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

OIL CONS. DIV DIST. 3
MAY 28 2015

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: Marcotte Gas Com 1	Facility Type: Natural gas well

Surface Owner: Private	Mineral Owner: Private	API No. 3004511067

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: San Juan
H	5	31N	10W	1,550	North	1,190	East	

Latitude 36.929999 **Longitude** 107.900491

NATURE OF RELEASE

Type of Release: condensate/oil	Volume of Release: unknown	Volume Recovered: none
Source of Release: below grade tank – 21 bbl, Tank A	Date and Hour of Occurrence: unknown	Date and Hour of Discovery: April 18, 2012; 10:32 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.* Soil beneath the BGT showed evidence of impacts during removal. Soil analysis resulted in TPH of 1,200 ppm by Method 8015B. Analysis results are attached. Impacted soil was excavated and monitor wells were sampled.

Describe Area Affected and Cleanup Action Taken.* Soils beneath the BGT were sampled and impacts were found immediately below the BGT. Impacted soil was excavated to 23 feet depth where competent bedrock was encountered. Sidewall composite samples of the excavation from 9' – 10'and at 20' were below the closure standard of 100 ppm TPH. Approximately 1,205 cubic yards were taken to the landfarm for treatment and the excavation was backfilled with clean soil. A groundwater monitor well was placed in the center of the excavation area, and a subsequent water sample resulted in non-detect for BTEX, but exceeded the WQCC standard for sulfate and TDS. Four existing monitor wells on the site were also sampled and were non-detect for BTEX. A sample of produced water from the well was analyzed for sulfate and TDS and resulted in non-detect for both constituents, indicating the high sulfate and TDS levels in the groundwater are not due to the produced water. Sample data, site maps, and a C-138 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: Jeff Peace	OIL CONSERVATION DIVISION	
Printed Name: Jeff Peace	Approved by Environmental Specialist:	
Title: Field Environmental Coordinator	Approval Date: 6/30/15	Expiration Date:
E-mail Address: peace.jeffrey@bp.com	Conditions of Approval:	Attached ☐
Date: May 27, 2015 Phone: 505-326-9479		

* Attach Additional Sheets If Necessary

#~~NCS~~ NJK 1212231434

52

BP America Production Company

Marcotte Gas Com 001
(H) Sec 5 – T31N – R10W
API: 30-045-11067
San Juan County, New Mexico

Summary Record of Impacted Soil Remediation & Groundwater

April 18, 2012	Initial visit by Blagg Engineering, Inc. (**BEI**) to conduct confirmation sampling of three (3) below-grade tanks (**BGT**). Staining evident directly beneath 21 barrel (**bbl**) BGT adjacent to compressor unit. BGT identified as tank A on BGT permit (**see Figure 1**). Permit approved (closure only) on November 7, 2011.
April 24, 2012	BEI collected additional sample from 21-A BGT at ten (10) feet below-grade.
May 17, 2012	Four (4) pre-existing groundwater monitor wells located on and off site were installed on October 29, 1991 (MW #1, MW #2, MW #3, & MW #4). BEI completed survey of casing tops in case groundwater gradient information was warranted for possible future decision making purposes. Reason(s) for installation and placement are unknown to BEI and current BP personnel. Records of groundwater gradient diagram (August 1993) and sampling (1993 & 1994) are included at end of this document.
June 7, 2012	BEI collected soil sample using a backhoe from beneath compressor unit location to determine if RCRA metals were present. Sample collected at 4 feet below grade (source @ 4') tested non-detect for all metal constituents. One other sample was collected at 5 feet below grade (source @ 5') contained Total Petroleum Hydrocarbons per US EPA Method 8015B at 600 mg/Kg. Benzene, toluene, ethylbenzene, and total xylenes (**BTEX**) tested non-detect for all constituents
June 20, 2012	BEI collected groundwater samples from MW #1, MW #2, MW #3, and MW #4 for BTEX. All wells tested non-detect for all constituents.
October 2012	Commenced remediation effort via excavation.
October 29, 2012	BEI collected initial samples from sidewalls between 9 -10 feet below-grade.
November 7, 2012	BEI collected final samples from sidewalls and excavation bottom. Bedrock and groundwater observed at base.
November 2012	Completed excavation of impacted soils (**see Figure 2**). 1,205 cubic yards were removed and transported to BP's Crouch Mesa Facility.
March 26, 2013	One (1) groundwater monitor well (MW #5) was installed using conventional drill rig (CME-95). MW #5 placed near center of excavated source area. The boring log for this well is included in this document.
April 22, 2014	MW #5 was developed by BEI to remove sediment accumulated during well installation and to observe groundwater draw down and/or recovery.
April 29, 2012	MW #5 was sampled for BTEX and regulated general chemistry parameters.
May 14, 2015	Sample on-site low profile produced water tank for TDS and Sulfate analysis.

FIGURE 1

BP - Marcotte GC 001

Unit H, Sec. 5, T31N, R10W
API #: 300-45-11067

36.930277°N / 107.900420°W or
36° 55' 49.00"N / 107° 54' 1.51"W

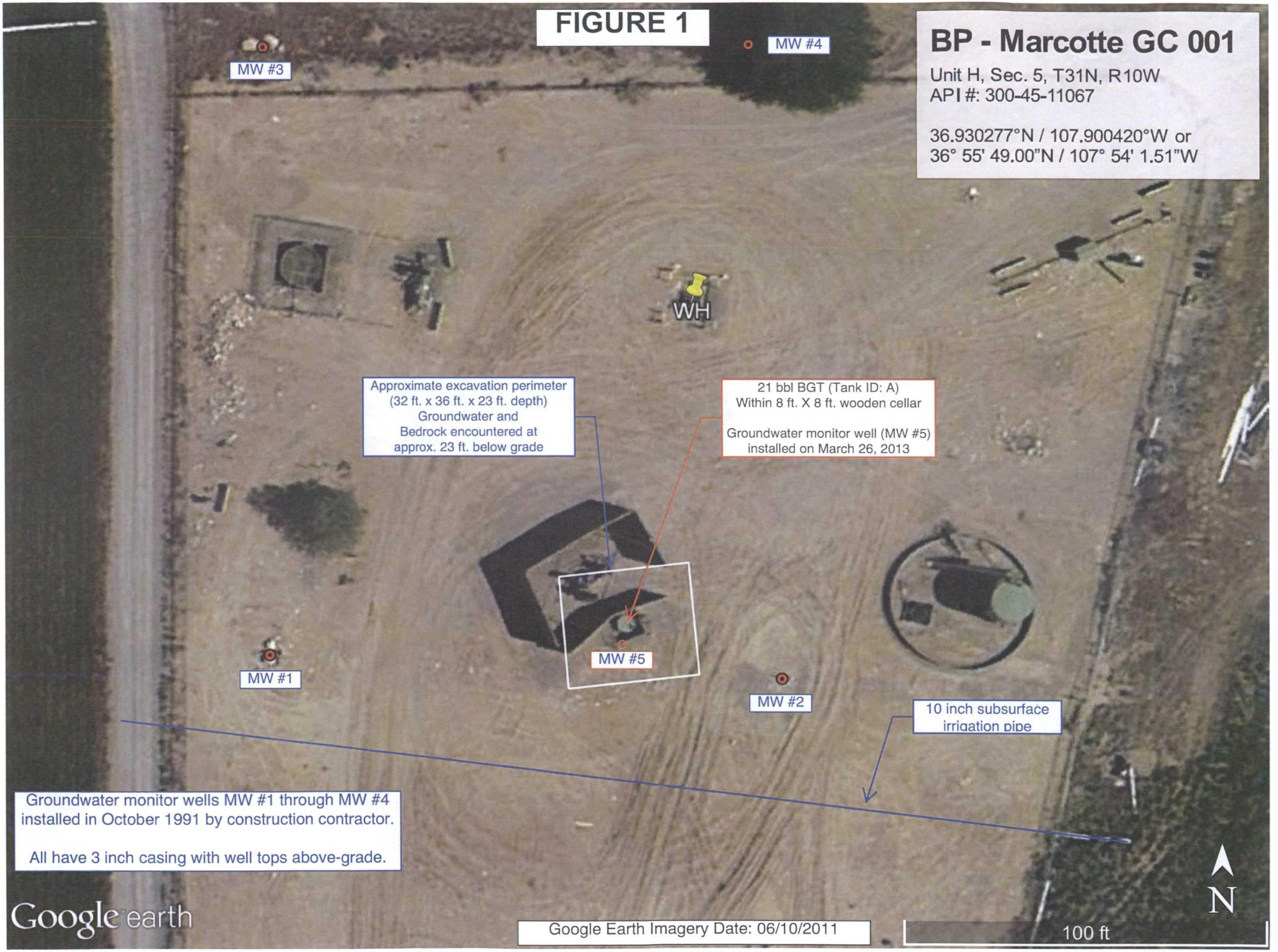
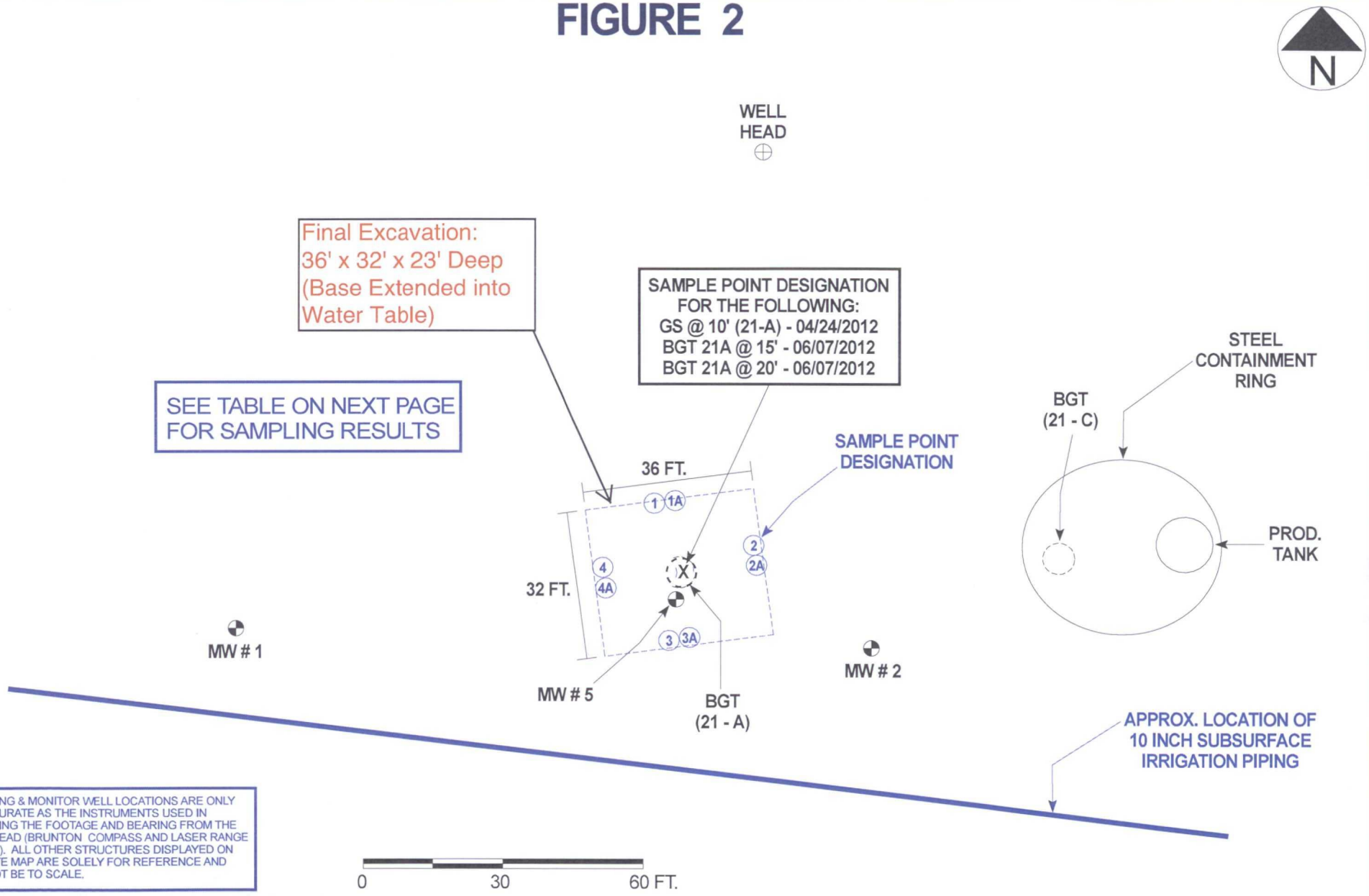


FIGURE 2



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

BP AMERICA PRODUCTION CO.

MARCOTTE GC # 1

SE/4 NE/4 SEC. 5, T31N, R10W

SAN JUAN COUNTY, NEW MEXICO

B LAGG ENGINEERING, I NC.

CONSULTING PETROLEUM / RECLAMATION SERVICES

P.O. BOX 87

BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

PROJECT: REMEDIATION

DRAWN BY: NJV

FILENAME: MARCOTTE GC 1-REM 2013-05-14.SKF

DRAFTED: 2015-04-16

SITE MAP

MAY 2013

BP AMERICA PRODUCTION COMPANY

Marcotte GC # 1 - (Cleanup of Release Beneath 21 bbl BGT [21-A])

Unit Letter H, Section 5, T31N, R10W - API Number: 30-045-11067

SAMPLE ID	SAMPLE DATE	SAMPLE TIME	SAMPLING COLLECTION	FIELD OVM READING (ppm)	TPH - cumulative (ppm)	Benzene (ppm)	BTEX - cumulative (ppm)	Soil Description / Comments
GS @ 10' (21-A)	04/24/12	1040	Grab	NA	**4,030**	ND	7.7	Pale to dark yellowish orange sand to boulder size cobbles Excavated & Removed
BGT 21A @ 15'	06/07/12	1312	Grab	NA	**3,300**	ND	5.2	Pale to dark yellowish orange sand to boulder size cobbles Excavated & Removed
BGT 21A @ 20'	06/07/12	1343	Grab	2.4	**4,000**	ND	5.5	Pale to dark yellowish orange sand to boulder size cobbles Excavated & Removed
1 @ 10'	10/29/12	1041	Grab	2.4	NA	NA	NA	Pale to dark yellowish orange sand to boulder size cobbles
2 @ 10'	10/29/12	1044	Grab	3.6	NA	NA	NA	Pale to dark yellowish orange sand to boulder size cobbles
3 @ 9'	10/29/12	1050	Grab	2.0	NA	NA	NA	Pale to dark yellowish orange sand to boulder size cobbles
4 @ 9'	10/29/12	1052	Grab	2.0	NA	NA	NA	Pale to dark yellowish orange sand to boulder size cobbles
4PC - SW @ 20'	10/29/12	1120	4 pt. comp.	NA	56	ND	ND	4 point composite sample of sidewall samples 1, 2, 3, & 4
1A @ 20'	11/07/12	1035	Grab	0.0	NA	NA	NA	Pale to dark yellowish orange sand to boulder size cobbles
2A @ 20'	11/07/12	1345	Grab	2.5	NA	NA	NA	Pale to dark yellowish orange sand to boulder size cobbles
3A @ 20'	11/07/12	1349	Grab	2.9	NA	NA	NA	Pale to dark yellowish orange sand to boulder size cobbles
4A @ 20'	11/07/12	1354	Grab	2.7	NA	NA	NA	Pale to dark yellowish orange sand to boulder size cobbles
4PC - SW @ 20'	11/07/12	1359	4 pt. comp.	NA	ND	ND	ND	4 point composite sample of sidewall samples 1A, 2A, 3A, & 4A

NMOCD RELEASE CLOSURE STANDARDS (soils) -	100	100	10	50

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).
ND - Not detected at Reporting Limit.
NMOCD - New Mexico Oil Conservation Division.

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

OVM CALIBRATION: *RESPONSE FACTOR = 0.52 or 1.00 , CALIBRATION GAS - 100 ppm ISOBUTYLENE.*

OVM CALIBRATION DATA	DATE	TIME	READING
	10/29/12	1056	54.1
	10/29/12	1101	54

DATE	TIME	READING
11/05/12	1030	52.7
11/07/12	1101	52.7

Distance collected in field using tape measure, bearings determined using Google Earth Pro; Imagery date: 06/10/2011.

BP AMERICA PRODUCTION COMPANY

MARCOTTE GC # 1 (MV) - (Release discovered beneath 21-A BGT)

Unit Letter H, Section 5, T31N, R10W - API Number: 30-045-11067

Field & Laboratory Data from Groundwater Monitor Wells & Formation Produced Water

	FIELD PARAMETERS							
SAMPLE ID	SAMPLE DATE	SAMPLE TIME	DEPTH TO WATER (feet)	TOTAL MW LENGTH (feet)	pH	Conductivity (µmhos/cm)	Temperature (°Celcius)	Volume Purged (gallons)
MW # 5 (source area)	04/29/13	0855	24.88	32.06	6.64	1,600	13.5	3.50
LP AGT PRODUCED WATER	05/14/15	1011	NA	NA	NA	NA	NA	NA
				NMWQCC STANDARDS -	6 - 9			

	LABORATORY PARAMETERS								
SAMPLE ID	Fluoride (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Nitrate-Nitrite as N (mg/L)	TDS (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl - benzene (µg/L)	Total Xylenes (µg/L)
MW # 5 (source area)	0.58	94	690	2.7	1,540	ND	ND	ND	ND
LP AGT PRODUCED WATER	NA	NA	ND	NA	ND	NA	NA	NA	NA
NMWQCC STANDARDS -	1.6	250	600	10	1,000	10	750	750	620

Notes: Depth to water measured from casing top of monitor well.
Groundwater standards are applied to values assigned in blue highlighted boxes or confirmed background levels, which ever is higher.

MW - Monitor well
µmhos/cm - Micromhos per centimeter
TDS - Total dissolved solids
mg/L - Milligram per Liter
µg/L - Microgram per liter
ND - Not detected at Reporting Limit
NA - Not available or applicable
NMWQCC - New Mexico Water Quality Control Commission

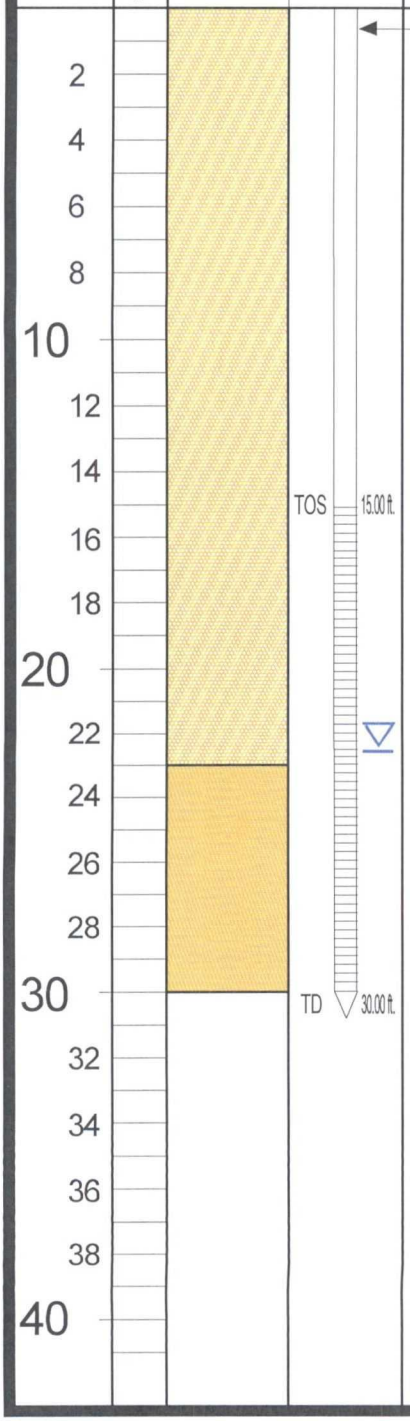
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 5

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	MARCOTTE GC # 1 UNIT H, SEC. 5, T31N, R10W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	99 FEET, S11W FROM WELL HEAD.

BORING #.....	BH - 1
MW #.....	5
PAGE #.....	1
DATE STARTED	03/26/13
DATE FINISHED	03/26/13
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.10 FT. ABOVE GRADE.

DARK YELLOWISH ORANGE TO BROWN COARSE GRAINED SAND TO SILTY SAND (FILL MATERIAL) NON COHESIVE, DRY TO SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 23.0 FT. BELOW GRADE).

Groundwater Measured at 22.7 Feet Below Grade on 4/29/2013

PALE YELLOWISH ORANGE TO VERY PALE BROWN SANDSTONE, WELL CONSOILIDATED, WELL CEMENTED, DRY, VERY DENSE, COMPETENT, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (23.0 - 30.0 FT. BELOW GRADE).

NOTES:
- SAND TO SILTY SAND (FILL MATERIAL).
- BEDROCK SANDSTONE (COMPETENT).

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

Monitor well consist of 2 inch PVC piping - casing from 2.10 ft. above grade to 30.00 ft. below grade, 0.010 slotted screen between 15.00 to 30.00 ft. below grade, sand packed annular to 13.0 ft. below grade, bentonite grout between 10.0 to 13.0 ft. below grade, cuttings fill the remaining annular to grade. Secured casing top with locking cap and padlock.

DRAWING: MARCOTTE GC 1 MW5-BH-1. SKF | DATE: 03/26/13 | DWN BY: NJV

Analytical Report
Lab Order **1204A06**
Date Reported: **5/1/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Marcott GC 1
Lab ID: 1204A06-001 **Matrix:** SOIL

Client Sample ID: Source @ 4'
Collection Date: 4/25/2012 12:10:00 PM
Received Date: 4/26/2012 9:58:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
MERCURY, TCLP						Analyst: **JLF**
Mercury	ND	0.020		mg/L	1	4/30/2012 4:48:23 PM
EPA METHOD 6010B: TCLP METALS						Analyst: **ELS**
Arsenic	ND	5.0		mg/L	1	4/30/2012 7:38:11 AM
Barium	ND	100		mg/L	5	4/30/2012 8:36:32 AM
Cadmium	ND	1.0		mg/L	1	4/30/2012 7:38:11 AM
Chromium	ND	5.0		mg/L	1	4/30/2012 7:38:11 AM
Lead	ND	5.0		mg/L	1	4/30/2012 7:38:11 AM
Selenium	ND	1.0		mg/L	1	4/30/2012 7:38:11 AM
Silver	ND	5.0		mg/L	1	4/30/2012 7:38:11 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#: **1204A06**

01-May-12

Client: Blagg Engineering
Project: Marcott GC 1

Sample ID: **MB-1715**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **1715**	RunNo: **2461**
Prep Date: **4/27/2012**	Analysis Date: **4/29/2012**	SeqNo: **68552** Units: **mg/Kg**

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

Sample ID: **LCS-1715**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **1715**	RunNo: **2461**
Prep Date: **4/27/2012**	Analysis Date: **4/29/2012**	SeqNo: **68553** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	94.6	90	110			

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#: **1204A06**

01-May-12

Client: Blagg Engineering

Project: Marcott GC 1

Sample ID: **MB-1708**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **1708**	RunNo: **2386**
Prep Date: **4/26/2012**	Analysis Date: **4/27/2012**	SeqNo: **67173** 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	10		10.00		101	77.4	131			

Sample ID: **LCS-1708**	SampType: **LCS**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **1708**	RunNo: **2386**
Prep Date: **4/26/2012**	Analysis Date: **4/27/2012**	SeqNo: **67174** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	100	62.7	139			
Surr: DNOP	4.7		5.000		93.7	77.4	131			

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#: **1204A06**

01-May-12

Client: Blagg Engineering
Project: Marcott GC 1

Sample ID: **MB-1707**	SampType: **MBLK**			TestCode: **EPA Method 8015B: Gasoline Range**					
Client ID: **PBS**	Batch ID: **1707**			RunNo: **2439**					
Prep Date: **4/26/2012**	Analysis Date: **4/27/2012**			SeqNo: **67693**		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	1,000		1,000		101	69.7	121			

Sample ID: **LCS-1707**	SampType: **LCS**			TestCode: **EPA Method 8015B: Gasoline Range**					
Client ID: **LCSS**	Batch ID: **1707**			RunNo: **2439**					
Prep Date: **4/26/2012**	Analysis Date: **4/27/2012**			SeqNo: **67694**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	117	98.5	133			
Surr: BFB	1,100		1,000		107	69.7	121			

Sample ID: **MB-1721**	SampType: **MBLK**			TestCode: **EPA Method 8015B: Gasoline Range**					
Client ID: **PBS**	Batch ID: **1721**			RunNo: **2448**					
Prep Date: **4/27/2012**	Analysis Date: **4/29/2012**			SeqNo: **68072**		Units: **%REC**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1,000		1,000		101	69.7	121			

Sample ID: **LCS-1721**	SampType: **LCS**			TestCode: **EPA Method 8015B: Gasoline Range**					
Client ID: **LCSS**	Batch ID: **1721**			RunNo: **2448**					
Prep Date: **4/27/2012**	Analysis Date: **4/29/2012**			SeqNo: **68073**		Units: **%REC**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1,100		1,000		107	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#: **1204A06**

01-May-12

Client: Blagg Engineering
Project: Marcott GC 1

Sample ID: **MB-1707** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **1707** RunNo: **2439**
Prep Date: **4/26/2012** Analysis Date: **4/27/2012** SeqNo: **67731** 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	0.93		1.000		93.0	80	120			

Sample ID: **LCS-1707** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **1707** RunNo: **2439**
Prep Date: **4/26/2012** Analysis Date: **4/27/2012** SeqNo: **67732** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.050	1.000	0	92.5	83.3	107			
Toluene	0.97	0.050	1.000	0	96.9	74.3	115			
Ethylbenzene	0.96	0.050	1.000	0	95.8	80.9	122			
Xylenes, Total	2.9	0.10	3.000	0	96.0	85.2	123			
Surr: 4-Bromofluorobenzene	0.96		1.000		95.9	80	120			

Sample ID: **MB-1721** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **1721** RunNo: **2448**
Prep Date: **4/27/2012** Analysis Date: **4/29/2012** SeqNo: **68122** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.92		1.000		92.4	80	120			

Sample ID: **LCS-1721** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **1721** RunNo: **2448**
Prep Date: **4/27/2012** Analysis Date: **4/29/2012** SeqNo: **68123** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.97		1.000		96.8	80	120			

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#: **1204A06**

01-May-12

Client: Blagg Engineering
Project: Marcott GC 1

Sample ID: **MB-1740**	SampType: **MBLK**	TestCode: **MERCURY, TCLP**
Client ID: **PBW**	Batch ID: **1740**	RunNo: **2469**
Prep Date: **4/30/2012**	Analysis Date: **4/30/2012**	SeqNo: **68685** Units: **mg/L**

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

Sample ID: **LCS-1740**	SampType: **LCS**	TestCode: **MERCURY, TCLP**
Client ID: **LCSW**	Batch ID: **1740**	RunNo: **2469**
Prep Date: **4/30/2012**	Analysis Date: **4/30/2012**	SeqNo: **68686** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.020	0.005000	0	98.0	80	120			

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#: **1204A06**

01-May-12

Client: Blagg Engineering

Project: Marcott GC 1

Sample ID: **MB-1730** SampType: **MBLK** TestCode: **EPA Method 6010B: TCLP Metals**

Client ID: **PBW** Batch ID: **1730** RunNo: **2471**

Prep Date: **4/29/2012** Analysis Date: **4/30/2012** SeqNo: **68718** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0								
Barium	ND	100								
Cadmium	ND	1.0								
Chromium	ND	5.0								
Lead	ND	5.0								
Selenium	ND	1.0								
Silver	ND	5.0								

Sample ID: **LCS-1730** SampType: **LCS** TestCode: **EPA Method 6010B: TCLP Metals**

Client ID: **LCSW** Batch ID: **1730** RunNo: **2471**

Prep Date: **4/29/2012** Analysis Date: **4/30/2012** SeqNo: **68719** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	5.0	0.5000	0.01879	108	80	120			
Barium	ND	100	0.5000	0	97.2	80	120			
Cadmium	ND	1.0	0.5000	0	105	80	120			
Chromium	ND	5.0	0.5000	0	97.9	80	120			
Lead	ND	5.0	0.5000	0	98.0	80	120			
Selenium	ND	1.0	0.5000	0	110	80	120			
Silver	ND	5.0	0.1000	0	105	80	120			

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: 1204A06

Received by/date: AT 04/26/12

Logged By: Anne Thorne 4/26/2012 9:58:00 AM Anne Thorne

Completed By: Anne Thorne 4/26/2012 Anne Thorne

Reviewed By: 04/26/12

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	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: BY ~~TUES~~ MAY 1

☐ Standard ☒ Rush _____

Project Name: MARCOTT GC 1

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1204066	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 (TCLP)	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)
4/25/12	1210	SOIL	SOURCE @ 4'	4oz x 1	COOL	-001							X									
"	1230	"	SOURCE @ 5'	"	"	-002	X		X									X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
4/25/12	1445	Jeff Blagg	Christin Walters	4/25/12	1445
4/25/12	1631	Christin Walters		04/26/12	0958

Remarks: GRO + DRO ON 8015

N 1544172

ZSCHWLLBGT

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.

Analytical Report
Lab Order **1210D02**
Date Reported: **11/1/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Marcotte GC #1
Lab ID: 1210D02-001
Matrix: MEOH (SOIL)
Client Sample ID: 4PC-SW@9'-10'
Collection Date: 10/29/2012 11:20:00 AM
Received Date: 10/30/2012 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	56	9.7		mg/Kg	1	10/30/2012 12:37:04 PM
Surr: DNOP	104	77.6-140		%REC	1	10/30/2012 12:37:04 PM
EPA METHOD 300.0: ANIONS						Analyst: **SRM**
Chloride	ND	30		mg/Kg	20	10/30/2012 11:48:49 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	0.050		mg/Kg	1	10/30/2012 2:28:21 PM
Toluene	ND	0.050		mg/Kg	1	10/30/2012 2:28:21 PM
Ethylbenzene	ND	0.050		mg/Kg	1	10/30/2012 2:28:21 PM
Xylenes, Total	ND	0.10		mg/Kg	1	10/30/2012 2:28:21 PM
Surr: 1,2-Dichloroethane-d4	85.5	70-130		%REC	1	10/30/2012 2:28:21 PM
Surr: 4-Bromofluorobenzene	92.0	70-130		%REC	1	10/30/2012 2:28:21 PM
Surr: Dibromofluoromethane	89.1	70-130		%REC	1	10/30/2012 2:28:21 PM
Surr: Toluene-d8	101	70-130		%REC	1	10/30/2012 2:28:21 PM
EPA METHOD 8015B MOD: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/30/2012 2:28:21 PM
Surr: BFB	92.0	70-130		%REC	1	10/30/2012 2:28:21 PM

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1210D02**

01-Nov-12

Client: Blagg Engineering
Project: Marcotte GC #1

Sample ID	**MB-4580**	SampType: **MBLK**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID: **4580**			RunNo: **6579**					
Prep Date:	**10/30/2012**	Analysis Date: **10/30/2012**			SeqNo: **189923**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-4580**	SampType: **LCS**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID: **4580**			RunNo: **6579**					
Prep Date:	**10/30/2012**	Analysis Date: **10/30/2012**			SeqNo: **189924**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.9	90	110			

Sample ID	**1210B86-015AMS**	SampType: **MS**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**BatchQC**	Batch ID: **4580**			RunNo: **6579**					
Prep Date:	**10/30/2012**	Analysis Date: **10/30/2012**			SeqNo: **189951**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	7.5	15.00	0	92.4	64.4	117			

Sample ID	**1210B86-015AMSD**	SampType: **MSD**			TestCode: **EPA Method 300.0: Anions**					
Client ID:	**BatchQC**	Batch ID: **4580**			RunNo: **6579**					
Prep Date:	**10/30/2012**	Analysis Date: **10/30/2012**			SeqNo: **189952**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	7.5	15.00	0	92.3	64.4	117	0.0932	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1210D02**

01-Nov-12

Client: Blagg Engineering
Project: Marcotte GC #1

Sample ID **MB-4587** SampType: **MBLK** TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **PBS** Batch ID: **4587** RunNo: **6555**
Prep Date: **10/30/2012** Analysis Date: **10/30/2012** SeqNo: **189600** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	12		10.00		115	77.6	140			

Sample ID **LCS-4587** SampType: **LCS** TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **4587** RunNo: **6555**
Prep Date: **10/30/2012** Analysis Date: **10/30/2012** SeqNo: **189622** 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	52.6	130			
Surr: DNOP	5.3		5.000		105	77.6	140			

Sample ID **1210D04-001AMS** SampType: **MS** TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **BatchQC** Batch ID: **4587** RunNo: **6584**
Prep Date: **10/30/2012** Analysis Date: **10/31/2012** SeqNo: **190444** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	52.03	0	96.8	57.2	146			
Surr: DNOP	4.8		5.203		92.8	77.6	140			

Sample ID **1210D04-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **BatchQC** Batch ID: **4587** RunNo: **6584**
Prep Date: **10/30/2012** Analysis Date: **10/31/2012** SeqNo: **190445** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.81	0	101	57.2	146	1.59	24.5	
Surr: DNOP	4.6		5.081		91.2	77.6	140	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1210D02**

01-Nov-12

Client: Blagg Engineering
Project: Marcotte GC #1

Sample ID **2.5ug gro lcs**	SampType: **LCS**	TestCode: **EPA Method 8015B Mod: Gasoline Range**
Client ID: **LCSS**	Batch ID: **R6572**	RunNo: **6572**
Prep Date:	Analysis Date: **10/30/2012**	SeqNo: **190201** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	104	74.6	137			
Surr: BFB	490		500.0		97.5	70	130			

Sample ID **1210D01-001A MS**	SampType: **MS**	TestCode: **EPA Method 8015B Mod: Gasoline Range**
Client ID: **BatchQC**	Batch ID: **R6572**	RunNo: **6572**
Prep Date:	Analysis Date: **10/30/2012**	SeqNo: **190207** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	5.0	18.74	0	99.0	50.3	148			
Surr: BFB	340		374.8		90.6	70	130			

Sample ID **1210D01-001A MSD**	SampType: **MSD**	TestCode: **EPA Method 8015B Mod: Gasoline Range**
Client ID: **BatchQC**	Batch ID: **R6572**	RunNo: **6572**
Prep Date:	Analysis Date: **10/30/2012**	SeqNo: **190208** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	18	5.0	18.74	0	97.4	50.3	148	1.71	20	
Surr: BFB	340		374.8		91.8	70	130	0	0	

Qualifiers:

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

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: 1210D02

Received by/date: 10/30/12

Logged By: Ashley Gallegos 10/30/2012 9:50:00 AM

Completed By: Ashley Gallegos 10/30/2012 10:00:13 AM

Reviewed By: 10/30/12

Chain of Custody

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

Log In

4. Coolers are present? (see 19. for cooler specific information)	Yes ✓	No	NA
5. Was an attempt made to cool the samples?	Yes ✓	No	NA
6. Were all samples received at a temperature of >0° C to 6.0°C	Yes ✓	No	NA
7. Sample(s) in proper container(s)?	Yes ✓	No	
8. Sufficient sample volume for indicated test(s)?	Yes ✓	No	
9. Are samples (except VOA and ONG) properly preserved?	Yes ✓	No	
10. Was preservative added to bottles?	Yes	No ✓	NA
11. VOA vials have zero headspace?	Yes	No	No VOA Vials ✓
12. Were any sample containers received broken?	Yes	No ✓	
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✓	No	# of preserved bottles checked for pH:
14. Are matrices correctly identified on Chain of Custody?	Yes ✓	No	(<2 or >12 unless noted)
15. Is it clear what analyses were requested?	Yes ✓	No	Adjusted?
16. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✓	No	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	3.1	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: (505) 632-1199

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time: COMPLETE BY
☒ Standard ☒ Rush 10/31/12

Project Name: MARCOTTE GC # 1

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 3.1

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. 1210D02	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)		(4)	Comp. composite sample	Air Bubbles (Y or N)
10/29/12	1120	SOIL	4PC-SWE 9'-10'	4oz.-1	COOL	-001	✓		✓									✓			✓	

Date:	Time:	Relinquished by:	Received by:	Date	Time
10/29/12	1310			10/29/12	1310
10/29/12	1712	Christy Waelta		10/30/12	0950

Remarks: **TPH (8015B) - GRO & DRO ONLY.**

PLEASE SEND INVOICE TO
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413

Analytical Report
Lab Order **1211430**
Date Reported: **11/19/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Marcotte GC #1
Lab ID: 1211430-001 **Matrix:** SOIL

Client Sample ID: 4PC-SW @ 20'
Collection Date: 11/7/2012 11:52:00 AM
Received Date: 11/9/2012 10:00:00 AM

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	11/13/2012 12:02:53 PM
Surr: DNOP	107	77.6-140		%REC	1	11/13/2012 12:02:53 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/13/2012 10:33:49 PM
Surr: BFB	102	84-116		%REC	1	11/13/2012 10:33:49 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	0.049		mg/Kg	1	11/13/2012 10:33:49 PM
Toluene	ND	0.049		mg/Kg	1	11/13/2012 10:33:49 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/13/2012 10:33:49 PM
Xylenes, Total	ND	0.097		mg/Kg	1	11/13/2012 10:33:49 PM
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	11/13/2012 10:33:49 PM
EPA METHOD 300.0: ANIONS						Analyst: **SRM**
Chloride	ND	7.5		mg/Kg	5	11/14/2012 9:26:14 AM

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211430**

19-Nov-12

Client: Blagg Engineering
Project: Marcotte GC #1

Sample ID	**MB-4817**	SampType:	**MBLK**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**PBS**	Batch ID:	**4817**		RunNo:	**6905**				
Prep Date:	**11/14/2012**	Analysis Date:	**11/14/2012**		SeqNo:	**199846**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-4817**	SampType:	**LCS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSS**	Batch ID:	**4817**		RunNo:	**6905**				
Prep Date:	**11/14/2012**	Analysis Date:	**11/14/2012**		SeqNo:	**199847**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.2	90	110			

Sample ID	**1211430-001AMS**	SampType:	**MS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**4PC-SW @ 20'**	Batch ID:	**4817**		RunNo:	**6905**				
Prep Date:	**11/14/2012**	Analysis Date:	**11/14/2012**		SeqNo:	**199849**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	18	7.5	15.00	4.533	91.2	64.4	117			

Sample ID	**1211430-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**4PC-SW @ 20'**	Batch ID:	**4817**		RunNo:	**6905**				
Prep Date:	**11/14/2012**	Analysis Date:	**11/14/2012**		SeqNo:	**199850**	Units:	**mg/Kg**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	17	7.5	15.00	4.533	85.5	64.4	117	4.75	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211430**

19-Nov-12

Client: Blagg Engineering
Project: Marcotte GC #1

Sample ID **MB-4780** SampType: **MBLK** TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **PBS** Batch ID: **4780** RunNo: **6844**
Prep Date: **11/12/2012** Analysis Date: **11/13/2012** SeqNo: **198229** 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	8.7		10.00		86.5	77.6	140			

Sample ID **LCS-4780** SampType: **LCS** TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **LCSS** Batch ID: **4780** RunNo: **6844**
Prep Date: **11/12/2012** Analysis Date: **11/13/2012** SeqNo: **198230** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.3	52.6	130			
Surr: DNOP	4.5		5.000		89.3	77.6	140			

Sample ID **1211427-001AMS** SampType: **MS** TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **BatchQC** Batch ID: **4780** RunNo: **6844**
Prep Date: **11/12/2012** Analysis Date: **11/13/2012** SeqNo: **198456** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.86	0	104	57.2	146			
Surr: DNOP	4.1		5.086		80.5	77.6	140			

Sample ID **1211427-001AMSD** SampType: **MSD** TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **BatchQC** Batch ID: **4780** RunNo: **6844**
Prep Date: **11/12/2012** Analysis Date: **11/13/2012** SeqNo: **198457** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	51.49	0	106	57.2	146	3.04	24.5	
Surr: DNOP	4.0		5.149		78.5	77.6	140	0	0	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211430**

19-Nov-12

Client: Blagg Engineering
Project: Marcotte GC #1

Sample ID **MB-4775**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBS**	Batch ID: **4775**	RunNo: **6856**
Prep Date: **11/12/2012**	Analysis Date: **11/13/2012**	SeqNo: **199194** 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	990		1000		99.2	84	116			

Sample ID **LCS-4775**	SampType: **LCS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **LCSS**	Batch ID: **4775**	RunNo: **6856**
Prep Date: **11/12/2012**	Analysis Date: **11/13/2012**	SeqNo: **199195** 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	74	117			
Surr: BFB	1000		1000		104	84	116			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1211430**

19-Nov-12

Client: Blagg Engineering
Project: Marcotte GC #1

Sample ID **MB-4775** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **4775** RunNo: **6856**
Prep Date: **11/12/2012** Analysis Date: **11/13/2012** SeqNo: **199258** 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	1.1		1.000		106	80	120			

Sample ID **LCS-4775** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **4775** RunNo: **6856**
Prep Date: **11/12/2012** Analysis Date: **11/13/2012** SeqNo: **199259** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	104	76.3	117			
Toluene	1.1	0.050	1.000	0	105	80	120			
Ethylbenzene	1.1	0.050	1.000	0	106	77	116			
Xylenes, Total	3.2	0.10	3.000	0	106	76.7	117			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID **1211427-001AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC** Batch ID: **4775** RunNo: **6856**
Prep Date: **11/12/2012** Analysis Date: **11/13/2012** SeqNo: **199267** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.049	0.9766	0	105	67.2	113			
Toluene	1.1	0.049	0.9766	0	109	62.1	116			
Ethylbenzene	1.1	0.049	0.9766	0	112	67.9	127			
Xylenes, Total	3.3	0.098	2.930	0	113	60.6	134			
Surr: 4-Bromofluorobenzene	1.0		0.9766		107	80	120			

Sample ID **1211427-001AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC** Batch ID: **4775** RunNo: **6856**
Prep Date: **11/12/2012** Analysis Date: **11/13/2012** SeqNo: **199268** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.049	0.9785	0	107	67.2	113	2.13	14.3	
Toluene	1.1	0.049	0.9785	0	111	62.1	116	2.43	15.9	
Ethylbenzene	1.1	0.049	0.9785	0	114	67.9	127	2.46	14.4	
Xylenes, Total	3.4	0.098	2.935	0	116	60.6	134	2.56	12.6	
Surr: 4-Bromofluorobenzene	1.1		0.9785		108	80	120	0	0	

Qualifiers:

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

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: 1211430

Received by/date: AG 11/09/12

Logged By: **Anne Thorne** 11/9/2012 10:00:00 AM Anne Thorne

Completed By: **Anne Thorne** 11/12/2012 Anne Thorne

Reviewed By: IO 11/12/2012

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. **Cooler Information**

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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

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

MARCOTTE GC # 1
UNIT H, SEC. 5, T31N, R10W

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

Date : **April 29, 2013**

SAMPLER : N J V

Filename : **04-29-13.WK4**

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	102.17	-	-	28.10	-	-	-	-	-
2	104.63	-	-	29.40	-	-	-	-	-
3	104.19	-	-	30.30	-	-	-	-	-
4	104.33	-	-	29.50	-	-	-	-	-
5	-	-	24.88	32.06	0855	6.64	1,600	13.5	3.50
					INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800		
					DATE & TIME =	04/29/13	0700		

NOTES :

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

Ideally a minimum of three (3) wellbore volumes:

3.00 " well diameter = 1.101521 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

All monitor wells except MW # 5 consist of 3 inch diameter PVC (screen type , interval unknown).

Purged MW # 5 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	**8:20**	temp	**43 F**
off-site	**9:20**	temp	**48 F**
sky cond.	**Sunny**		
wind speed	**0 - 5**	direct.	**E - SE**

Analytical Report
Lab Order **1304B62**
Date Reported: **5/14/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Marcotte GC #1
Lab ID: 1304B62-001 **Matrix:** AQUEOUS

Client Sample ID: MW # 5
Collection Date: 4/29/2013 8:55:00 AM
Received Date: 4/30/2013 9:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	5/2/2013 11:58:29 PM	R10280
Toluene	ND	1.0		µg/L	1	5/2/2013 11:58:29 PM	R10280
Ethylbenzene	ND	1.0		µg/L	1	5/2/2013 11:58:29 PM	R10280
Xylenes, Total	ND	2.0		µg/L	1	5/2/2013 11:58:29 PM	R10280
Surr: 4-Bromofluorobenzene	101	69.4-129		%REC	1	5/2/2013 11:58:29 PM	R10280
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	0.58	0.10		mg/L	1	4/30/2013 2:37:32 PM	R10227
Chloride	94	10		mg/L	20	4/30/2013 2:49:56 PM	R10227
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	4/30/2013 2:37:32 PM	R10227
Nitrogen, Nitrate (As N)	2.7	0.10		mg/L	1	4/30/2013 2:37:32 PM	R10227
Sulfate	690	10		mg/L	20	4/30/2013 2:49:56 PM	R10227
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **JLF**	
Iron	ND	0.020		mg/L	1	5/7/2013 11:29:01 AM	R10449
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	1540	20.0	*	mg/L	1	5/3/2013 7:03:00 PM	7257

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1304B62**

14-May-13

Client: Blagg Engineering
Project: Marcotte GC #1

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R10227**	RunNo: **10227**
Prep Date:	Analysis Date: **4/30/2013**	SeqNo: **291671** Units: **mg/L**

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

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R10227**	RunNo: **10227**
Prep Date:	Analysis Date: **4/30/2013**	SeqNo: **291672** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.49	0.10	0.5000	0	98.6	90	110			
Chloride	4.7	0.50	5.000	0	94.5	90	110			
Nitrogen, Nitrite (As N)	0.93	0.10	1.000	0	92.7	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	98.7	90	110			
Sulfate	9.6	0.50	10.00	0	96.1	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1304B62**

14-May-13

Client: Blagg Engineering
Project: Marcotte GC #1

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R10280**	RunNo: **10280**
Prep Date:	Analysis Date: **5/2/2013**	SeqNo: **293191** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	20		20.00		102	69.4	129			

Sample ID **100NG BTEX LCS**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **R10280**	RunNo: **10280**
Prep Date:	Analysis Date: **5/2/2013**	SeqNo: **293192** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	80	120			
Toluene	20	1.0	20.00	0	100	80	120			
Ethylbenzene	20	1.0	20.00	0	100	80	120			
Xylenes, Total	61	2.0	60.00	0	101	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		105	69.4	129			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1304B62**

14-May-13

Client: Blagg Engineering

Project: Marcotte GC #1

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R10449**	RunNo: **10449**
Prep Date:	Analysis Date: **5/7/2013**	SeqNo: **295315** Units: **mg/L**

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

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R10449**	RunNo: **10449**
Prep Date:	Analysis Date: **5/7/2013**	SeqNo: **295316** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.49	0.020	0.5000	0	98.0	80	120			

Sample ID **LCSD**	SampType: **LCSD**	TestCode: **EPA Method 6010B: Dissolved Metals**
Client ID: **LCSS02**	Batch ID: **R10449**	RunNo: **10449**
Prep Date:	Analysis Date: **5/7/2013**	SeqNo: **295317** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.47	0.020	0.5000	0	94.5	80	120	3.61	20	

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1304B62**

14-May-13

Client: Blagg Engineering

Project: Marcotte GC #1

Sample ID **MB-7257**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **7257**	RunNo: **10309**
Prep Date: **5/2/2013**	Analysis Date: **5/3/2013**	SeqNo: **293729** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID **LCS-7257**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **7257**	RunNo: **10309**
Prep Date: **5/2/2013**	Analysis Date: **5/3/2013**	SeqNo: **293730** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: BLAGG | Work Order Number: 1304B62 | RcptNo: 1

Received by/date: 04/30/13

Logged By: **Lindsay Mangin** 4/30/2013 9:55:00 AM

Completed By: **Lindsay Mangin** 4/30/2013 10:26:53 AM

Reviewed By:

Chain of Custody

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

Log In

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

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

Adjusted?

Checked by:

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	Good	Yes			

Chain-of-Custody Record

Client: BLAGG ENGR. / BP AMERICA

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

Phone #: (505) 632-1199

email or Fax#:

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

Accreditation:
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: MARCOTTE GC # 1

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

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. 1304862	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / ~~MRO~~)	TPH (Method 418.1)	EDB (Method 504.1)	PAH (8310 or 8270SIMS)	RCRA 8 Metals	Anions (F,Cl,~~NO3~~,~~NO2~~,~~PO4~~,SO_4)	Total Dissolved Solids	Iron, Ferrous (filtered)	Nitrate N / Nitrite N			Grab sample	5 pt. composite sample	
4/29/13	0855	WATER	MW # 5	40 ml VOA - 2	HCl & Cool	-001	√													√		
4/29/13	0855	WATER	MW # 5	500 ml - 1	Cool									√	√					√		
4/29/13	0855	WATER	MW # 5	250 ml - 1	HNO_3 & Cool											√				√		
4/29/13	0855	WATER	MW # 5	250 ml - 1	H_2SO_4												√			√		

Analysis Request

Date	Time	Relinquished by:	Received by:	Date	Time
4/29/13	937		Christine Walker	4/29/13	937
4/29/13	1720	Christine Walker		4/30/13	0955

Remarks: **BP Contact: Jeff Peace**

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

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

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

MARCOTTE GC # 1
UNIT H, SEC. 5, T31N, R10W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : June 20, 2012

SAMPLER : N J V

Filename : 06-20-12.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	102.17	78.08	24.09	28.10	1120	7.26	1,200	16.3	4.50
2	104.63	79.29	25.34	29.40	1020	7.28	1,200	16.2	4.50
3	104.19	77.67	26.52	30.30	1215	7.14	1,500	16.2	4.25
4	104.33	78.54	25.79	29.50	1315	7.06	1,200	15.7	4.00

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	06/20/12	1010

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

Ideally a minimum of three (3) wellbore volumes:

3.00 " well diameter : 1.101521 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

All monitor wells consist of 3 inch diameter PVC (screen type , interval unknown) .

Purged wells 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 casings : MW # 10R ~ 3.20 ft. , MW # 11R ~ 1.80 ft. , MW # 12R ~ 2.40 ft. , MW # 13R ~ 2.80 ft. above grade .

on-site	9:39	temp	76 F
off-site	1:35	temp	90 F
sky cond.		Sunny	
wind speed	5 - 15	direct.	SW - W

Analytical Report
Lab Order **1206983**
Date Reported: **6/29/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: MARCOTTE GC #1
Lab ID: 1206983-001
Matrix: AQUEOUS
Client Sample ID: MW #1
Collection Date: 6/20/2012 10:20:00 AM
Received Date: 6/22/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	6/27/2012 11:57:07 PM
Toluene	ND	1.0		µg/L	1	6/27/2012 11:57:07 PM
Ethylbenzene	ND	1.0		µg/L	1	6/27/2012 11:57:07 PM
Xylenes, Total	ND	2.0		µg/L	1	6/27/2012 11:57:07 PM
Surr: 4-Bromofluorobenzene	80.7	55-140		%REC	1	6/27/2012 11:57:07 PM

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	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #2
Project: MARCOTTE GC #1
Collection Date: 6/20/2012 11:20:00 AM
Lab ID: 1206983-002
Matrix: AQUEOUS
Received Date: 6/22/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	6/28/2012 12:27:25 AM
Toluene	ND	1.0		µg/L	1	6/28/2012 12:27:25 AM
Ethylbenzene	ND	1.0		µg/L	1	6/28/2012 12:27:25 AM
Xylenes, Total	ND	2.0		µg/L	1	6/28/2012 12:27:25 AM
Surr: 4-Bromofluorobenzene	88.1	55-140		%REC	1	6/28/2012 12:27:25 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	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #3
Project: MARCOTTE GC #1
Collection Date: 6/20/2012 12:15:00 PM
Lab ID: 1206983-003
Matrix: AQUEOUS
Received Date: 6/22/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	6/28/2012 12:57:51 AM
Toluene	ND	1.0		µg/L	1	6/28/2012 12:57:51 AM
Ethylbenzene	ND	1.0		µg/L	1	6/28/2012 12:57:51 AM
Xylenes, Total	ND	2.0		µg/L	1	6/28/2012 12:57:51 AM
Surr: 4-Bromofluorobenzene	78.1	55-140		%REC	1	6/28/2012 12:57:51 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	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Client Sample ID: MW #4
Project: MARCOTTE GC #1
Collection Date: 6/20/2012 1:15:00 PM
Lab ID: 1206983-004
Matrix: AQUEOUS
Received Date: 6/22/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	6/28/2012 1:28:20 AM
Toluene	ND	1.0		µg/L	1	6/28/2012 1:28:20 AM
Ethylbenzene	ND	1.0		µg/L	1	6/28/2012 1:28:20 AM
Xylenes, Total	ND	2.0		µg/L	1	6/28/2012 1:28:20 AM
Surr: 4-Bromofluorobenzene	77.3	55-140		%REC	1	6/28/2012 1:28:20 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	U	Samples with CalcVal < MDL

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1206983**

29-Jun-12

Client: Blagg Engineering
Project: MARCOTTE GC #1

Sample ID: **5ML RB** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW** Batch ID: **R3739** RunNo: **3739**
Prep Date: Analysis Date: **6/27/2012** SeqNo: **105696** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	19		20.00		94.8	55	140			

Sample ID: **100NG BTEX LCS** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW** Batch ID: **R3739** RunNo: **3739**
Prep Date: Analysis Date: **6/27/2012** SeqNo: **105697** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	106	80	120			
Toluene	22	1.0	20.00	0	111	80	120			
Ethylbenzene	22	1.0	20.00	0	111	80	120			
Xylenes, Total	66	2.0	60.00	0	109	80	120			
Surr: 4-Bromofluorobenzene	23		20.00		114	55	140			

Sample ID: **1206977-019AMS** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC** Batch ID: **R3739** RunNo: **3739**
Prep Date: Analysis Date: **6/27/2012** SeqNo: **105710** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0.2100	105	70.1	118			
Toluene	22	1.0	20.00	0	109	72.3	117			
Ethylbenzene	22	1.0	20.00	0.1660	110	73.5	117			
Xylenes, Total	68	2.0	60.00	0.4680	112	73.1	119			
Surr: 4-Bromofluorobenzene	23		20.00		113	55	140			

Sample ID: **1206977-019AMSD** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC** Batch ID: **R3739** RunNo: **3739**
Prep Date: Analysis Date: **6/27/2012** SeqNo: **105716** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0.2100	101	70.1	118	4.22	16.4	
Toluene	21	1.0	20.00	0	104	72.3	117	5.08	13.9	
Ethylbenzene	21	1.0	20.00	0.1660	104	73.5	117	5.32	13.5	
Xylenes, Total	65	2.0	60.00	0.4680	107	73.1	119	5.00	12.9	
Surr: 4-Bromofluorobenzene	20		20.00		98.9	55	140	0	0	

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: 1206983

Received by/date: _____

Logged By: **Anne Thorne** 6/22/2012 10:00:00 AM Anne Thorne

Completed By: **Anne Thorne** 6/22/2012 Anne Thorne

Reviewed By: IO 06/22/12

Chain of Custody

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

Log In

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

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

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

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

Person Notified: _____ Date _____

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

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. **Cooler Information**

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

Chain-of-Custody Record

Client: BLAGG 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:
MARCOTTE GC # 1

Project #:

Project Manager:
NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 120683	BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO3, NO2, PO4, SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chloride (300.0)		Grab sample	5 pt. composite sample	Air Bubbles (Y or N)
6/20/12	1020	WATER	MW # 1	40 ml VOA - 2	Cool	-001	√													√		
6/20/12	1120	WATER	MW # 2	40 ml VOA - 2	Cool	-002	√													√		
6/20/12	1215	WATER	MW # 3	40 ml VOA - 2	Cool	-003	√													√		
6/20/12	1315	WATER	MW # 4	40 ml VOA - 2	Cool	-004	√													√		

Date	Time	Relinquished by:	Received by:	Date	Time
6/21/12	0723		Christine Walters	6/21/12	723
6/21/12	1700	Christine Walters		6/22/12	1000

Remarks:

Send invoice to :

Blagg Engineering, Inc.
P.O. Box 87
Bloomfield, NM 87413

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

Analytical Report
Lab Order **1505688**
Date Reported: **5/26/2015**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Marcotte GC 1
Lab ID: 1505688-001 **Matrix:** AQUEOUS

Client Sample ID: 95 LPT Produced Water
Collection Date: 5/14/2015 10:11:00 AM
Received Date: 5/15/2015 7:26:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **LGT**	
Sulfate	ND	2.5		mg/L	5	5/19/2015 7:25:42 PM	R26305
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	ND	100		mg/L	1	5/22/2015 3:16:00 PM	19337

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#: **1505688**

26-May-15

Client: Blagg Engineering
Project: Marcotte GC 1

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R26305**	RunNo: **26305**
Prep Date:	Analysis Date: **5/19/2015**	SeqNo: **781436** Units: **mg/L**

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

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R26305**	RunNo: **26305**
Prep Date:	Analysis Date: **5/19/2015**	SeqNo: **781437** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.8	0.50	10.00	0	98.2	90	110			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1505688**

26-May-15

Client: Blagg Engineering
Project: Marcotte GC 1

Sample ID **MB-19337**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **19337**	RunNo: **26371**
Prep Date: **5/21/2015**	Analysis Date: **5/22/2015**	SeqNo: **783732** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID **LCS-19337**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **19337**	RunNo: **26371**
Prep Date: **5/21/2015**	Analysis Date: **5/22/2015**	SeqNo: **783733** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
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

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: **1505688** RcptNo: **1**

Received by/date: AT 05/15/15

Logged By: **Lindsay Mangin** **5/15/2015 7:26:00 AM**

Completed By: **Lindsay Mangin** **5/15/2015 8:20:59 AM**

Reviewed By: 05/15/15

Chain of Custody

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

Log In

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

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

Adjusted?

Checked by:

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			

Chain-of-Custody Record

Client: BP America
BLAGG
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: MARCOTTE GC 1
Project #:
Project Manager: J. BLAGG
Sampler: J. BLAGG
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.2

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. 1506188
5/14/15	1011	Water	95 LPT Produced Water	2×250	COOL	-001

Analysis Request

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)	TDS				Air Bubbles (Y or N)
							X				X				

Date	Time	Relinquished by:	Received by:	Date	Time
5/14/2015	1049	Jeff Blagg	Christy Walters	5/14/2015	1049
5/14/15	1848	Christy Walters		05/15/15	0720

Remarks: BILL BP
contact: Jeff Peace
PayKey: 2EVH01REME

AMOCO

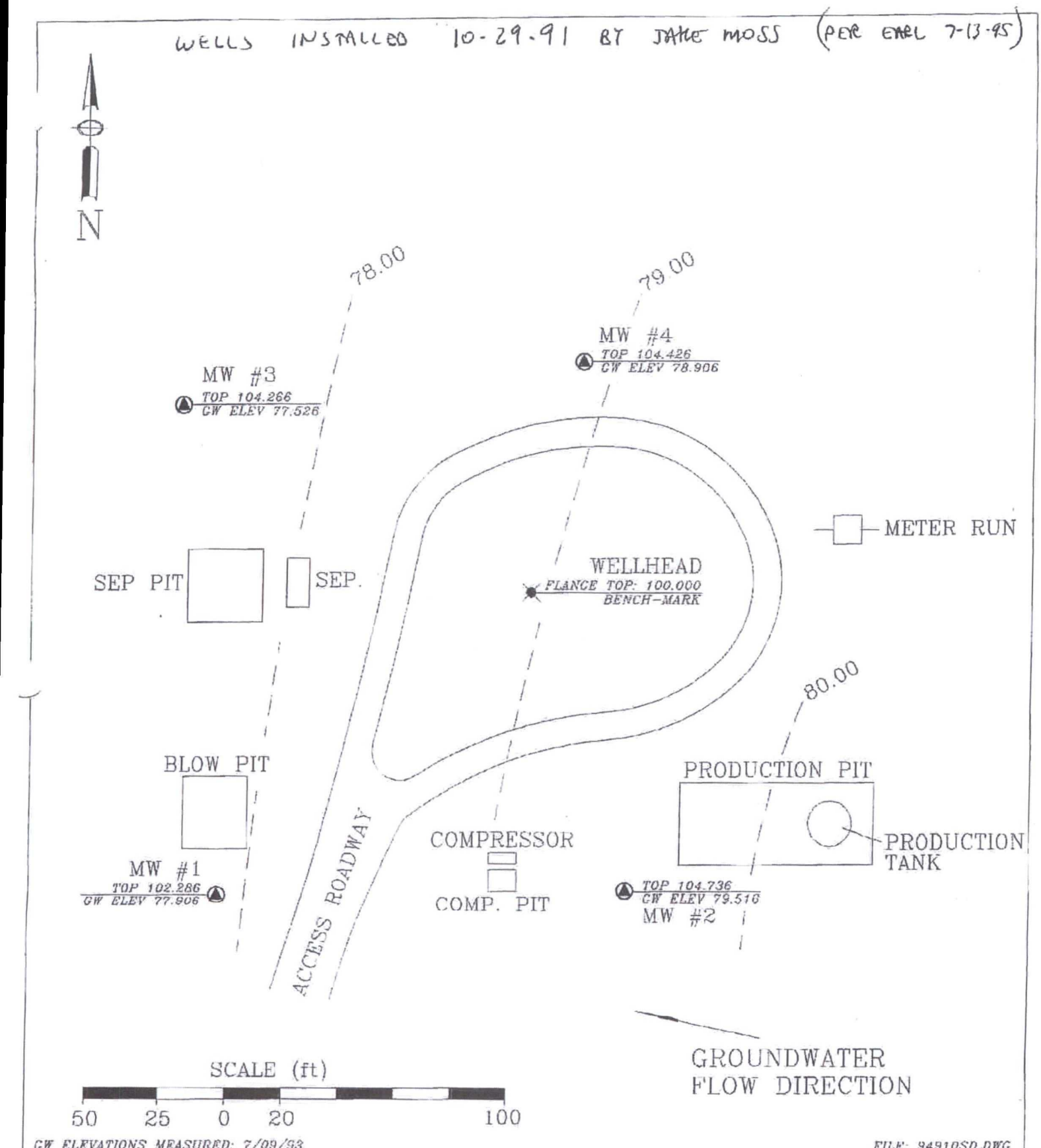
MARCOTTE GC 1 MONITOR WELL LABORATORY RESULTS

BLAGG ENGINEERING, INC.

REVISED DATE: NOVEMBER 19, 1996 (LABSUM2.WK3) NJV

WELL NAME/#	U-S-T-R	SAMPLE DATE	MONITOR WELL No:	D.T.W. (ft)	T.D. (ft)	TDS mg/L	COND. umhos	pH	PRODUCT (in)	BTEX EPA METHOD 8020 (PPB)				
										Benzene	Toluene	Ethyl Benzene	Total Xylene	TOTAL BTEX
MARCOTTE GC 1	H053110	07-Jul-93	MW #1	24.38			800	7.0		0.7	ND	ND	0.4	1
"	"	11-Mar-94		27.80	28.00		1200	6.9		ND	ND	ND	1	1
"	"	07-Jul-93	MW #2	25.22			600	7.0		ND	ND	ND	ND	ND
"	"	11-Mar-94		DRY	29.40									
"	"	07-Jul-93	MW #3	26.74			800	7.0		ND	ND	ND	ND	ND
"	"	11-Mar-94		DRY	30.30									
"	"	07-Jul-93	MW #4	25.52			500	7.0		ND	ND	ND	ND	ND
"	"	11-Mar-94		DRY	29.50									
"	"	DISCONTINUE MONITORING - SAMPLES NEVER EXCEEDED NMWQCC STANDARDS												

WELLS INSTALLED 10-29-91 BY JAKE MOSS (PER EARL 7-13-95)



GW ELEVATIONS MEASURED: 7/09/93

FILE: 94910SD.DWG

AMOCO PRODUCTION CO. MARCOTTE GC #1 SE/4 NE/4 (H), S05, T31N, R10W PROJECT No: 92140/94910	ENVIROTECH INC. ENVIRONMENTAL SCIENTISTS & ENGINEERS 5796 U.S. HIGHWAY 64-3014 FARMINGTON, NEW MEXICO 87401 PHONE (505) 632-0615	SITE DIAGRAM DRW: RMY | PROJ MGR: MKL DATE: AUG '93 | REV: AUG '93

District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
220 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
Revised March 1

*Surface Waste Management Facility Op
and Generator shall maintain and mak
documentation available for Division inspe

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: P.O. 43000 81680

BP AMERICA 200 ENERGY COURT FARMINGTON NEW MEXICO 87401

2. Originating Site: Marcotte GC 1
Work Order # N2510 7699
11-7-12 140cy
Pay Key 11-6-12 140cy

3. Location of Material (Street Address, City, State or ULSTR): 11-5-12 120cy 11-2-12 195cy
UL NE SECTION 5 TOWNSHIP 31N RANGE 10W
11-12-12 70cy 11-1-12 70cy

4. Source and Description of Waste: 11-9-12 195cy
Hydrocarbon impacted soil 10-31-12 80cy
11-8-12 145cy

Estimated Volume 600 yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) 508 yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Dennis Decker, representative or authorized agent for BP AMERICA do hereby
Generator Signature and Phone# [signature] 505-215-1854
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 hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, [signature], representative for JET do hereby certify
Representative/Agent Signature
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: P & S

OCD Permitted Surface Waste Management Facility

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

Address of Facility: 49 CR 3150 Aztec, NM 87410

CL-2112
Ph-7

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: L Machado TITLE: Administrative Officer DATE: 10-30-12

SIGNATURE: [signature] TELEPHONE NO.: 505-632-1782
Surface Waste Management Facility Authorized Agent
FAX NO.: 505-334-1003