.9	9.92	mg/kg	1	1510025	03/06/15	03/06/15	EPA 300.0	

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Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
11-Mar-15 15:33

East Wall @ 5' 2-pt Comp 72'-90' N2W
P503022-01 (Solid)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Volatile Organics by EPA 8021										
Benzene	ND	0.10	mg/kg	1		1510023	03/05/15	03/11/15	EPA 8021B	
Toluene	ND	0.10	mg/kg	1		1510023	03/05/15	03/11/15	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1		1510023	03/05/15	03/11/15	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1		1510023	03/05/15	03/11/15	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1		1510023	03/05/15	03/11/15	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1		1510023	03/05/15	03/11/15	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1		1510023	03/05/15	03/11/15	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		97.5 %		50-150		1510023	03/05/15	03/11/15	EPA 8021B	
Nonhalogenated Organics by 8015										
Gasoline Range Organics (C6-C10)	19.9	9.96	mg/kg	1		1510023	03/05/15	03/11/15	EPA 8015D	
Diesel Range Organics (C10-C28)	33.8	25.0	mg/kg	1		1510024	03/05/15	03/10/15	EPA 8015D	
Surrogate: o-Terphenyl		110 %		50-200		1510024	03/05/15	03/10/15	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		92.9 %		50-150		1510023	03/05/15	03/11/15	EPA 8015D	
Cation/Anion Analysis										
Chloride	ND	9.98	mg/kg	1		1511002	03/09/15	03/09/15	EPA 300.0	

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503348

Date Reported: 3/11/2015

CLIENT: Blagg Engineering

Project: GCU COM I 181

Lab ID: 1503348-001

Matrix: SOIL

Client Sample ID: West Wall North 3-pt @ 4'-5'

Collection Date: 3/9/2015 2:44:00 PM

Received Date: 3/10/2015 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	190	10		mg/Kg	1	3/10/2015 11:06:34 AM	18057
Surr: DNOP	96.3	63.5-128		%REC	1	3/10/2015 11:06:34 AM	18057
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	1100	64		mg/Kg	20	3/10/2015 10:19:36 AM	18044
Surr: BFB	277	80-120	S	%REC	20	3/10/2015 10:19:36 AM	18044
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.57	0.32		mg/Kg	20	3/10/2015 10:19:36 AM	18044
Toluene	9.8	0.64		mg/Kg	20	3/10/2015 10:19:36 AM	18044
Ethylbenzene	6.1	0.64		mg/Kg	20	3/10/2015 10:19:36 AM	18044
Xylenes, Total	61	1.3		mg/Kg	20	3/10/2015 10:19:36 AM	18044
Surr: 4-Bromofluorobenzene	131	80-120	S	%REC	20	3/10/2015 10:19:36 AM	18044
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/10/2015 2:07:59 PM	18067

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	Page 1 of 8
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503348

Date Reported: 3/11/2015

CLIENT: Blagg Engineering

Client Sample ID: North Wall West 3-pt @ 4'-5'

Project: GCU COM I 181

Collection Date: 3/9/2015 2:55:00 PM

Lab ID: 1503348-002

Matrix: SOIL

Received Date: 3/10/2015 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	160	9.9		mg/Kg	1	3/10/2015 11:28:00 AM	18057
Surr: DNOP	101	63.5-128		%REC	1	3/10/2015 11:28:00 AM	18057
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	580	14		mg/Kg	5	3/10/2015 10:48:24 AM	18044
Surr: BFB	1120	80-120	S	%REC	5	3/10/2015 10:48:24 AM	18044
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	1.7	0.14		mg/Kg	5	3/10/2015 10:48:24 AM	18044
Toluene	0.91	0.14		mg/Kg	5	3/10/2015 10:48:24 AM	18044
Ethylbenzene	3.3	0.14		mg/Kg	5	3/10/2015 10:48:24 AM	18044
Xylenes, Total	18	0.28		mg/Kg	5	3/10/2015 10:48:24 AM	18044
Surr: 4-Bromofluorobenzene	211	80-120	S	%REC	5	3/10/2015 10:48:24 AM	18044
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	ND	30		mg/Kg	20	3/10/2015 2:20:23 PM	18067

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	Page 2 of 8
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503348

Date Reported: 3/11/2015

CLIENT: Blagg Engineering

Project: GCU COM I 181

Lab ID: 1503348-003

Matrix: SOIL

Client Sample ID: TH 199' N14W @ 4'-5'

Collection Date: 3/9/2015 3:05:00 PM

Received Date: 3/10/2015 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/10/2015 11:49:33 AM	18057
Surr: DNOP	107	63.5-128		%REC	1	3/10/2015 11:49:33 AM	18057
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	3/10/2015 9:22:13 AM	18044
Surr: BFB	109	80-120		%REC	1	3/10/2015 9:22:13 AM	18044
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.034		mg/Kg	1	3/10/2015 9:22:13 AM	18044
Toluene	ND	0.034		mg/Kg	1	3/10/2015 9:22:13 AM	18044
Ethylbenzene	ND	0.034		mg/Kg	1	3/10/2015 9:22:13 AM	18044
Xylenes, Total	ND	0.067		mg/Kg	1	3/10/2015 9:22:13 AM	18044
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	3/10/2015 9:22:13 AM	18044
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	80	30		mg/Kg	20	3/10/2015 2:32:48 PM	18067

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	Page 3 of 8
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1503348

Date Reported: 3/11/2015

CLIENT: Blagg Engineering

Project: GCU COM I 181

Lab ID: 1503348-004

Matrix: SOIL

Client Sample ID: TH 192' N 2W @ 4'-5'

Collection Date: 3/9/2015 3:10:00 PM

Received Date: 3/10/2015 8:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	23	9.8		mg/Kg	1	3/10/2015 12:10:53 PM	18057
Surr: DNOP	101	63.5-128		%REC	1	3/10/2015 12:10:53 PM	18057
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	130	7.2		mg/Kg	2	3/10/2015 11:17:10 AM	18044
Surr: BFB	670	80-120	S	%REC	2	3/10/2015 11:17:10 AM	18044
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	0.13	0.072		mg/Kg	2	3/10/2015 11:17:10 AM	18044
Toluene	ND	0.072		mg/Kg	2	3/10/2015 11:17:10 AM	18044
Ethylbenzene	ND	0.072		mg/Kg	2	3/10/2015 11:17:10 AM	18044
Xylenes, Total	0.62	0.14		mg/Kg	2	3/10/2015 11:17:10 AM	18044
Surr: 4-Bromofluorobenzene	153	80-120	S	%REC	2	3/10/2015 11:17:10 AM	18044
EPA METHOD 300.0: ANIONS							Analyst: LGT
Chloride	80	30		mg/Kg	20	3/10/2015 2:45:13 PM	18067

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	Page 4 of 8
	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			

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

 Project Name: GCU Com I 181
 Project Number: 03143-0424
 Project Manager: BP America Production Co.

Reported:
 17-Mar-15 15:03

East Wall 3-pt @ 3'-5'
P503041-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		83.3 %		50-150	1511021	03/13/15	03/13/15	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	9.98	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	35.0	mg/kg	1	1511020	03/13/15	03/13/15	EPA 8015D	
Surrogate: o-Terphenyl		164 %		50-200	1511020	03/13/15	03/13/15	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		79.6 %		50-150	1511021	03/13/15	03/13/15	EPA 8015D	
Cation/Anion Analysis									
Chloride	9.81	9.14	mg/kg	0.9	1511022	03/13/15	03/13/15	EPA 300.0	

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

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: BP America Production Co.

Reported:
17-Mar-15 15:03

NW Corner 3-pt @ 3'-5'
P503041-02 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		83.7 %		50-150	1511021	03/13/15	03/13/15	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	9.98	mg/kg	1	1511021	03/13/15	03/13/15	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	34.9	mg/kg	1	1511020	03/13/15	03/13/15	EPA 8015D	
Surrogate: o-Terphenyl		165 %		50-200	1511020	03/13/15	03/13/15	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		79.9 %		50-150	1511021	03/13/15	03/13/15	EPA 8015D	
Cation/Anion Analysis									
Chloride	11.9	9.88	mg/kg	1	1511022	03/13/15	03/13/15	EPA 300.0	

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

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: BP America Production Co.

Reported:
23-Mar-15 14:49

282' N23W @ 3'-5' 3-pt Comp
P503057-01 (Solid)

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Volatile Organics by EPA 8021										
Benzene	ND	0.10	mg/kg	1		1512018	03/20/15	03/20/15	EPA 8021B	
Toluene	0.18	0.10	mg/kg	1		1512018	03/20/15	03/20/15	EPA 8021B	
Ethylbenzene	0.25	0.10	mg/kg	1		1512018	03/20/15	03/20/15	EPA 8021B	
p,m-Xylene	1.30	0.20	mg/kg	1		1512018	03/20/15	03/20/15	EPA 8021B	
o-Xylene	0.35	0.10	mg/kg	1		1512018	03/20/15	03/20/15	EPA 8021B	
Total Xylenes	1.66	0.10	mg/kg	1		1512018	03/20/15	03/20/15	EPA 8021B	
Total BTEX	2.09	0.10	mg/kg	1		1512018	03/20/15	03/20/15	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		90.1 %		50-150		1512018	03/20/15	03/20/15	EPA 8021B	
Nonhalogenated Organics by 8015										
Gasoline Range Organics (C6-C10)	54.6	9.88	mg/kg	1		1512018	03/20/15	03/20/15	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	39.4	mg/kg	2		1512019	03/20/15	03/20/15	EPA 8015D	
Surrogate: o-Terphenyl		102 %		50-200		1512019	03/20/15	03/20/15	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		89.2 %		50-150		1512018	03/20/15	03/20/15	EPA 8015D	
Cation/Anion Analysis										
Chloride	10.0	9.14	mg/kg	0.9		1512024	03/20/15	03/20/15	EPA 300.0	

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

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: BP America Production Co.

Reported:
23-Mar-15 14:49

210' N17W @ 3'-5' 3-pt Comp
P503057-02 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		92.6 %		50-150	1512018	03/20/15	03/20/15	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	9.99	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	39.9	mg/kg	2	1512019	03/20/15	03/20/15	EPA 8015D	
Surrogate: o-Terphenyl		106 %		50-200	1512019	03/20/15	03/20/15	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		89.1 %		50-150	1512018	03/20/15	03/20/15	EPA 8015D	
Cation/Anion Analysis									
Chloride	42.8	9.40	mg/kg	0.9	1512024	03/20/15	03/20/15	EPA 300.0	

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

 Project Name: GCU Com I 181
 Project Number: 03143-0424
 Project Manager: BP America Production Co.

 Reported:
 23-Mar-15 14:49

195' N8W @ 3'-5' 3-pt Comp
P503057-03 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		93.6 %		50-150	1512018	03/20/15	03/20/15	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	9.87	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	39.7	mg/kg	2	1512019	03/20/15	03/20/15	EPA 8015D	
Surrogate: o-Terphenyl		105 %		50-200	1512019	03/20/15	03/20/15	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		91.6 %		50-150	1512018	03/20/15	03/20/15	EPA 8015D	
Cation/Anion Analysis									
Chloride	60.7	10.4	mg/kg	1	1512024	03/20/15	03/20/15	EPA 300.0	

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

 Project Name: GCU Com I 181
 Project Number: 03143-0424
 Project Manager: BP America Production Co.

 Reported:
 23-Mar-15 14:49

189' N0W @ 3'-5' 3-pt Comp
P503057-04 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		90.6 %		50-150	1512018	03/20/15	03/20/15	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	9.82	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	44.7	mg/kg	2	1512019	03/20/15	03/20/15	EPA 8015D	
Surrogate: o-Terphenyl		102 %		50-200	1512019	03/20/15	03/20/15	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		87.1 %		50-150	1512018	03/20/15	03/20/15	EPA 8015D	
Cation/Anion Analysis									
Chloride	91.5	9.97	mg/kg	1	1512024	03/20/15	03/20/15	EPA 300.0	

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

 Project Name: GCU Com I 181
 Project Number: 03143-0424
 Project Manager: BP America Production Co.

 Reported:
 23-Mar-15 14:49

177' N9E @ 3'-5' 3-pt Comp
P503057-05 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
p,m-Xylene	ND	0.20	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
o-Xylene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Total Xylenes	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Total BTEX	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		79.6 %		50-150	1512018	03/20/15	03/20/15	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	ND	9.92	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	39.6	mg/kg	2	1512019	03/20/15	03/20/15	EPA 8015D	
Surrogate: o-Terphenyl		99.7 %		50-200	1512019	03/20/15	03/20/15	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		78.4 %		50-150	1512018	03/20/15	03/20/15	EPA 8015D	
Cation/Anion Analysis									
Chloride	70.0	9.67	mg/kg	1	1512024	03/20/15	03/20/15	EPA 300.0	

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

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: BP America Production Co.

Reported:
23-Mar-15 14:49

126' N17E @ 3'-5' 3-pt Comp
P503057-06 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Toluene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Ethylbenzene	ND	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
p,m-Xylene	0.44	0.20	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
o-Xylene	0.10	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Total Xylenes	0.54	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Total BTEX	0.54	0.10	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		98.5 %		50-150	1512018	03/20/15	03/20/15	EPA 8021B	
Nonhalogenated Organics by 8015									
Gasoline Range Organics (C6-C10)	24.8	9.85	mg/kg	1	1512018	03/20/15	03/20/15	EPA 8015D	
Diesel Range Organics (C10-C28)	ND	39.6	mg/kg	2	1512019	03/20/15	03/20/15	EPA 8015D	
Surrogate: o-Terphenyl		101 %		50-200	1512019	03/20/15	03/20/15	EPA 8015D	
Surrogate: 4-Bromochlorobenzene-FID		95.4 %		50-150	1512018	03/20/15	03/20/15	EPA 8015D	
Cation/Anion Analysis									
Chloride	47.4	9.63	mg/kg	1	1512024	03/20/15	03/20/15	EPA 300.0	

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411155

Date Reported: 11/12/2014

CLIENT: Blagg Engineering

Client Sample ID: MW-A

Project: GCU Com I 181

Collection Date: 11/4/2014 12:50:00 PM

Lab ID: 1411155-001

Matrix: AQUEOUS

Received Date: 11/5/2014 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	1.0		µg/L	1	11/7/2014 4:33:44 PM	R22405
Toluene	ND	1.0		µg/L	1	11/7/2014 4:33:44 PM	R22405
Ethylbenzene	ND	1.0		µg/L	1	11/7/2014 4:33:44 PM	R22405
Xylenes, Total	ND	2.0		µg/L	1	11/7/2014 4:33:44 PM	R22405
Surr: 4-Bromofluorobenzene	109	66.6-167		%REC	1	11/7/2014 4:33:44 PM	R22405
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	22	5.0		mg/L	10	11/11/2014 11:34:43 PM	R22483

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411406

Date Reported: 11/14/2014

CLIENT: Blagg Engineering

Client Sample ID: MW #5

Project: GCU Com I #181

Collection Date: 11/11/2014 10:23:00 AM

Lab ID: 1411406-001

Matrix: AQUEOUS

Received Date: 11/12/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	1.0		µg/L	1	11/12/2014 2:35:57 PM	R22501
Toluene	ND	1.0		µg/L	1	11/12/2014 2:35:57 PM	R22501
Ethylbenzene	ND	1.0		µg/L	1	11/12/2014 2:35:57 PM	R22501
Xylenes, Total	ND	2.0		µg/L	1	11/12/2014 2:35:57 PM	R22501
Surr: 4-Bromofluorobenzene	105	66.6-167		%REC	1	11/12/2014 2:35:57 PM	R22501
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	23	5.0		mg/L	10	11/12/2014 4:48:51 PM	R22509

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	Page 1 of 6
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2.	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits			

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411406

Date Reported: 11/14/2014

CLIENT: Blagg Engineering

Client Sample ID: MW #7R

Project: GCU Com I #181

Collection Date: 11/11/2014 3:20:00 PM

Lab ID: 1411406-002

Matrix: AQUEOUS

Received Date: 11/12/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	1.0		µg/L	1	11/12/2014 3:30:03 PM	R22501
Toluene	ND	1.0		µg/L	1	11/12/2014 3:30:03 PM	R22501
Ethylbenzene	ND	1.0		µg/L	1	11/12/2014 3:30:03 PM	R22501
Xylenes, Total	ND	2.0		µg/L	1	11/12/2014 3:30:03 PM	R22501
Surr: 4-Bromofluorobenzene	107	66.6-167		%REC	1	11/12/2014 3:30:03 PM	R22501
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	13	5.0		mg/L	10	11/12/2014 5:13:40 PM	R22509

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411406

Date Reported: 11/14/2014

CLIENT: Blagg Engineering

Client Sample ID: MW #32R

Project: GCU Com I #181

Collection Date: 11/11/2014 2:20:00 PM

Lab ID: 1411406-003

Matrix: AQUEOUS

Received Date: 11/12/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES					Analyst: NSB		
Benzene	1.3	1.0		µg/L	1	11/12/2014 3:57:49 PM	R22501
Toluene	ND	1.0		µg/L	1	11/12/2014 3:57:49 PM	R22501
Ethylbenzene	ND	1.0		µg/L	1	11/12/2014 3:57:49 PM	R22501
Xylenes, Total	ND	2.0		µg/L	1	11/12/2014 3:57:49 PM	R22501
Surr: 4-Bromofluorobenzene	119	66.6-167		%REC	1	11/12/2014 3:57:49 PM	R22501
EPA METHOD 300.0: ANIONS					Analyst: LGP		
Chloride	32	5.0		mg/L	10	11/12/2014 6:03:18 PM	R22509

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1411406

Date Reported: 11/14/2014

CLIENT: Blagg Engineering

Client Sample ID: MW #47

Project: GCU Com I #181

Collection Date: 11/11/2014 1:20:00 PM

Lab ID: 1411406-004

Matrix: AQUEOUS

Received Date: 11/12/2014 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	1.0		µg/L	1	11/12/2014 4:53:08 PM	R22501
Toluene	ND	1.0		µg/L	1	11/12/2014 4:53:08 PM	R22501
Ethylbenzene	ND	1.0		µg/L	1	11/12/2014 4:53:08 PM	R22501
Xylenes, Total	ND	2.0		µg/L	1	11/12/2014 4:53:08 PM	R22501
Surr: 4-Bromofluorobenzene	105	66.6-167		%REC	1	11/12/2014 4:53:08 PM	R22501
EPA METHOD 300.0: ANIONS							Analyst: LGP
Chloride	24	5.0		mg/L	10	11/12/2014 6:28:07 PM	R22509

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1504D17

Date Reported: 5/6/2015

CLIENT: Blagg Engineering

Client Sample ID: Nunez Private Pond

Project: GCU Com I 181

Collection Date: 4/29/2015 10:13:00 AM

Lab ID: 1504D17-001

Matrix: AQUEOUS

Received Date: 4/30/2015 6:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	1.0		µg/L	1	5/5/2015 10:30:28 AM	R25979
Toluene	ND	1.0		µg/L	1	5/5/2015 10:30:28 AM	R25979
Ethylbenzene	ND	1.0		µg/L	1	5/5/2015 10:30:28 AM	R25979
Xylenes, Total	ND	2.0		µg/L	1	5/5/2015 10:30:28 AM	R25979
Surr: 4-Bromofluorobenzene	113	80-120		%REC	1	5/5/2015 10:30:28 AM	R25979

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1506C55

Date Reported: 7/8/2015

CLIENT: Blagg Engineering

Client Sample ID: MW # 101

Project: GCU COM I #181

Collection Date: 6/25/2015 10:50:00 AM

Lab ID: 1506C55-001

Matrix: AQUEOUS

Received Date: 6/26/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Fluoride	ND	0.50		mg/L	5	6/26/2015 7:33:29 PM	R27157
Chloride	43	10		mg/L	20	6/26/2015 7:45:54 PM	R27157
Nitrogen, Nitrate (As N)	5.0	2.0		mg/L	20	6/26/2015 7:45:54 PM	R27157
Sulfate	2800	50		mg/L	100	7/2/2015 5:31:20 PM	R27295
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	4300	100	*	mg/L	1	7/1/2015 4:03:00 PM	20030
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	1.0		µg/L	1	7/2/2015 11:30:30 AM	R27238
Toluene	ND	1.0		µg/L	1	7/2/2015 11:30:30 AM	R27238
Ethylbenzene	ND	1.0		µg/L	1	7/2/2015 11:30:30 AM	R27238
Xylenes, Total	ND	1.5		µg/L	1	7/2/2015 11:30:30 AM	R27238
Surr: 1,2-Dichloroethane-d4	102	70-130		%REC	1	7/2/2015 11:30:30 AM	R27238
Surr: 4-Bromofluorobenzene	102	70-130		%REC	1	7/2/2015 11:30:30 AM	R27238
Surr: Dibromofluoromethane	101	70-130		%REC	1	7/2/2015 11:30:30 AM	R27238
Surr: Toluene-d8	103	70-130		%REC	1	7/2/2015 11:30:30 AM	R27238

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1506C55

Date Reported: 7/8/2015

CLIENT: Blagg Engineering

Client Sample ID: MW # 102

Project: GCU COM I #181

Collection Date: 6/25/2015 11:45:00 AM

Lab ID: 1506C55-002

Matrix: AQUEOUS

Received Date: 6/26/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: LGT
Fluoride	0.98	0.50		mg/L	5	6/26/2015 7:58:18 PM	R27157
Chloride	33	2.5		mg/L	5	6/26/2015 7:58:18 PM	R27157
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	6/26/2015 7:58:18 PM	R27157
Sulfate	2200	50		mg/L	100	7/2/2015 5:43:44 PM	R27295
SM2540C MOD: TOTAL DISSOLVED SOLIDS							Analyst: KS
Total Dissolved Solids	3550	200	*	mg/L	1	7/1/2015 4:03:00 PM	20030
EPA METHOD 8260: VOLATILES SHORT LIST							Analyst: cadg
Benzene	ND	1.0		µg/L	1	7/2/2015 11:59:20 AM	R27238
Toluene	ND	1.0		µg/L	1	7/2/2015 11:59:20 AM	R27238
Ethylbenzene	ND	1.0		µg/L	1	7/2/2015 11:59:20 AM	R27238
Xylenes, Total	ND	1.5		µg/L	1	7/2/2015 11:59:20 AM	R27238
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1	7/2/2015 11:59:20 AM	R27238
Surr: 4-Bromofluorobenzene	105	70-130		%REC	1	7/2/2015 11:59:20 AM	R27238
Surr: Dibromofluoromethane	100	70-130		%REC	1	7/2/2015 11:59:20 AM	R27238
Surr: Toluene-d8	103	70-130		%REC	1	7/2/2015 11:59:20 AM	R27238

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1511328

Date Reported: 11/20/2015

CLIENT: Blagg Engineering

Client Sample ID: LP AGT PRODUCED WATER

Project: GCU COM H #1 180E

Collection Date: 11/6/2015 12:10:00 PM

Lab ID: 1511328-001

Matrix: AQUEOUS

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	Page 1 of 3
	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			

Client: BP AMERICA
 Project: GCU Com I 181
 Sampler: J. Blagg
 Phone: 505-320-1103
 Email(s): Jeff Pease, Jeff Blagg, Nelson Velaz
 Project Manager: Jeff Blagg

RUSH?

☒ 1d
☐ 3d

Lab Use Only		Analysis and Method						Lab Only	
Lab WO#		GRO/DRO by 8015	BTX by 8021	TPH by 418.1	Chloride by 300.0				
Job Number									
P 502077									
03143-0424									
Page of									

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTX by 8021	TPH by 418.1	Chloride by 300.0									Lab Number	Correct Cont/Prsrt (s) Y/N
Impact Grab @ -4'	2/23/15	0910	SOIL	1x4 oz - cool	X												11	Y

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only		
<i>Jeff Blagg</i>	2/23/15	0920	<i>Jim CA</i>	2/23/15	930	**Received on Ice Y / N		
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1	T2	T3
						6.5		
AVG Temp °C						6.5		

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☐ Sample(s) dropped off after hours to a secure drop off area.	Chain of Custody	Notes/Billing info:
---	------------------	---------------------

CHAIN OF CUSTODY RECORD

17920

Client: BP AMERICA			Project Name / Location: GCU com I #181			ANALYSIS / PARAMETERS											
Email results to: JEFF PERCE, JEFF BLASS NELSON VELEZ			Sampler Name: NELSON VELEZ			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) 320-3489			Client No.: 03143-0424														
Sample No. / Identification	Sample Date	Sample Time	Lab No.	No./Volume of Containers	Preservative												
					HNO ₃	HCl	COOL										
3PC-SSW @ 3'-4'	2/26/15	1013	P502090-01	1-4oz.			✓	✓	✓						✓		✓
2PC-E/SE-SW @ 4'	2/26/15	1016	02	1-4oz.			✓	✓	✓						✓		✓
3PC-WSW @ 4'	2/26/15	1021	03	1-4oz.			✓	✓	✓						✓		✓
Relinquished by: (Signature) <i>[Signature]</i>					Date	Time	Received by: (Signature) <i>[Signature]</i>					Date	Time				
					2/26/15	1213						02-26	1215				
Relinquished by: (Signature)							Received by: (Signature)										
Sample Matrix																	
Soil ☒ Solid ☐ Sludge ☐ Aqueous ☐ Other ☐																	
☐ Sample(s) dropped off after hours to secure drop off area.																	



13.2 12-6 12.3
 Pay Key ZEVHOIREME per Nelson
 Ref# : GCU com I #181 2/26/15 TC

Client: BP America
 Project: GCV Com I 181
 Sampler: J. Blagg
 Phone: 505-320-1183
 Email(s): J. Peace - J Blagg - N Velez
 Project Manager: J. Blagg

RUSH?

☒ 1d
☐ 3d

Lab Use Only		Analysis and Method								Lab Only	
Lab WO# P503020-01		GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0					Lab Number	Correct Cont/Prsrv (s) Y/N
Job Number 03143-0424											
Page _____ of _____											

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0							Lab Number	Correct Cont/Prsrv (s) Y/N
South Wall EAST EXTENT 3-pt 3'-5'	3/5/2015	1430	SOIL	1 x 40z COOL	X	X		X							1	Y
GRAB @ -4' 87' N4E	"	1440	"	" "	X	X		X							2	Y
Relinquished by: (Signature) <i>J. Blagg</i>	Date 3/5/2015	Time 1501	Received by: (Signature) <i>Diane Zagon</i>	Date 03-05-15	Time 15:03	Lab Use Only **Received on Ice Y / N T1 <u>14.5</u> T2 <u>11.9</u> T3 _____ AVG Temp °C <u>13.2</u>										
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time											

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____

Container Type: g - glass, p - poly/plastic, ag - amber glass

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☐ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing info: *BILL BP*
Billing COMES ON FILE
ZEVOIREME
Ref # GCV Com I 181



envirotech
 Analytical Laboratory

5796 US Highway 64, Farmington, NM 87401
 Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865
 Ph (970) 259-0615 Fr (800) 362-1879

17741

[illegible]

Client: BP America	☐ Standard ☒ Rush
BLAGG ENGR.	Project Name:
Vailing Address: P.O. Box 87	GCU COM I 181
Bloomfield NM 87413	Project #:
Phone #: 505-320-1183	
Email or Fax#:	Project Manager:
QA/QC Package:	J. Blagg
☒ Standard ☐ Level 4 (Full Validation)	
Accreditation	Sampler: J. Blagg
☐ NELAP ☐ Other	On Ice: ☒ Yes ☐ No
☐ EDD (Type)	Sample Temperature: 14°C

☐ Standard ☒ Rush

Project Name: GCU COM I 181

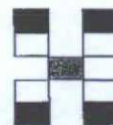
Project #:

Project Manager:
J. Blagg

Sampler: J. Blagg

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.4°C



www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

[illegible]

Date: 9/2/2015	Time: 1630	Relinquished by: Jeff Blagg	Received by: Christine Wael	Date: 9/2/2015	Time: 1630
Date: 9/1/15	Time: 1821	Relinquished by: Christine Wael	Received by: Celine Sime	Date: 03/09/15	Time: 0825

Remarks: Bill BP
Parker: ZEVHOIREME
Project: GCU COM I 181
Contact: Jeff Peace

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

Client: BP America
 Project: GCV Com I 181
 Sampler: J. Blagg
 Phone: 505-320-1183
 Email(s): Jeff Pace / Jeff Blagg / Nelson Velez
 Project Manager: Jeff Blagg

RUSH?

☒ 1d
☐ 3d

Lab Use Only		Analysis and Method								Lab Only	
Lab WO#		GRO/DRO by 8015	BTEX by 8021	TPH by 418.1	Chloride by 300.0					Lab Number	Correct Cont/Prsr (s) Y/N
Job Number											
P503041											
03143-0424											

Page 1 of 1

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/D	BTEX b	TPH by	Chlorid											Correct
EAST Wall 3-pt @ 3'-5'	3/13/2015	0930	soil	4 oz x 1 : COOL	X	X		X										01	Y
NW Corner 3-pt @ 3'-5'	"	0940	"	" "	X	X		X										02	Y

Relinquished by: (Signature) <u>Jeff Blagg</u>	Date <u>3/13/2015</u>	Time <u>0957</u>	Received by: (Signature) <u>Diana Z...</u>	Date <u>03/13/15</u>	Time <u>9:57</u>	Lab Use Only					
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	**Received on Ice Y / (N) T1 <u>11.0</u> T2 <u>11.3</u> T3 _____ AVG Temp °C <u>11.2</u>					

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____ Container Type: g - glass, p - poly/plastic, ag - amber glass

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☐ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing info: BILL BP

PayKey = ZEVH01REME

Project:

GCV Com I 181



5796 US Highway 64, Farmington, NM 87401
 Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865
 Ph (970) 259-0615 Fr (800) 362-1879

Client: BP AMERICA
 Project: GCU COM I 181
 Sampler: J. BLAGG
 Phone: 505-320-1193
 Email(s): jeff Peace / jeff Blagg / Nelson Velaz
 Project Manager:

RUSH?

☒ 1d
☐ 3d

Lab Use Only		Analysis and Method						lab Only	
Lab WO#		GRO/DRO by 8015	BTX by 8021	TPH by 418.1	Chloride by 300.0				
Job Number									
P503057									
09143-0424									
Page 1 of 1									

Sample ID	Sample Date	Sample Time	Matrix	Containers QTY - Vol/TYPE/Preservative	GRO/DRO by 8015	BTX by 8021	TPH by 418.1	Chloride by 300.0							Lab Number	Correct Cont/Prsrv (s) Y/N
282' N23W @ 3'-5' 3-pt comp	3/19/2015	0925	S	1 x 4oz JAR x COOL	X	X		X							1	Y
210' N17W @ 3'-5' 3-pt comp	"	0932	S	"	X	X		X							2	
195' N8W @ 3'-5' 3-pt comp	"	0935	S	"	X	X		X							3	
189' N0W @ 3'-5' 3-pt comp	"	0938	S	"	X	X		X							4	
177' N9E @ 3'-5' 3-pt comp	"	0942	S	"	X	X		X							5	
126' N17E @ 3'-5' 3-pt comp	"	0948	S	"	X	X		X							6	Y

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only		
<i>Jeff Blagg</i>	3/19/2015	1431	<i>[Signature]</i>	3-19-15	1431	**Received on Ice Y / N		
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1	T2	T3
						4.9	3.7	3.9
						AVG Temp °C		

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____

Container Type: g - glass, p - poly/plastic, ag - amber glass

**Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

☐ Sample(s) dropped off after hours to a secure drop off area.

Chain of Custody

Notes/Billing Info: Bill BP

Contact: Jeff Peace

PAKKE: ZEVHOREME

Project: GCU COM I 181



5796 US Highway 64, Farmington, NM 87401

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (505) 632-0615 Fx (505) 632-1865

Ph (970) 259-0615 Fr (800) 362-1879

Chain-of-Custody Record		Turn-Around Time:
Client: <u>BLAGG ENGINEERING INC.</u>	☒ Standard	☐ Rush
<u>BP America</u>	Project Name: <u>GCU Com I 181</u>	
Mailing Address: <u>P.O. Box 87</u>	Project #: _____	
<u>Bloomfield NM 87413</u>	Project Manager: <u>J. Blagg</u>	
Phone #: <u>505-632-1199</u>	Sampler: <u>J. Blagg</u>	
email or Fax#: _____	On Ice: ☒ Yes ☐ No	
QA/QC Package: ☒ Standard ☐ Level 4 (Full Validation)	Sample Temperature: <u>1.0</u>	
Accreditation ☐ NELAP ☐ Other _____		
☐ EDD (Type) _____		

☒ Standard ☐ Rush

Project Name:

GCU Com I 181

Project #:

Project Manager:

J. Blagg

Sampler: I- Blags

On Ice: ☒ Yes ☐ No

Sample Temperature:	10
---------------------	----

Container Type and #	Preservative Type
-------------------------	----------------------

HEAL No.

141155

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

	X	BTEX + MIBK FHS s (8021)
		BTEX + MTBE + TPH (Gas only)
		TPH 8015B (GRO / DRO / MRO)
		TPH (Method 418.1)
		EDB (Method 504.1)
		PAH's (8310 or 8270 SIMS)
		RCRA 8 Metals
		Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)
		8081 Pesticides / 8082 PCB's
		8260B (VOA)
		8270 (Semi-VOA)
	X	CHLORIDE
		Air Bubbles (Y or N)

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/2/2014	1358	Jeff Blong	Christine Wooters	4/2/2014	1358
Date:	Time:	Relinquished by:	Received by:	Date	Time
4/4/14	1840	Christine Wooters	[Signature]	11/05/14	0730

Remarks: Bill Blagg

BP Contact: Jeff Peace

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

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 I # 181

Project #:

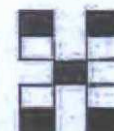
Project Manager:

JEFF BLAGE

Sampler: **JEFF BLAGE & NELSON VELEZ**

On Ice: ☒ Yes ☐ No

Sample Temperature: **2.9**



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.	BTEX (MTBE) (8021B)	BTEX + MTBE + TPH (Gas only)	IPH 8015B (GRO / DRO / Hetro)	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 Duplicates / V or M
11/11/14	1023	WATER	MW # 5	40ml-2	HCl	-001	X												X		
11/11/14	1023	WATER	MW # 5	500ml-1	COOL	-001												X	X		
11/11/14	1520	WATER	MW # 7R	40ml-2	HCl	-002	X												X		
11/11/14	1520	WATER	MW # 7R	500ml-1	COOL	-002												X	X		
11/11/14	1420	WATER	MW # 32R	40ml-2	HCl	-003	X											X	X		
11/11/14	1420	WATER	MW # 32R	500ml-1	COOL	-003												X	X		
11/11/14	1320	WATER	MW # 47	40ml-2	HCl	-004	X												X		
11/11/14	1320	WATER	MW # 47	500ml-1	COOL	-004												X	X		

Date: 11/11/14	Time: 1552	Relinquished by: <i>[Signature]</i>	Received by: <i>[Signature]</i>	Date: 11/11/14	Time: 1552
Date: 11/11/14	Time: 1732	Relinquished by: <i>[Signature]</i>	Received by: <i>[Signature]</i>	Date: 11/11/14	Time: 1732

Remarks:

BILL DIRECTLY TO BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413

[illegible]

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.

[illegible]

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

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: BP America Production Co.

Reported:
25-Feb-15 13:31

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Impact Grab @ -4'	P502077-01A	Soil	02/23/15	02/23/15	Glass Jar, 4 oz.

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

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: BP America Production Co.

Reported:
25-Feb-15 13:31

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 1509003 - Purge and Trap EPA 5030A

Blank (1509003-BLK1)

Prepared & Analyzed: 23-Feb-15

Gasoline Range Organics (C6-C10)	ND	9.85	mg/kg							
Surrogate: 4-Bromochlorobenzene-FID	0.343		"	0.394		87.1	50-150			

LCS (1509003-BS1)

Prepared & Analyzed: 23-Feb-15

Gasoline Range Organics (C6-C10)	214	9.92	mg/kg	232		92.5	80-120			
Surrogate: 4-Bromochlorobenzene-FID	0.331		"	0.397		83.5	50-150			

Matrix Spike (1509003-MS1)

Source: P502076-01

Prepared & Analyzed: 23-Feb-15

Gasoline Range Organics (C6-C10)	224	9.90	mg/kg	231	ND	96.9	75-125			
Surrogate: 4-Bromochlorobenzene-FID	0.352		"	0.396		88.8	50-150			

Matrix Spike Dup (1509003-MSD1)

Source: P502076-01

Prepared & Analyzed: 23-Feb-15

Gasoline Range Organics (C6-C10)	216	9.94	mg/kg	232	ND	93.0	75-125	3.73	15	
Surrogate: 4-Bromochlorobenzene-FID	0.341		"	0.398		85.8	50-150			

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PO Box 22024
Tulsa OK, 74121-2024

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: BP America Production Co.

Reported:
25-Feb-15 13:31

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 1509009 - DRO Extraction EPA 3550M										
Blank (1509009-BLK1)				Prepared & Analyzed: 23-Feb-15						
Diesel Range Organics (C10-C28)	ND	24.9	mg/kg							
Surrogate: o-Terphenyl	43.8		"	39.9		110	50-200			
LCS (1509009-BS1)				Prepared & Analyzed: 23-Feb-15						
Diesel Range Organics (C10-C28)	506	24.8	mg/kg	497		102	38-132			
Surrogate: o-Terphenyl	44.5		"	39.8		112	50-200			
Matrix Spike (1509009-MS1)				Source: P502056-07RE1		Prepared & Analyzed: 23-Feb-15				
Diesel Range Organics (C10-C28)	590	39.9	mg/kg	498	ND	119	38-132			
Surrogate: o-Terphenyl	54.1		"	39.9		136	50-200			
Matrix Spike Dup (1509009-MSD1)				Source: P502056-07RE1		Prepared & Analyzed: 23-Feb-15				
Diesel Range Organics (C10-C28)	581	34.6	mg/kg	495	ND	117	38-132	1.67	20	
Surrogate: o-Terphenyl	55.0		"	39.6		139	50-200			

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

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: BP America Production Co.

Reported:
25-Feb-15 13:31

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

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

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
02-Mar-15 14:35

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
3PC - SSW @ 3'-4'	P502090-01A	Soil	02/26/15	02/26/15	Glass Jar, 4 oz.
2PC - E/SE-SW @ 4'	P502090-02A	Soil	02/26/15	02/26/15	Glass Jar, 4 oz.
3PC - WSW @ 4'	P502090-03A	Soil	02/26/15	02/26/15	Glass Jar, 4 oz.

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

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
02-Mar-15 14:35

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 1509035 - Purge and Trap EPA 5030A

Blank (1509035-BLK1)

Prepared: 26-Feb-15 Analyzed: 27-Feb-15

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	0.400		"	0.396		101	50-150			

LCS (1509035-BS1)

Prepared: 26-Feb-15 Analyzed: 27-Feb-15

Benzene	21.3	0.10	mg/kg	19.9		107	75-125			
Toluene	21.1	0.10	"	19.9		106	70-125			
Ethylbenzene	21.0	0.10	"	19.9		106	75-125			
p,m-Xylene	42.1	0.20	"	39.7		106	80-125			
o-Xylene	20.8	0.10	"	19.9		105	75-125			
Surrogate: 4-Bromochlorobenzene-PID	0.423		"	0.397		107	50-150			

Matrix Spike (1509035-MS1)

Source: P502090-01

Prepared: 26-Feb-15 Analyzed: 27-Feb-15

Benzene	21.6	0.10	mg/kg	19.7	ND	110	75-125			
Toluene	21.0	0.10	"	19.7	ND	106	70-125			
Ethylbenzene	21.0	0.10	"	19.7	ND	106	75-125			
p,m-Xylene	42.4	0.20	"	39.5	ND	107	80-125			
o-Xylene	20.6	0.10	"	19.7	ND	104	75-125			
Surrogate: 4-Bromochlorobenzene-PID	0.403		"	0.395		102	50-150			

Matrix Spike Dup (1509035-MSD1)

Source: P502090-01

Prepared: 26-Feb-15 Analyzed: 27-Feb-15

Benzene	22.0	0.10	mg/kg	19.9	ND	111	75-125	1.97	15	
Toluene	21.8	0.10	"	19.9	ND	109	70-125	3.91	15	
Ethylbenzene	21.2	0.10	"	19.9	ND	106	75-125	0.853	15	
p,m-Xylene	41.7	0.20	"	39.9	ND	105	80-125	1.71	15	
o-Xylene	20.6	0.10	"	19.9	ND	103	75-125	0.169	15	
Surrogate: 4-Bromochlorobenzene-PID	0.387		"	0.399		96.9	50-150			

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BP America Production Co.
 PO Box 22024
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 Project Name: GCU Com I 181
 Project Number: 03143-0424
 Project Manager: Jeff Blagg

 Reported:
 02-Mar-15 14:35

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 1509034 - DRO Extraction EPA 3550M
Blank (1509034-BLK1)

Prepared & Analyzed: 26-Feb-15

Diesel Range Organics (C10-C28)	ND	24.7	mg/kg							
Surrogate: o-Terphenyl	41.3		"	39.4		105	50-200			

LCS (1509034-BS1)

Prepared & Analyzed: 26-Feb-15

Diesel Range Organics (C10-C28)	457	24.7	mg/kg	494		92.6	38-132			
Surrogate: o-Terphenyl	37.9		"	39.5		96.0	50-200			

Matrix Spike (1509034-MS1)

Source: P502090-01

Prepared & Analyzed: 26-Feb-15

Diesel Range Organics (C10-C28)	471	24.7	mg/kg	494	ND	95.4	38-132			
Surrogate: o-Terphenyl	40.4		"	39.5		102	50-200			

Matrix Spike Dup (1509034-MSD1)

Source: P502090-01

Prepared & Analyzed: 26-Feb-15

Diesel Range Organics (C10-C28)	494	24.9	mg/kg	499	ND	99.1	38-132	4.80	20	
Surrogate: o-Terphenyl	41.5		"	39.9		104	50-200			

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Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
02-Mar-15 14:35

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 1509035 - Purge and Trap EPA 5030A										
Blank (1509035-BLK1)				Prepared: 26-Feb-15 Analyzed: 27-Feb-15						
Gasoline Range Organics (C6-C10)	ND	9.89	mg/kg							
Surrogate: 4-Bromochlorobenzene-FID	0.377		"	0.396		95.2	50-150			
LCS (1509035-BS1)				Prepared: 26-Feb-15 Analyzed: 27-Feb-15						
Gasoline Range Organics (C6-C10)	269	9.93	mg/kg	265		101	80-120			
Surrogate: 4-Bromochlorobenzene-FID	0.398		"	0.397		100	50-150			
Matrix Spike (1509035-MS1)				Source: P502090-01		Prepared: 26-Feb-15 Analyzed: 27-Feb-15				
Gasoline Range Organics (C6-C10)	267	9.87	mg/kg	263	ND	102	75-125			
Surrogate: 4-Bromochlorobenzene-FID	0.381		"	0.395		96.6	50-150			
Matrix Spike Dup (1509035-MSD1)				Source: P502090-01		Prepared: 26-Feb-15 Analyzed: 27-Feb-15				
Gasoline Range Organics (C6-C10)	268	9.97	mg/kg	266	ND	101	75-125	0.419	15	
Surrogate: 4-Bromochlorobenzene-FID	0.367		"	0.399		91.9	50-150			

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 Project Name: GCU Com I 181
 Project Number: 03143-0424
 Project Manager: Jeff Blagg

 Reported:
 02-Mar-15 14:35

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 1509038 - Anion Extraction EPA 300.0										
Blank (1509038-BLK1)				Prepared & Analyzed: 27-Feb-15						
Chloride	ND	9.89	mg/kg							
LCS (1509038-BS1)				Prepared & Analyzed: 27-Feb-15						
Chloride	471	9.93	mg/kg	496		94.9	90-110			
Matrix Spike (1509038-MS1)				Source: P502090-03 Prepared & Analyzed: 27-Feb-15						
Chloride	492	9.94	mg/kg	497	62.7	86.3	80-120			
Matrix Spike Dup (1509038-MSD1)				Source: P502090-03 Prepared & Analyzed: 27-Feb-15						
Chloride	491	9.90	mg/kg	495	62.7	86.4	80-120	0.202	20	

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Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
02-Mar-15 14:35

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

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PO Box 22024
Tulsa OK, 74121-2024

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
11-Mar-15 15:33

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
East Wall @ 5' 2-pt Comp 72'-90' N2W	P503022-01A	Soil	03/05/15	03/06/15	Glass Jar, 4 oz.

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Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
11-Mar-15 15:33

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 1510023 - Purge and Trap EPA 5030A

Blank (1510023-BLK1)

Prepared: 05-Mar-15 Analyzed: 11-Mar-15

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	0.346		"	0.393		87.9	50-150			

LCS (1510023-BS1)

Prepared: 05-Mar-15 Analyzed: 11-Mar-15

Benzene	21.4	0.10	mg/kg	19.8		108	75-125			
Toluene	20.0	0.10	"	19.8		101	70-125			
Ethylbenzene	19.0	0.10	"	19.8		96.1	75-125			
p,m-Xylene	36.7	0.20	"	39.6		92.6	80-125			
o-Xylene	17.8	0.10	"	19.8		89.8	75-125			
Surrogate: 4-Bromochlorobenzene-PID	0.350		"	0.396		88.2	50-150			

Matrix Spike (1510023-MS1)

Source: P503020-01

Prepared: 05-Mar-15 Analyzed: 11-Mar-15

Benzene	23.4	0.10	mg/kg	19.9	ND	118	75-125			
Toluene	23.1	0.10	"	19.9	ND	116	70-125			
Ethylbenzene	22.5	0.10	"	19.9	ND	113	75-125			
p,m-Xylene	44.6	0.20	"	39.7	ND	112	80-125			
o-Xylene	21.4	0.10	"	19.9	ND	108	75-125			
Surrogate: 4-Bromochlorobenzene-PID	0.370		"	0.397		93.2	50-150			

Matrix Spike Dup (1510023-MSD1)

Source: P503020-01

Prepared: 05-Mar-15 Analyzed: 11-Mar-15

Benzene	20.8	0.10	mg/kg	19.8	ND	105	75-125	11.9	15	
Toluene	20.4	0.10	"	19.8	ND	103	70-125	12.3	15	
Ethylbenzene	20.2	0.10	"	19.8	ND	102	75-125	10.9	15	
p,m-Xylene	40.5	0.20	"	39.7	ND	102	80-125	9.60	15	
o-Xylene	19.5	0.10	"	19.8	ND	98.4	75-125	9.34	15	
Surrogate: 4-Bromochlorobenzene-PID	0.373		"	0.397		94.0	50-150			

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Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
11-Mar-15 15:33

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 1510023 - Purge and Trap EPA 5030A										
Blank (1510023-BLK1)				Prepared: 05-Mar-15 Analyzed: 11-Mar-15						
Gasoline Range Organics (C6-C10)	ND	9.83	mg/kg							
Surrogate: 4-Bromochlorobenzene-FID	0.325		"	0.393		82.6	50-150			
LCS (1510023-BS1)				Prepared: 05-Mar-15 Analyzed: 11-Mar-15						
Gasoline Range Organics (C6-C10)	237	9.91	mg/kg	264		89.9	80-120			
Surrogate: 4-Bromochlorobenzene-FID	0.329		"	0.396		83.0	50-150			
Matrix Spike (1510023-MS1)				Source: P503020-01		Prepared: 05-Mar-15 Analyzed: 11-Mar-15				
Gasoline Range Organics (C6-C10)	291	9.93	mg/kg	265	ND	110	75-125			
Surrogate: 4-Bromochlorobenzene-FID	0.350		"	0.397		88.0	50-150			
Matrix Spike Dup (1510023-MSD1)				Source: P503020-01		Prepared: 05-Mar-15 Analyzed: 11-Mar-15				
Gasoline Range Organics (C6-C10)	258	9.91	mg/kg	264	ND	97.7	75-125	12.0	15	
Surrogate: 4-Bromochlorobenzene-FID	0.352		"	0.397		88.9	50-150			

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PO Box 22024
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Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
11-Mar-15 15:33

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 1510024 - DRO Extraction EPA 3550M										
Blank (1510024-BLK1)				Prepared: 05-Mar-15 Analyzed: 06-Mar-15						
Diesel Range Organics (C10-C28)	ND	24.7	mg/kg							
Surrogate: o-Terphenyl	45.9		"	39.4		116	50-200			
LCS (1510024-BS1)				Prepared: 05-Mar-15 Analyzed: 06-Mar-15						
Diesel Range Organics (C10-C28)	529	24.7	mg/kg	494		107	38-132			
Surrogate: o-Terphenyl	44.9		"	39.5		114	50-200			
Matrix Spike (1510024-MS1)				Source: P503020-01 Prepared: 05-Mar-15 Analyzed: 06-Mar-15						
Diesel Range Organics (C10-C28)	517	24.6	mg/kg	492	ND	105	38-132			
Surrogate: o-Terphenyl	45.6		"	39.4		116	50-200			
Matrix Spike Dup (1510024-MSD1)				Source: P503020-01 Prepared: 05-Mar-15 Analyzed: 06-Mar-15						
Diesel Range Organics (C10-C28)	539	24.6	mg/kg	492	ND	110	38-132	4.28	20	
Surrogate: o-Terphenyl	45.1		"	39.3		115	50-200			

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PO Box 22024
Tulsa OK, 74121-2024

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
11-Mar-15 15:33

Cation/Anion Analysis - 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 1511002 - Anion Extraction EPA 300.0

Blank (1511002-BLK1)

Prepared & Analyzed: 09-Mar-15

Chloride	ND	9.83	mg/kg
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LCS (1511002-BS1)

Prepared & Analyzed: 09-Mar-15

Chloride	467	9.86	mg/kg	493	94.8	90-110
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Matrix Spike (1511002-MS1)

Source: P503022-01

Prepared & Analyzed: 09-Mar-15

Chloride	478	9.94	mg/kg	497	ND	96.3	80-120
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Matrix Spike Dup (1511002-MSD1)

Source: P503022-01

Prepared & Analyzed: 09-Mar-15

Chloride	478	9.87	mg/kg	493	ND	96.9	80-120	0.0275	20
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BP America Production Co.
PO Box 22024
Tulsa OK, 74121-2024

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
11-Mar-15 15:33

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

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Tulsa OK, 74121-2024

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
12-Mar-15 09:40

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
South Wall East Extent 3-pt 3'-5'	P503020-01A	Soil	03/04/15	03/05/15	Glass Jar, 4 oz.
Grab @ -4' 87' N4E	P503020-02A	Soil	03/04/15	03/05/15	Glass Jar, 4 oz.

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QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503348

11-Mar-15

Client: Blagg Engineering

Project: GCU COM I 181

Sample ID	MB-18067	SampType:	MBLK	TestCode:	EPA Method 300.0: Anions					
Client ID:	PBS	Batch ID:	18067	RunNo:	24749					
Prep Date:	3/10/2015	Analysis Date:	3/10/2015	SeqNo:	729148	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-18067	SampType:	LCS	TestCode:	EPA Method 300.0: Anions					
Client ID:	LCSS	Batch ID:	18067	RunNo:	24749					
Prep Date:	3/10/2015	Analysis Date:	3/10/2015	SeqNo:	729149	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.0	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#: 1503348

11-Mar-15

Client: Blagg Engineering

Project: GCU COM I 181

Sample ID	MB-18038	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	18038	RunNo:	24711					
Prep Date:	3/9/2015	Analysis Date:	3/10/2015	SeqNo:	728323	Units: %REC				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.4		10.00		84.2	63.5	128			

Sample ID	MB-18057	SampType:	MBLK	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	18057	RunNo:	24711					
Prep Date:	3/10/2015	Analysis Date:	3/10/2015	SeqNo:	728324	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	8.4		10.00		84.2	63.5	128			

Sample ID	LCS-18038	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	18038	RunNo:	24711					
Prep Date:	3/9/2015	Analysis Date:	3/10/2015	SeqNo:	728325	Units: %REC				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		89.3	63.5	128			

Sample ID	LCS-18057	SampType:	LCS	TestCode:	EPA Method 8015D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	18057	RunNo:	24711					
Prep Date:	3/10/2015	Analysis Date:	3/10/2015	SeqNo:	728326	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	98.2	67.8	130			
Surr: DNOP	4.4		5.000		87.4	63.5	128			

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#: 1503348

11-Mar-15

Client: Blagg Engineering

Project: GCU COM I 181

Sample ID	MB-18044	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	18044	RunNo:	24730					
Prep Date:	3/9/2015	Analysis Date:	3/10/2015	SeqNo:	728732	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	900		1000		89.5	80	120			

Sample ID	LCS-18044	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	18044	RunNo:	24730					
Prep Date:	3/9/2015	Analysis Date:	3/10/2015	SeqNo:	728733	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	112	64	130			
Surr: BFB	1100		1000		108	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1503348

11-Mar-15

Client: Blagg Engineering

Project: GCU COM I 181

Sample ID	MB-18044	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	18044	RunNo:	24730					
Prep Date:	3/9/2015	Analysis Date:	3/10/2015	SeqNo:	728766	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	1.0		1.000		102	80	120			

Sample ID	LCS-18044	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	18044	RunNo:	24730					
Prep Date:	3/9/2015	Analysis Date:	3/10/2015	SeqNo:	728767	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.050	1.000	0	116	76.6	128			
Toluene	1.1	0.050	1.000	0	109	75	124			
Ethylbenzene	1.1	0.050	1.000	0	111	79.5	126			
Xylenes, Total	3.3	0.10	3.000	0	110	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	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 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: BLAGG

Work Order Number: 1503348

RcptNo: 1

Received by/date: CS 03/10/15

Logged By: Anne Thorne 3/9/2015 8:25:00 AM

Completed By: Anne Thorne 3/10/2015

Reviewed By: JA 03/10/15

Anne Thorne

Anne Thorne

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	1.4	Good	Yes			



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

Project Name: GCU Com I 181
Project Number: 03143-0424
Project Manager: Jeff Blagg

Reported:
12-Mar-15 09:40

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 1510023 - Purge and Trap EPA 5030A

Blank (1510023-BLK1)

Prepared: 05-Mar-15 Analyzed: 11-Mar-15

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	0.346		"	0.393		87.9	50-150			

LCS (1510023-BS1)

Prepared: 05-Mar-15 Analyzed: 11-Mar-15

Benzene	21.4	0.10	mg/kg	19.8		108	75-125			
Toluene	20.0	0.10	"	19.8		101	70-125			
Ethylbenzene	19.0	0.10	"	19.8		96.1	75-125			
p,m-Xylene	36.7	0.20	"	39.6		92.6	80-125			
o-Xylene	17.8	0.10	"	19.8		89.8	75-125			
Surrogate: 4-Bromochlorobenzene-PID	0.350		"	0.396		88.2	50-150			

Matrix Spike (1510023-MS1)

Source: P503020-01

Prepared: 05-Mar-15 Analyzed: 11-Mar-15

Benzene	23.4	0.10	mg/kg	19.9	ND	118	75-125			
Toluene	23.1	0.10	"	19.9	ND	116	70-125			
Ethylbenzene	22.5	0.10	"	19.9	ND	113	75-125			
p,m-Xylene	44.6	0.20	"	39.7	ND	112	80-125			
o-Xylene	21.4	0.10	"	19.9	ND	108	75-125			
Surrogate: 4-Bromochlorobenzene-PID	0.370		"	0.397		93.2	50-150			

Matrix Spike Dup (1510023-MSD1)

Source: P503020-01

Prepared: 05-Mar-15 Analyzed: 11-Mar-15

Benzene	20.8	0.10	mg/kg	19.8	ND	105	75-125	11.9	15	
Toluene	20.4	0.10	"	19.8	ND	103	70-125	12.3	15	
Ethylbenzene	20.2	0.10	"	19.8	ND	102	75-125	10.9	15	
p,m-Xylene	40.5	0.20	"	39.7	ND	102	80-125	9.60	15	
o-Xylene	19.5	0.10	"	19.8	ND	98.4	75-125	9.34	15	
Surrogate: 4-Bromochlorobenzene-PID	0.373		"	0.397		94.0	50-150			

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laboratory@envirotech-inc.com

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

 Project Name: GCU Com I 181
 Project Number: 03143-0424
 Project Manager: Jeff Blagg

 Reported:
 12-Mar-15 09:40

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 1510023 - Purge and Trap EPA 5030A
Blank (1510023-BLK1)

Prepared: 05-Mar-15 Analyzed: 11-Mar-15

Gasoline Range Organics (C6-C10)	ND	9.83	mg/kg							
Surrogate: 4-Bromochlorobenzene-FID	0.325		"	0.393		82.6	50-150			

LCS (1510023-BS1)

Prepared: 05-Mar-15 Analyzed: 11-Mar-15

Gasoline Range Organics (C6-C10)	237	9.91	mg/kg	264		89.9	80-120			
Surrogate: 4-Bromochlorobenzene-FID	0.329		"	0.396		83.0	50-150			

Matrix Spike (1510023-MS1)

Source: P503020-01

Prepared: 05-Mar-15 Analyzed: 11-Mar-15

Gasoline Range Organics (C6-C10)	291	9.93	mg/kg	265	ND	110	75-125			
Surrogate: 4-Bromochlorobenzene-FID	0.350		"	0.397		88.0	50-150			

Matrix Spike Dup (1510023-MSD1)

Source: P503020-01

Prepared: 05-Mar-15 Analyzed: 11-Mar-15

Gasoline Range Organics (C6-C10)	258	9.91	mg/kg	264	ND	97.7	75-125	12.0	15	
Surrogate: 4-Bromochlorobenzene-FID	0.352		"	0.397		88.9	50-150			

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