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

RECEIVED
MAR 06 2015
NMOCD
DISTRICT III

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 America	Contact: Jeff Peace
Address: 200 Energy Court, Farmington, NM 87401	Telephone No. (505) 326-9479
Facility Name: Atlantic A LS 5B	Facility Type: Natural Gas Well

Surface Owner: Federal	Mineral Owner: Federal	API No. 3004530059

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	26	31N	10W	1,865	South	690	East	San Juan

Latitude 36.867573 **Longitude** 107.845627

NATURE OF RELEASE

Type of Release: Condensate	Volume of Release: unknown	Volume Recovered: None
Source of Release: 300 bbl production tank	Date and Hour of Occurrence: unknown	Date and Hour of Discovery: 6/29/2011 11:00 AM
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.* While working to replace the 300 bbl condensate tank a leak from the manway hatch was discovered and impacted soils beneath the tank were observed when the tank was removed. Excavation to determine the extent of the impacts was attempted but was limited to 14 feet due to the sandy soil. Impacted soil removed during the excavation (152 yd^3) was transported to a landfarm for treatment. Boreholes were drilled and samples were taken to determine the vertical and lateral extent of the soil impacts. Initial results showed impacts to 30 feet depth that were very limited in the areal extent. Boreholes drilled twelve feet from the center of the impacted area were non-detect for TPH.

Describe Area Affected and Cleanup Action Taken.* Due to the depth of the soil impacts and the sandy soil present, a vent well was installed in the center of the release area and in the boreholes drilled at the perimeter to utilize a soil vapor extraction (SVE) system for remediation. The vent wells were set to 30 feet depth and a blower was connected to the central vent well to move air through the impacted soil. At the request of NMOCD two boreholes were recently drilled between the air introduction vent well and a perimeter vent well to take composite soil samples. Soil analyses of those composite samples resulted in TPH values below 100 ppm, which is the cleanup standard for this site. Attached is a remediation summary with soil analysis data, site diagram, borehole diagrams, and the C-138.

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: Jeff Peace	OIL CONSERVATION DIVISION
Printed Name: Jeff Peace	Approved by Environmental Specialist:
Title: Field Environmental Coordinator	Approval Date: 4/30/15 Expiration Date:
E-mail Address: peace.jeffrey@bp.com	Conditions of Approval: Attached ☐
Date: March 5, 2015 Phone: (505) 326-9479	

* Attach Additional Sheets If Necessary

#NSK 1122341136

32

BP AMERICA PRODUCTION COMPANY

Atlantic A LS 5B – SPILL RELEASE REMEDIATION SUMMARY

API #: 30-045-30059
(I)Sec. 26 – T31N – R10W
San Juan County, New Mexico

CHRONOLOGICAL EVENT SUMMATION

1. June 21, 2011: An unknown volume of condensate was discovered lost from the 300 barrel stock tank, apparently from a failed man way gasket. Site closure standard established at 100 ppm TPH due to presence of dry wash southwest of impact.

2. June 27, 2011: BP conducts remediation by excavation of impacts with trackhoe. Excavation size approximately 16' x 16' x 16' deep, cone shaped, sugar sand caving back into hole while digging. Could not advance any deeper due to soil type.

3. August 15, 2011: Conduct vertical extent investigation with drill rig. Drill BH-1 in center of release area to a total depth of 40 feet. Lab results from soil sampling determine impacts above closure standards (100 ppm TPH) between 20' – 30'. No impacts present between 30' – 40'.

4. February 9 - 10, 2012: Install 4 perimeter SVE points drilled to a depth of 30 feet (BH-2, BH-3, BH-4 and BH-5) at a distance 12' away from center source borehole BH-1. Field OVM testing and laboratory results indicate that no hydrocarbon impacts are present in any of these SVE points.

5. May 15 – June 28, 2012: Operate temporary pilot SVE unit to test effectiveness of SVE for remediation.

6. October 2, 2012: Drill BH-6 in source area to a depth of 30 feet for sampling to evaluate SVE pilot test. Impacts above closure standards present between 15' – 25', no impacts at 30' depth.

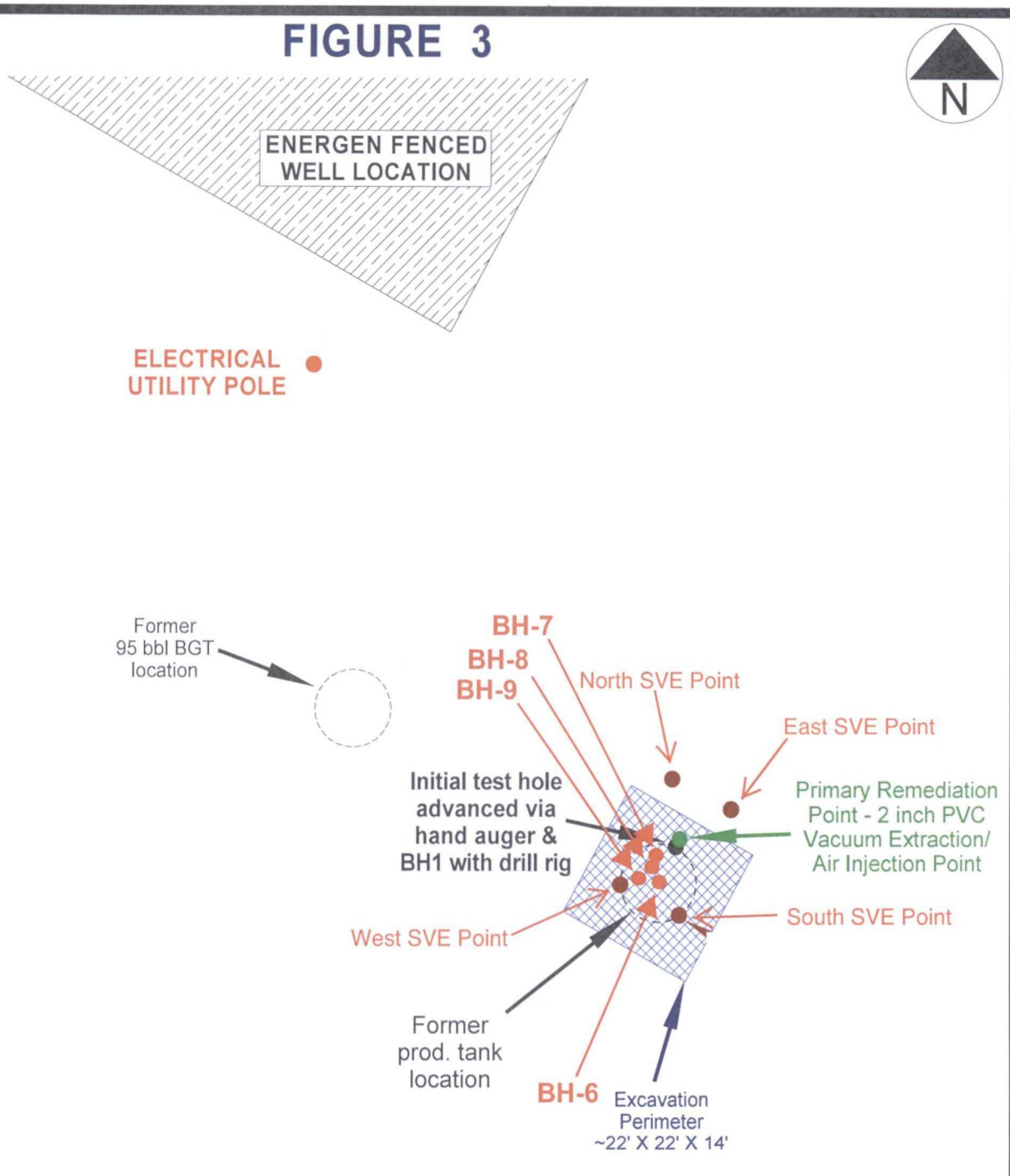
7. November 4, 2013: Startup of permanent SVE unit for site remediation. Placed into continuous operation.

8. October 3, 2014: Drill BH-7 in source area to a depth of 30 feet for sampling to evaluate SVE progress. Lab test results find the following: 15'-16' TPH = 96 ppm. 19'-20' TPH = 240 ppm. 23'-24' TPH = 31 ppm. 27'-28' TPH = 37 ppm. SVE unit returned to continuous operation.

9. November 21, 2014: Present findings to NMOCD Aztec District Office. Pursuant to NMOCD request, a re-sampling program was developed as follows: Two borings to be advanced to a depth of 30 feet in source area. First boring to be a distance of 4' southwest of BH-1, with a composite sample collected between the depths of 10'-20', and another composite sample collected between the depths of 20'-30. The second boring to be a distance of 8' southwest of BH-9 and have the same composite sampling program.

10. February 25 – 26, 2015: Drill borings BH-8 and BH-9 as prescribed by NMOCD. Composite soil test results as follows: BH-8 (located 4' southwest of BH-1) Composite 11'-20' TPH = 33 ppm, Composite 20'-30' TPH = 22 ppm. BH-9 (located 8' southwest of BH-1) Composite 10'-20' TPH = 21 ppm, Composite 20'-30' TPH = 24 ppm. Note that drilling and sampling was witnessed by NMOCD.

FIGURE 3



BORING 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 USED ~ 10° E.

1 INCH = 25 FEET

0 25 50 FT.

BP AMERICA PRODUCTION COMPANY

ATLANTIC A LS # 5B

NE/4 SE/4 SEC. 26, T31N, R10W

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: ATLANTIC A LS 5B-SM2.SKF

REVISED: 03/11/12 NJV

REMEDIATION DESIGN LAYOUT

02/12

BLAGG ENGINEERING, INC.

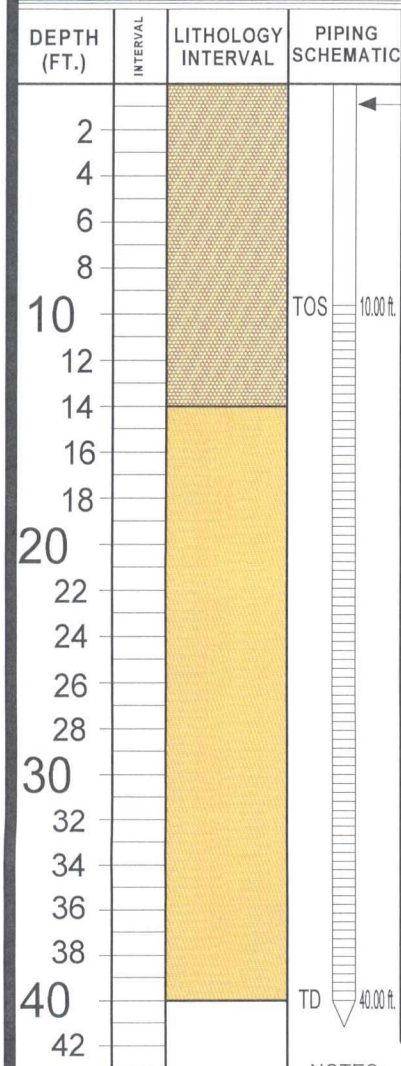
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

This is the Initial Boring at the Release to Determine Vertical Extent of Impacts

BORE / TEST HOLE REPORT

BORING #..... BH - 1
MW #..... N/A
PAGE #..... 1
DATE STARTED 08/15/11
DATE FINISHED 08/15/11
OPERATOR..... KP
LOGGED BY..... NJV/JCB

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: ATLANTIC A LS # 5B UNIT I, SEC. 26, T31N, R10W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION: 133.9 FEET, N76E FROM WELL HEAD.



SAMPLE INTERVAL	SAMPLE TIME	FIELD OVM (ppm)	BLOW COUNT PER 6" & RECOVERY	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
				TOP OF CASING APPROX. 5.00 FT. BELOW GRADE.
				DARK YELLOWISH BROWN SAND (FILL MATERIAL), NON COHESIVE, DRY TO SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 14.0 FT. BELOW GRADE).
10.00 - 11.50	1102	361	2-2-1	FILL MATERIAL (CRUSHER FINES), LIGHTLY MOIST.
15.00 - 16.50	1108	248	3-4-4	HYDROCARBON ODOR DETECTED @ 15 FT., SILTY SAND
				DARK YELLOWISH ORANGE SILTY SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, FIRM, VARYING LEVELS OF APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (14.0 - 40.0 FT. BELOW GRADE).
20.00 - 21.50	1117	719	3-5-5	SAME AS ABOVE (SAA) @ 15 FT. TPH = 13,970 ppm; benzene = 7.1 ppm; total BTEX = 1,743.1 ppm.
25.00 - 26.50	1125	180.3	3-4-7	SAME AS ABOVE (SAA) EXCEPT WITH ROUNDED PEBBLES TPH = 9,300 ppm; benzene = ND; total BTEX = 836 ppm.
30.00 - 31.50	1130	62	6-9-11	SAA TPH = ND; benzene = ND; total BTEX = ND.
35.00 - 36.50	1138	53	5-7-7	SAA TPH = ND; benzene = ND; total BTEX = ND.
40.00 - 41.50	1150	2.2	9-11-11	SAA EXCEPT WITH NO APPARENT HYDROCARBON ODOR. TPH = ND; benzene = ND; total BTEX = ND.

NOTES:
- SAND.
- SILTY SAND.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.
OVM - Organic vapor meter or photoionization detector (PID).
ppm - parts per million or milligram per kilogram (mg/Kg).
TPH - Total Petroleum Hydrocarbons per US EPA Method 8015B.
BTEX - Benzene, toluene, ethylbenzene, total xylenes.
ND - Not detected at the reporting limit (see laboratory reports).

ALL SAMPLES COLLECTED VIA SPLIT SPOON SAMPLER.

New Mexico Oil Conservation Division closure standards for the release location:
TPH = 100 ppm
Benzene = 10 ppm
Total BTEX = 50 ppm

OVM CALIBRATION:
52.9 ppm; RF = 0.52 (RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 08/15/11.
Time - 1047.

Vent piping consist of 2 inch PVC - casing from 5.00 ft. below grade to 10.00 ft. below grade, 0.020 slotted screen between 10.00 to 40.00 ft. below grade, sand packed annular to 8.0 ft. below grade, bentonite grout between 5.0 to 8.0 ft. below grade, cuttings to surface.

DRAWING: ATLANTIC A LS 5B BH-1. SKF | DATE: 08/23/11 | DWN BY: NJV

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

Perimeter SVE Boring
(12 Feet North of BH-1)

FIELD BORING LOG

BORING ID: BH-2

PROJECT: BP: Atlantic A LS 5B
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Kyvek
EQUIPMENT USED: CME-95
DATE START: 2/9/2012 DATE FINISH: 2/9/2012 DRILLER: K Padilla LOGGED BY: J Blagg
TOTAL DEPTH: 30 Feet CASING TYPE & SIZE: 2-inch PVC SLOT SIZE: 0.020
COMMENTS: Set 2-inch screened interval from 15' - 30' with bentonite seal for SVE well

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	Completion Log	FIELD OVM	SAMPLE DESCRIPTION
	0936		Cuttings		Start Drilling
	0942	Split Spoon		0.0	Silty Sand, Backfill Material, No HC odor or Stain
10	0950	Split Spoon	Bentonite	0.0	Silty Sand, Backfill Material, No HC odor or Stain
	0959	Split Spoon	10/20 Sand Filter Pack	0.0	Silty Sand, Yellow Tan, No HC odor or Stain
20	1009	Split Spoon		0.0	Silty Sand, Yellow Tan, No HC odor or Stain
	1018	Split Spoon		0.0	Silty Sand, Yellow Tan, No HC odor or Stain TPH = 0.0 BTEX = 0.0
30	1030	Split Spoon		0.0	Silty Sand, Yellow Tan, No HC odor or Stain

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

Perimeter SVE Boring
(12 Feet east of BH-1)

FIELD BORING LOG

BORING ID: BH-3

PROJECT: BP: Atlantic A LS 5B
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Kyvek
EQUIPMENT USED: CME-95
DATE START: 2/9/2012 DATE FINISH: 2/9/2012 DRILLER: K Padilla LOGGED BY: J Blagg
TOTAL DEPTH: 30 Feet CASING TYPE & SIZE: 2-inch PVC SLOT SIZE: 0.020
COMMENTS: Set 2-inch screened interval from 15' - 30' with bentonite seal for SVE well

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	Completion Log	FIELD OVM	SAMPLE DESCRIPTION
	1110		Cuttings		Start Drilling
	1116	Split Spoon		0.0	Silty Sand, Backfill Material, No HC odor or Stain
10	1122	Split Spoon	Bentonite	0.0	Silty Sand, Backfill Material, No HC odor or Stain
	1130	Split Spoon	10/20 Sand Filter Pack	0.0	Silty Sand, Yellow Tan, No HC odor or Stain
20	1139	Split Spoon		0.0	Silty Sand, Yellow Tan, No HC odor or Stain
	1148	Split Spoon		0.0	Silty Sand, Yellow Tan, No HC odor or Stain TPH = 0.0 BTEX = 0.0
30	1158	Split Spoon		0.0	Silty Sand, Yellow Tan, No HC odor or Stain

BLAGG ENGINEERING, INC.

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

Perimeter SVE Boring
(12 Feet west of BH-1)

FIELD BORING LOG

BORING ID: BH-4

PROJECT: BP: Atlantic A LS 5B
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Kyvek
EQUIPMENT USED: CME-95
DATE START: 2/10/2012 DATE FINISH: 2/10/2012 DRILLER: K Padilla LOGGED BY: J Blagg
TOTAL DEPTH: 30 Feet CASING TYPE & SIZE: 2-inch PVC SLOT SIZE: 0.020
COMMENTS: Set 2-inch screened interval from 15' - 30' with bentonite seal for SVE well

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	Completion Log	FIELD OVM	SAMPLE DESCRIPTION
	0850		Cuttings		Start Drilling
	0855	Split Spoon		0.0	Silty Sand, Backfill Material, No HC odor or Stain
10	0901	Split Spoon	Bentonite	0.0	Silty Sand, Backfill Material, No HC odor or Stain
	0909	Split Spoon	10/20 Sand Filter Pack	0.0	Silty Sand, Yellow Tan, No HC odor or Stain
20	0916	Split Spoon		0.0	Silty Sand, Yellow Tan, No HC odor or Stain
	0925	Split Spoon		0.0	Silty Sand, Yellow Tan, No HC odor or Stain TPH = 0.0 BTEX = 0.0
30	0935	Split Spoon		0.0	Silty Sand, Yellow Tan, No HC odor or Stain

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

Perimeter SVE Boring
(12 Feet south of BH-1)

FIELD BORING LOG

BORING ID: BH-5

PROJECT: BP: Atlantic A LS 5B
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Kyvek
EQUIPMENT USED: CME-95
DATE START: 2/10/2012 DATE FINISH: 2/10/2012 DRILLER: K Padilla LOGGED BY: J Blagg
TOTAL DEPTH: 30 Feet CASING TYPE & SIZE: 2-inch PVC SLOT SIZE: 0.020
COMMENTS: Set 2-inch screened interval from 15' - 30' with bentonite seal for SVE well

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	Completion Log	FIELD OVM	SAMPLE DESCRIPTION
	1006				Start Drilling
	1012	Split Spoon	Cuttings	0.0	Silty Sand, Backfill Material, No HC odor or Stain
10	1018	Split Spoon	Bentonite	0.0	Silty Sand, Backfill Material, No HC odor or Stain
	1025	Split Spoon	10/20 Sand Filter Pack	0.0	Silty Sand, Yellow Tan, No HC odor or Stain
20	1033	Split Spoon		0.0	Silty Sand, Yellow Tan, No HC odor or Stain
	1042	Split Spoon		0.0	Silty Sand, Yellow Tan, No HC odor or Stain TPH = 0.0 BTEX = 0.0
30	1050	Split Spoon		0.0	Silty Sand, Yellow Tan, No HC odor or Stain

BLAGG ENGINEERING, INC.

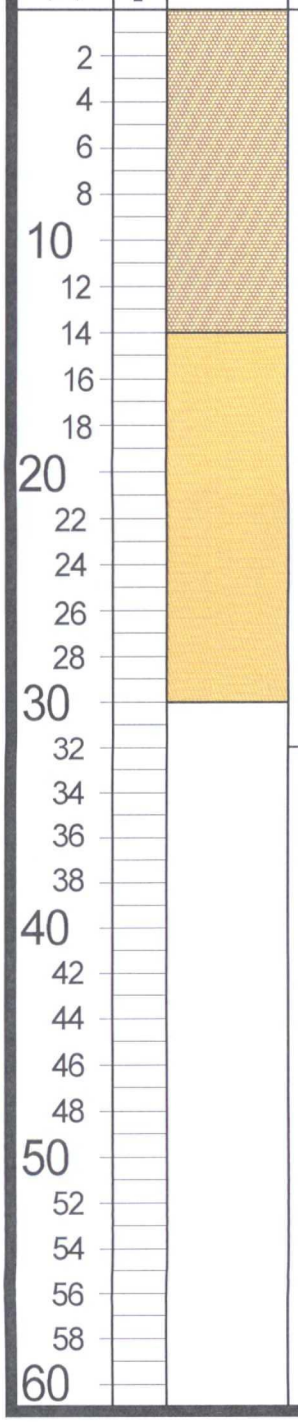
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

This Boring Advanced to Evaluate SVE Pilot Test

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	ATLANTIC A LS # 5B UNIT I, SEC. 26, T31N, R10W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	132 FEET, N77E FROM WELL HEAD (production tank center).

BORING #.....	BH - 6
MW #.....	N/A
PAGE #.....	6
DATE STARTED	10/02/12
DATE FINISHED	10/02/12
OPERATOR.....	KP
LOGGED BY.....	NJV



SAMPLE INTERVAL	SAMPLE TIME	FIELD OVM (ppm)	BLOW COUNT PER 6" & RECOVERY	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
				DARK YELLOWISH BROWN SAND (FILL MATERIAL), NON COHESIVE, DRY TO SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 14.0 FT. BELOW GRADE).
15.00 - 16.50	1019	534	4-3-3	HYDROCARBON ODOR DETECTED @ 15 FT., SILTY SAND TPH = 10,100 ppm; benzene = ND; total BTEX = 530 ppm. DARK YELLOWISH ORANGE SILTY SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, FIRM, VARYING LEVELS OF APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (14.0 - 40.0 FT. BELOW GRADE).
20.00 - 21.50	1024	410	4-8-8	SAME AS ABOVE (SAA) @ 15 FT. TPH = 6,700 ppm; benzene = ND; total BTEX = 130 ppm.
25.00 - 26.50	1032	28.2	4-6-8	SAME AS ABOVE (SAA) EXCEPT WITH ROUNDED PEBBLES TPH = 220 ppm; benzene = ND; total BTEX = ND.
30.00 - 31.50	1040	13.0	4-8-10	SAA TPH = ND; benzene = ND; total BTEX = ND.

NOTES:

- SAND.
- SILTY SAND.
- TOS - Top of screen of monitor well.
- TD - Total depth/bottom extent of monitor well.
- OVM - Organic vapor meter or photoionization detector (PID).
- ppm - parts per million or milligram per kilogram (mg/Kg).
- TPH - Total Petroleum Hydrocarbons per US EPA Method 8015B.
- BTEX - Benzene, toluene, ethylbenzene, total xylenes.
- ND - Not detected at the reporting limit (see laboratory reports).

ALL SAMPLES COLLECTED VIA SPLIT SPOON SAMPLER.

New Mexico Oil Conservation Division closure standards for the release location:

TPH = 100 ppm
Benzene = 10 ppm
Total BTEX = 50 ppm

OVM CALIBRATION:
52.1 ppm; RF = 0.52
(RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 10/02/12.
Time - 1052.

DRAWING: ATLANTIC A LS 5B BH-6. SKF | DATE: 10/17/12 | DWN BY: NJV

This Boring to Evaluate SVE Progress

BLAGG ENGINEERING, INC.

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

3' WSW FROM BH-1

FIELD BORING LOG

BORING ID: BH-7

PROJECT: BP: . ATLANTIC A LS 5B
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Kyvek
EQUIPMENT USED: GEOPROBE
DATE START: 10/3/14 DATE FINISH: 10/3/14 DRILLER: KP LOGGED BY: JCB
TOTAL DEPTH: 28' CASING TYPE & SIZE: — SLOT SIZE: —
COMMENTS:

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	~~BLOW COUNTS~~	FIELD OVM	SAMPLE DESCRIPTION
		PLASTIC SLEEVE			
4	0913			0.0	CRUSHER FINES BACKFILL
8	0920			0.0	SAA
10					
12	0924			0.0	SAA
					Silty SAND, Dark Yellow Brown
16	0928		15' - 16'	3.3	DRO = 48 ppm, GRO = 48 ppm, Total TPH = 96 ppm
20	0935		19' - 20'	37.2	DRO = 130 ppm, GRO = 110 ppm, Total TPH = 240 ppm
					V HARD LAYER 19½' - 21': USE AUGER TO PENETRATE
24	1450		23' - 24'	1.1	DRO = 31 ppm, GRO = 0.0 ppm, Total TPH = 31 ppm MEDIUM Grained Sand, Lite Yellow TAN
28	1540	TD 28'	27' - 28'	0.4	SAA DRO = 37 ppm, GRO = 0.0 ppm, Total TPH = 37 ppm
30					

2EVH01REME
SR-JOONR

This Boring to Document Final Site Closure

BLAGG ENGINEERING, INC.

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

FIELD BORING LOG

BORING ID: BH-8

PROJECT: BP: Atlantic A LS 5B
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Kyvek
EQUIPMENT USED: GEOPROBE WITH 1.25" SLEEVES TO 20'; CME-95 20'-30'
DATE START: 2/25/2015 DATE FINISH: 2/26/2015 DRILLER: KP LOGGED BY: JCB
TOTAL DEPTH: 30' CASING TYPE & SIZE: — SLOT SIZE: —
COMMENTS: 4' SW OF BH-1

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	FIELD OVM	SAMPLE DESCRIPTION
1'	0846	SLEEVE		START
2'				
3'				
4'	0851		0.0	RECOVER 40" TAN SILTY SAND - CRUSHER FINES BACKFILL
5'				
6'				
7'				
8'	0858		0.0	RECOVER 40" SAA
9'				
10				
11'				NATIVE SILTY SAND @ 11', TAN, NO ODOR
12'	0902		0.0	RECOVER 36"
13'				
14'				
15'				COLLECT 3-pt comp 11'-20' Lab TPH = 33 ppm
16'	0908		4.2	RECOVER 29", SAA
17'				
18'				
19'				
20	0916		8.4	RECOVER 40", SAA, VERY MINOR HC ODOR
21	0822	SAMPLE SPOON	0.5	2/26/2015 SWITCH TO CME-95 RIG DUE TO Probe Rig Failure
22				DRY TAN SILTY SAND, NO HC ODOR
23	0830	S.S.	0.5	
24				
25'				COLLECT 4-pt comp. 20'-30' Lab TPH = 22 ppm
26	0840	SS	0.5	
27				
28				
29	0847	SS.	0.5	
30				

This Boring to Document Final Site Closure

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

FIELD BORING LOG

BORING ID: BH-9

PROJECT: BP: Atlantic A LS 5B
CLIENT: BP America Production Co.
DRILLING CONTRACTOR: Kyvek
EQUIPMENT USED: CME-95
DATE START: 2/26/2015 DATE FINISH: _____ DRILLER: KP LOGGED BY: JB
TOTAL DEPTH: 30' CASING TYPE & SIZE: — SLOT SIZE: —
COMMENTS: 8' SW OF BH-1

DEPTH FEET	SAMPLE TIME	SAMPLE TYPE	FIELD OVM	SAMPLE DESCRIPTION
	0900	CUTTINGS		START SILTY SAND, DRY, TAN, NO HC ODOR OR STAIN
5'				
10	0920	S.S.	0.5	
	0925	S.S.	1.6	SAA, Light HC ODOR
15'	0931	S.S.	4.9	SAA
	0940	SS	1.6	SAA
20	0949	SS	0.5	SAA
	0955	SS	0.5	SAA
25'	1000	SS	0.5	SAA - NO ODOR
30	1006	SS	0.5	SAA - NO ODOR

4-pt Composite For LAB TPH, BTEX, Cl⁻
Lab TPH = 21 ppm

4-pt Composite For LAB TPH/BTEX/Cl⁻
Lab TPH = 24 ppm

Analytical Report
Lab Order **1502B08**
Date Reported: **3/4/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Atlantic A LS 5B
Lab ID: 1502B08-001 **Matrix:** SOIL

Client Sample ID: BH-8 3-pt comp 11'-20'
Collection Date: 2/25/2015 9:16:00 AM
Received Date: 2/27/2015 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	33	10		mg/Kg	1	3/3/2015 5:51:18 PM	17929
Surr: DNOP	103	63.5-128		%REC	1	3/3/2015 5:51:18 PM	17929
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2015 12:21:40 PM	17930
Surr: BFB	105	80-120		%REC	1	3/2/2015 12:21:40 PM	17930
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	3/2/2015 12:21:40 PM	17930
Toluene	ND	0.048		mg/Kg	1	3/2/2015 12:21:40 PM	17930
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2015 12:21:40 PM	17930
Xylenes, Total	ND	0.095		mg/Kg	1	3/2/2015 12:21:40 PM	17930
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	3/2/2015 12:21:40 PM	17930
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	3/2/2015 4:55:59 PM	17957

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Atlantic A LS 5B
Lab ID: 1502B08-002 **Matrix:** SOIL

Client Sample ID: BH-8 4-pt comp 20'-30'
Collection Date: 2/26/2015 8:47:00 AM
Received Date: 2/27/2015 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	22	10		mg/Kg	1	3/3/2015 6:18:38 PM	17929
Surr: DNOP	68.8	63.5-128		%REC	1	3/3/2015 6:18:38 PM	17929
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2015 1:47:55 PM	17930
Surr: BFB	91.1	80-120		%REC	1	3/2/2015 1:47:55 PM	17930
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	3/2/2015 1:47:55 PM	17930
Toluene	ND	0.047		mg/Kg	1	3/2/2015 1:47:55 PM	17930
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2015 1:47:55 PM	17930
Xylenes, Total	ND	0.093		mg/Kg	1	3/2/2015 1:47:55 PM	17930
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	3/2/2015 1:47:55 PM	17930
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	3/2/2015 5:08:24 PM	17957

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Atlantic A LS 5B
Lab ID: 1502B08-003 **Matrix:** SOIL

Client Sample ID: BH-9 4-pt comp 10'-20'
Collection Date: 2/26/2015 9:40:00 AM
Received Date: 2/27/2015 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	21	10		mg/Kg	1	3/3/2015 6:45:56 PM	17929
Surr: DNOP	82.2	63.5-128		%REC	1	3/3/2015 6:45:56 PM	17929
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/2/2015 3:14:05 PM	17930
Surr: BFB	91.3	80-120		%REC	1	3/2/2015 3:14:05 PM	17930
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.047		mg/Kg	1	3/2/2015 3:14:05 PM	17930
Toluene	ND	0.047		mg/Kg	1	3/2/2015 3:14:05 PM	17930
Ethylbenzene	ND	0.047		mg/Kg	1	3/2/2015 3:14:05 PM	17930
Xylenes, Total	ND	0.095		mg/Kg	1	3/2/2015 3:14:05 PM	17930
Surr: 4-Bromofluorobenzene	104	80-120		%REC	1	3/2/2015 3:14:05 PM	17930
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	3/2/2015 5:20:48 PM	17957

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

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Atlantic A LS 5B
Lab ID: 1502B08-004 **Matrix:** SOIL

Client Sample ID: BH-9 4-pt comp 20'-30'
Collection Date: 2/26/2015 10:06:00 AM
Received Date: 2/27/2015 8:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: DIESEL RANGE ORGANICS						Analyst: **JME**	
Diesel Range Organics (DRO)	24	10		mg/Kg	1	3/3/2015 7:13:14 PM	17929
Surr: DNOP	76.8	63.5-128		%REC	1	3/3/2015 7:13:14 PM	17929
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/2/2015 4:11:31 PM	17930
Surr: BFB	91.4	80-120		%REC	1	3/2/2015 4:11:31 PM	17930
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.048		mg/Kg	1	3/2/2015 4:11:31 PM	17930
Toluene	ND	0.048		mg/Kg	1	3/2/2015 4:11:31 PM	17930
Ethylbenzene	ND	0.048		mg/Kg	1	3/2/2015 4:11:31 PM	17930
Xylenes, Total	ND	0.096		mg/Kg	1	3/2/2015 4:11:31 PM	17930
Surr: 4-Bromofluorobenzene	101	80-120		%REC	1	3/2/2015 4:11:31 PM	17930
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Chloride	ND	30		mg/Kg	20	3/2/2015 5:33:13 PM	17957

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1502B08**

04-Mar-15

Client: Blagg Engineering

Project: Atlantic A LS 5B

Sample ID	**MB-17957**	SampType:	**MBLK**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**17957**		RunNo:	**24595**				
Prep Date:	**3/2/2015**	Analysis Date:	**3/2/2015**		SeqNo:	**724386**	Units:	**mg/Kg**		

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

Sample ID	**LCS-17957**	SampType:	**LCS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**17957**		RunNo:	**24595**				
Prep Date:	**3/2/2015**	Analysis Date:	**3/2/2015**		SeqNo:	**724387**	Units:	**mg/Kg**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.5	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#: **1502B08**

04-Mar-15

Client: Blagg Engineering
Project: Atlantic A LS 5B

Sample ID **MB-17929**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **17929**	RunNo: **24589**
Prep Date: **2/27/2015**	Analysis Date: **3/3/2015**	SeqNo: **725484** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.0		10.00		89.7	63.5	128			

Sample ID **LCS-17929**	SampType: **LCS**	TestCode: **EPA Method 8015D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **17929**	RunNo: **24589**
Prep Date: **2/27/2015**	Analysis Date: **3/3/2015**	SeqNo: **725485** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	67.8	130			
Surr: DNOP	5.3		5.000		106	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#: **1502B08**

04-Mar-15

Client: Blagg Engineering
Project: Atlantic A LS 5B

Sample ID **MB-17930**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **17930**	RunNo: **24582**
Prep Date: **2/27/2015**	Analysis Date: **3/2/2015**	SeqNo: **724104** 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	910		1000		91.4	80	120			

Sample ID **LCS-17930**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **17930**	RunNo: **24582**
Prep Date: **2/27/2015**	Analysis Date: **3/2/2015**	SeqNo: **724105** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	64	130			
Surr: BFB	980		1000		97.8	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#: **1502B08**

04-Mar-15

Client: Blagg Engineering
Project: Atlantic A LS 5B

Sample ID **MB-17930**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **17930**	RunNo: **24582**
Prep Date: **2/27/2015**	Analysis Date: **3/2/2015**	SeqNo: **724138** 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		103	80	120			

Sample ID **LCS-17930**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **17930**	RunNo: **24582**
Prep Date: **2/27/2015**	Analysis Date: **3/2/2015**	SeqNo: **724139** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	113	80	120			
Toluene	1.1	0.050	1.000	0	108	80	120			
Ethylbenzene	1.1	0.050	1.000	0	109	80	120			
Xylenes, Total	3.2	0.10	3.000	0	108	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1502B08 | RcptNo: 1

Received by/date: 02/27/15

Logged By: Lindsay Mangin 2/27/2015 8:15:00 AM

Completed By: Lindsay Mangin 2/27/2015 9:02:28 AM

Reviewed By: 02/27/15

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

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

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. **Cooler Information**

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

Chain-of-Custody Record

Client: BP AMERICA

BLAGG ENGINEERING INC.

Mailing Address: P.O. BOX 87

BLOOMFIELD, NM 87413

Phone #: 505-320-1183

email or Fax#:

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: ATLANTIC A LS 5B

Project #:

Project Manager: J. BLAGG

Sampler: J. BLAGG

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1502808	BTEX + ~~MTBE + TMB's~~ (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / ~~MRO~~)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	CHLORIDE				Air Bubbles (Y or N)
2/25/2015	0916	SOIL	BH-8 3-pt comp 11'-20'	4oz x 1	COOL	-001	X		X									X				
2/26/15	0847	"	BH-8 4-pt comp 20'-30'	"	"	-002	X		X									X				
"	0940	"	BH-9 4-pt comp 10'-20'	"	"	-003	X		X									X				
"	1006	"	BH-9 4-pt comp 20'-30'	"	"	-004	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
2/26/2015	1100	Jeff Blagg	Christine Walter	2/26/15	1100
2/26/15	1741	Christine Walter		02/27/15	0815

Remarks: BILL BP
PAYKEY: ZEVH01REME
CONTACT: JEFF PEACE

Analytical Report
Lab Order **1202467**
Date Reported: **2/20/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Atlantic A LS 5B
Lab ID: 1202467-001 **Matrix:** SOIL

Client Sample ID: BH-2 25'26.5'
Collection Date: 2/9/2012 10:18:00 AM
Received Date: 2/14/2012 12:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/16/2012 10:21:21 AM
Surr: DNOP	89.6	77.4-131		%REC	1	2/16/2012 10:21:21 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/16/2012 5:11:19 PM
Surr: BFB	103	69.7-121		%REC	1	2/16/2012 5:11:19 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.049		mg/Kg	1	2/16/2012 2:42:59 AM
Toluene	ND	0.049		mg/Kg	1	2/16/2012 2:42:59 AM
Ethylbenzene	ND	0.049		mg/Kg	1	2/16/2012 2:42:59 AM
Xylenes, Total	ND	0.097		mg/Kg	1	2/16/2012 2:42:59 AM
Surr: 4-Bromofluorobenzene	109	85.3-139		%REC	1	2/16/2012 2:42:59 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
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
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Atlantic A LS 5B
Lab ID: 1202467-002 **Matrix:** SOIL

Client Sample ID: BH-3 25'-26.5'
Collection Date: 2/9/2012 11:48:00 AM
Received Date: 2/14/2012 12:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/16/2012 10:43:11 AM
Surr: DNOP	91.1	77.4-131		%REC	1	2/16/2012 10:43:11 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	2/16/2012 3:13:04 AM
Surr: BFB	106	69.7-121		%REC	1	2/16/2012 3:13:04 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.050		mg/Kg	1	2/16/2012 3:13:04 AM
Toluene	ND	0.050		mg/Kg	1	2/16/2012 3:13:04 AM
Ethylbenzene	ND	0.050		mg/Kg	1	2/16/2012 3:13:04 AM
Xylenes, Total	ND	0.10		mg/Kg	1	2/16/2012 3:13:04 AM
Surr: 4-Bromofluorobenzene	107	85.3-139		%REC	1	2/16/2012 3:13:04 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
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
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Atlantic A LS 5B
Lab ID: 1202467-003 **Matrix:** SOIL

Client Sample ID: BH-4 25'-26.5'
Collection Date: 2/10/2012 9:25:00 AM
Received Date: 2/14/2012 12:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/16/2012 11:04:48 AM
Surr: DNOP	90.3	77.4-131		%REC	1	2/16/2012 11:04:48 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/16/2012 3:43:24 AM
Surr: BFB	99.9	69.7-121		%REC	1	2/16/2012 3:43:24 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.049		mg/Kg	1	2/16/2012 3:43:24 AM
Toluene	ND	0.049		mg/Kg	1	2/16/2012 3:43:24 AM
Ethylbenzene	ND	0.049		mg/Kg	1	2/16/2012 3:43:24 AM
Xylenes, Total	ND	0.099		mg/Kg	1	2/16/2012 3:43:24 AM
Surr: 4-Bromofluorobenzene	101	85.3-139		%REC	1	2/16/2012 3:43:24 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
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
RL	Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Atlantic A LS 5B
Lab ID: 1202467-004 **Matrix:** SOIL

Client Sample ID: BH-5 25'-26.5'
Collection Date: 2/10/2012 10:42:00 AM
Received Date: 2/14/2012 12:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	2/16/2012 11:26:36 AM
Surr: DNOP	92.3	77.4-131		%REC	1	2/16/2012 11:26:36 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/16/2012 4:13:50 AM
Surr: BFB	81.4	69.7-121		%REC	1	2/16/2012 4:13:50 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.049		mg/Kg	1	2/16/2012 4:13:50 AM
Toluene	ND	0.049		mg/Kg	1	2/16/2012 4:13:50 AM
Ethylbenzene	ND	0.049		mg/Kg	1	2/16/2012 4:13:50 AM
Xylenes, Total	ND	0.098		mg/Kg	1	2/16/2012 4:13:50 AM
Surr: 4-Bromofluorobenzene	82.6	85.3-139	S	%REC	1	2/16/2012 4:13:50 AM

Qualifiers:

*/X	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1202467**

20-Feb-12

Client: Blagg Engineering
Project: Atlantic A LS 5B

Sample ID **MB-725**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **725**	RunNo: **966**
Prep Date: **2/15/2012**	Analysis Date: **2/16/2012**	SeqNo: **28071** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.4		10.00		93.5	77.4	131			

Sample ID **LCS-725**	SampType: **LCS**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **725**	RunNo: **966**
Prep Date: **2/15/2012**	Analysis Date: **2/16/2012**	SeqNo: **28077** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	50.00	0	79.6	62.7	139			
Surr: DNOP	4.7		5.000		93.5	77.4	131			

Qualifiers:

*/X	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
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1202467**

20-Feb-12

Client: Blagg Engineering

Project: Atlantic A LS 5B

Sample ID **MB-711**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBS**	Batch ID: **711**	RunNo: **972**
Prep Date: **2/14/2012**	Analysis Date: **2/15/2012**	SeqNo: **28357** 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	910		1,000		90.9	69.7	121			

Sample ID **LCS-711**	SampType: **LCS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **LCSS**	Batch ID: **711**	RunNo: **972**
Prep Date: **2/14/2012**	Analysis Date: **2/15/2012**	SeqNo: **28361** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	98.5	133			
Surr: BFB	860		1,000		86.0	69.7	121			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1202467**

20-Feb-12

Client: Blagg Engineering
Project: Atlantic A LS 5B

Sample ID **MB-711**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **711**	RunNo: **972**
Prep Date: **2/14/2012**	Analysis Date: **2/15/2012**	SeqNo: **28392** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		92.2	85.3	139			

Sample ID **LCS-711**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **711**	RunNo: **972**
Prep Date: **2/14/2012**	Analysis Date: **2/15/2012**	SeqNo: **28393** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	96.2	83.3	107			
Toluene	0.90	0.050	1.000	0	90.0	74.3	115			
Ethylbenzene	0.96	0.050	1.000	0	96.1	80.9	122			
Xylenes, Total	3.0	0.10	3.000	0	99.3	85.2	123			
Surr: 4-Bromofluorobenzene	0.88		1.000		87.9	85.3	139			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG Work Order Number: 1202467

Received by/date: MG 02/14/12

Logged By: **Anne Thorne** 2/14/2012 12:45:00 PM Anne Thorne

Completed By: **Anne Thorne** 2/14/2012 Anne Thorne

Reviewed By: 2/14/12 MG

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.9	Good	Yes			

Chain-of-Custody Record

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

Turn-Around Time:
☒ Standard ☐ Rush _____
Project Name: ATLANTIC A LS 5B
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 2.5°

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

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1202467	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
2/9/12	1018	SOIL	BH-2 25'-26½'	4oz x1	COOL	-1	X		X									
"	1148	"	BH-3 25'-26½'	"	"	-2	X		X									
2/10/12	0925	"	BH-4 25'-26½'	"	"	-3	X		X									
"	1042	"	BH-5 25'-26½'	"	"	-4	X		X									

Date	Time	Relinquished by:	Received by:	Date	Time
2/13/12	1135		Christine Walters	2/13/12	1135
2/13/12	1610	Christine Walters	Michell Garcia	2/14/12	1245

Remarks: GRO + DRO ON 8015B
WORKORDER: N1493927
PARKEY: ZPEACJDENV
CONTACT: Jeff Peace

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-138
Revised March 12, 2007

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

BP AMERICA 200 ENERGY COURT FARMINGTON NEW MEXICO 87401

2. Originating Site: Work Order # N1399946

ATLANTIC ALS 5B Pay Key ZPEARJDENV

3. Location of Material (Street Address, City, State or ULSTR): PO # 49743

UL I SECTION 26 TOWNSHIP 31N RANGE 10W

4. Source and Description of Waste: 300 bbl PRODUCTION TANK

PRODUCED WATER / CONDENSATE LEAK 6/29/11-4404

Estimated Volume _____ yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) 105 yd³ / bbls

5. (505) 320-3311 GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, ANDREW DEAN, representative or authorized agent for BP AMERICA do hereby
Generator Signature and Phone#

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☑ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. *Operator Use Only: Waste Acceptance Frequency* ☐ *Monthly* ☐ *Weekly* ☐ *Per Load*

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as [illegible] n 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described [illegible] non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☑ Other (Provi[illegible]tion in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LAN[illegible]S

I, ANDREW DEAN, representative for BP AMERICA do hereby that
Representative/Agent Signature

representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride con[illegible]at the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.3[illegible] The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements o[illegible]5 of 19.15.36 NMAC.

5. Transporter: PAUL & SON

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: JFJ Landfarm c/o Industrial Ecosystems, Inc. / NM 01-0010B

Address of Facility: #~~61~~ 49 CR 3150 Aztec, NM 87410

Method of Treatment and/or Disposal:

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

Waste Acceptance Status:

☒ APPROVED ☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Marcella Marquez TITLE: Administrative Officer DATE: 6/28/11

SIGNATURE: _____ TELEPHONE NO.: 505-632-1782
Surface Waste Management Facility Authorized Agent

FAX NO.: 505-334-1003

C-112
Ph-7