State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

Heather Riley
Division Director
Oil Conservation Division

November 30, 2018

Mr. Steve Moskal
1199 Main Ave, Suite 101
Durango, CO 81303

Re: Jaquez Gas Com B #003E
API# 30-045- 24217
INC# nJK1129233406

Dear Mr. Moskal,

OCD has reviewed the subject work plan. OCD approves this work plan with the following conditions.

1.) BP will maintain a SVE runtime greater than or equal to 90% per quarter.
2.) BP will collect an initial gas sample for laboratory analysis shortly after the startup of SVE Operations and then a quarterly sample thereafter. The gas sample will be analyzed for EPA Method 8260 Full List and include Carbon dioxide and Oxygen.

- The gas sample port needs to be installed prior to the inlet of the vacuum pump but, after the convergence of all sve wells.

3.) BP will submit to OCD District III a quarterly update report detailing remediation operations the report will include at a minimum.
- Summary of remediation activity for the quarter.
- SVE run time
- SVE mass removal and product recovery.
- Gas Sample Analysis

BP will submit to the OCD District III a closure sampling plan prior to initiating closure of the site.

Vanessa Fields
Environmental Specialist
505-334-6178 ext. 119

Cc: Jim Griswold, Brandon Powell, Cory Smith

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 Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: BP America Production Co.	OGRID: 778	Subsequent: **REMEDIATION PLAN**
Contact Name: Steve Moskal	Contact Telephone: (505) 330-9179	
Contact email: steven.moskal@bpx.com	Incident # *(assigned by OCD)*	
Contact mailing address: 380 Airport Road, Durango CO, 81303	NJK1129233406	

Location of Release Source

Latitude: 36.758870° Longitude: -107.790996°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Jaquez Gas Com B 003E	Site Type: Natural Gas Production Well Pad
Date Release Discovered: September 21, 2018	API#: 30-045-24217

Unit Letter	Section	Township	Range	County
D	4	T29N	R09W	San Juan

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls):	Volume Recovered (bbls):
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls): 5 bbls	Volume Recovered (bbls): 0 bbls
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release:
On September 11, 2011 evidence of a production tank leaking was observed by liquids inside of the secondary containment. Initial data indicated that approximately 58 bbls of condensate were lost, however physical measurement and observation indicated 5 bbls were lost. Hydrocarbon contamination was confirmed from approximately 20-45 feet below ground surface during the boring activity. BP proposes to employ soil vapor extraction to remediate the soil and groundwater impacts.

NMOCD

OCT 30 2018

DISTRICT III

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? N/A	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☒ The source of the release has been stopped.

☒ The impacted area has been secured to protect human health and the environment.

☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

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Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	41 (ft bgs)
Did this release impact groundwater or surface water?	☒ Yes ☐ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☒ Yes ☐ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☐ Photographs including date and GIS information (Investigation performed prior to Spill Rule Update)
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Steve Moskal Title: Environmental Coordinator

Signature: Date: October 26, 2018

email: steven.moskal@bpx.com Telephone: (505) 330-9179

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

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Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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Printed Name: Steve Moskal Title: Environmental Coordinator

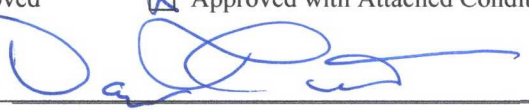
Signature:  Date: October 26, 2018

email: steven.moskal@bpx.com Telephone: (505) 330-9179

OCD Only

Received by: Vanessa Fields Date: 10/30/2018

☐ Approved ☒ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature:  Date: 11/30/2018

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☐ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _____ Title: _____

Signature: _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

Remediation Plan

BP Remediation Plan Jaquez Gas Com B 003E	
To:	Cory Smith (NMOCD) ; Vanessa Fields (NMOCD),
From:	Steven Moskal (BP)
CC:	Jeff Blagg (Blagg Engineering)
Date:	10/26/2015
Re:	Jaquez Gas Com B 003E – Soil vapor extraction remedial plan. API #3004524217, (D), S-4, T29N, R09W NMOCD Incident #NJK1129233406

The Jaquez Gas Com B 003E site is an active natural gas production pad within the San Juan Basin Gas Field in San Juan County, New Mexico. The site is located on private land located approximately 440 feet west of a small ephemeral wash, which eventually drains to the San Juan River approximately 2,400 feet to the southeast.

On September 11, 2011 evidence of a production tank leaking was observed by liquids inside of the secondary containment. Initial data indicated that approximately 58 bbls of condensate were lost, however physical measurement and observation indicated 5 bbls were lost. In September of 2011, five groundwater monitoring wells were installed and sampled. In October of 2011, an excavation of approximately 825 cubic yards occurred to a depth of approximately 25 feet below ground surface, removing most of the impacted soils. In March of 2012, site delineation occurred with the advancement of several borings with some completed as soil vapor extraction points. Hydrocarbon contamination was confirmed from approximately 20-45 feet below ground surface during the boring activity. Depth to water ranges from approximately 49-53 feet below ground surface.

The site soils consist of loose sand, silty sands; thin clay lenses that overlie a silty clay strata that appears to be a confining layer ranging from approximately 50-55 feet below ground surface.

REMEDIATION PLAN

The objectives of this proposed remediation plan is to perform in-situ remediation to effectively address the contaminants at depths of 40 feet or greater.

BP proposes to employ soil vapor extraction (SVE) technology to the determined SVE points or monitoring wells described above. The system will incorporate the following:

1) An explosion proof, (Class 1, Div. 1) electrically driven skid mounted SVE pump will be installed on site:

    a. Rotron EN505 (2.0 HP, single phase, 230 volt, 12 amp continuous, 56 amp inrush).

The SVE package will be fitted with a water/product knockout drum, high water level shutoff, two vacuum gauges, one flow rate gauge and explosion proof starter switch.

2) The air extraction points will be fitted with 2-inch quick-connect fittings.

3) A 2-inch diameter PVC pipe and/or flexible hose with quick connect fittings will be connected from the SVE blower to one SVE well at a time. The hose will be long enough to reach any of the SVE manifold or any single SVE point.

4) During operation, the flexible air hose will be moved to other points as deemed necessary by site monitoring:

   A) Exhaust vapors from the SVE pump will be measured with an organic vapor meter (OVM) on a daily basis for the first 5 days operation, weekly for the first month of operation, and then monthly thereafter or adjusted as needed based on system performance.

   B) Upon start up, a gas sample will be collected from the vacuum stream; thereafter, an annual sample will be collected from the vacuum stream and will be laboratory analyzed for total petroleum hydrocarbons (TPH) by U.S. EPA Method 8015B and volatile hydrocarbons (BTEX) by U.S. EPA Method 8021. The location of the collection point will be determined based on the SVE system setup, but will preferably be upstream of the blower to reduce impacts of heat and turbulence to the air stream.

   C) When exhaust vapors appear to reach an asymptotic limit, the air injection hose will be moved to various other injection points and exhaust vapors from other unused observation points will be measured with an organic vapor meter (OVM) on a monthly basis.

5) When site remediation appears to be complete based on monitoring results from the active remediation system, a test borings will be advanced to a depth of approximately 30-35 feet at locations about 10 feet from the remediation point. Soil samples will be collected at various depths of known contamination intervals for laboratory determination of residual hydrocarbons. This testing will include total petroleum hydrocarbons (TPH) by U.S. EPA Method 8015B and volatile hydrocarbons (BTEX) by U.S. EPA Method 8021. Note that the New Mexico Oil Conservation Division (NMOCD), Aztec District Office, will be notified prior to this drilling and sampling so that personnel may be available for witnessing.

NMOCD will be provided with laboratory test results. Following review of the remediation system monitoring and laboratory test results, either site closure, continued system operation or modifications to the remediation plan will be requested.

During operation, BP will strive to operate the system continuously, with hopes of achieving 90% or greater run time.

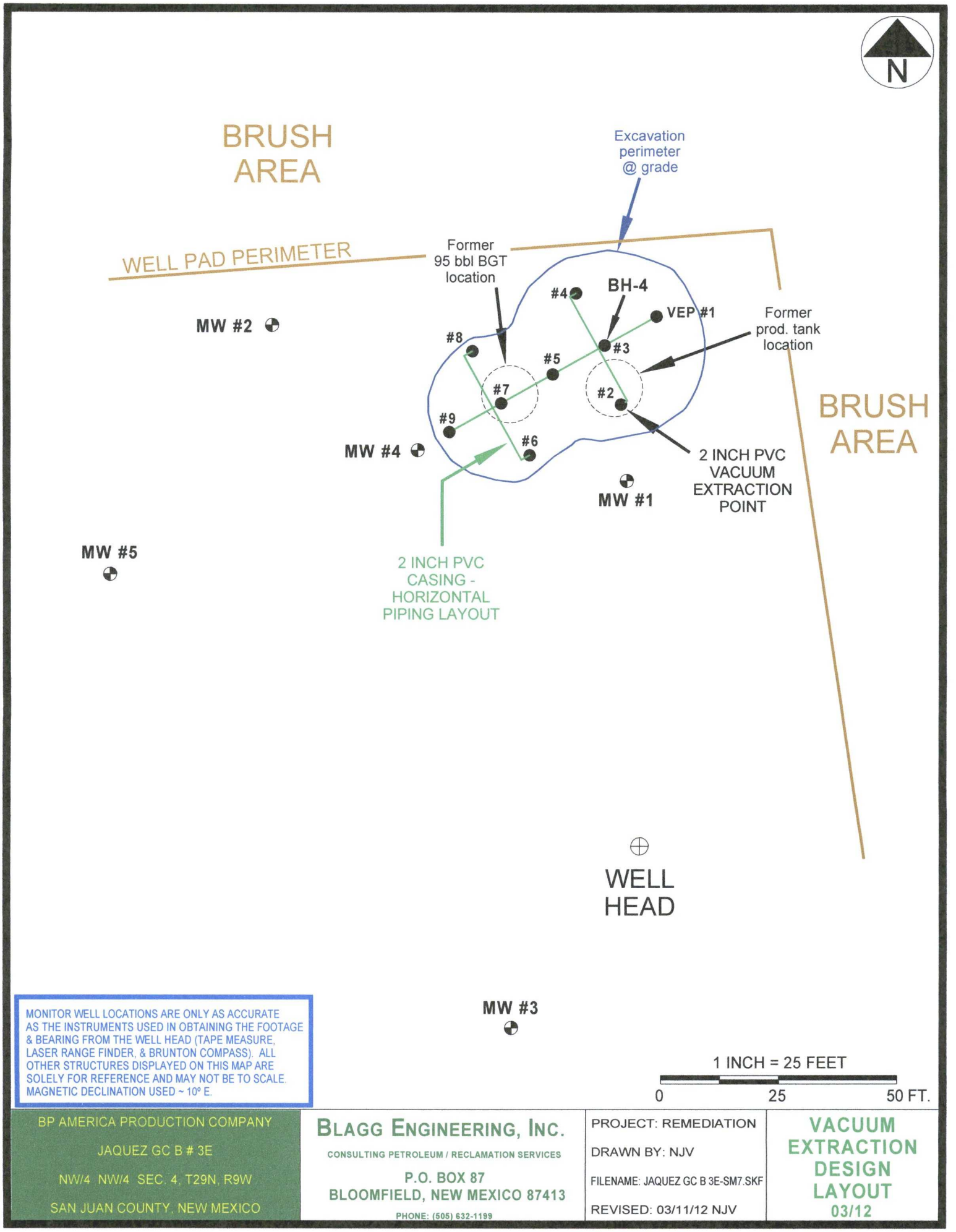
REPORTING

The performance of the SVE system and remediation will be reported quarterly with field OVM data, estimated run times, system performance, mass removal and product recovery and maintenance or changes in the system configuration will be included. The sampling of the vacuum stream will be reported in an annual report.

A final report will be provided within 60 days of the final closure sampling event.

Regards,

Steve Moskal
BP America Production Co.



MONITOR WELL 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.

BP AMERICA PRODUCTION COMPANY
JAQUEZ GC B # 3E
NW/4 NW/4 SEC. 4, T29N, R9W
SAN JUAN COUNTY, NEW MEXICO

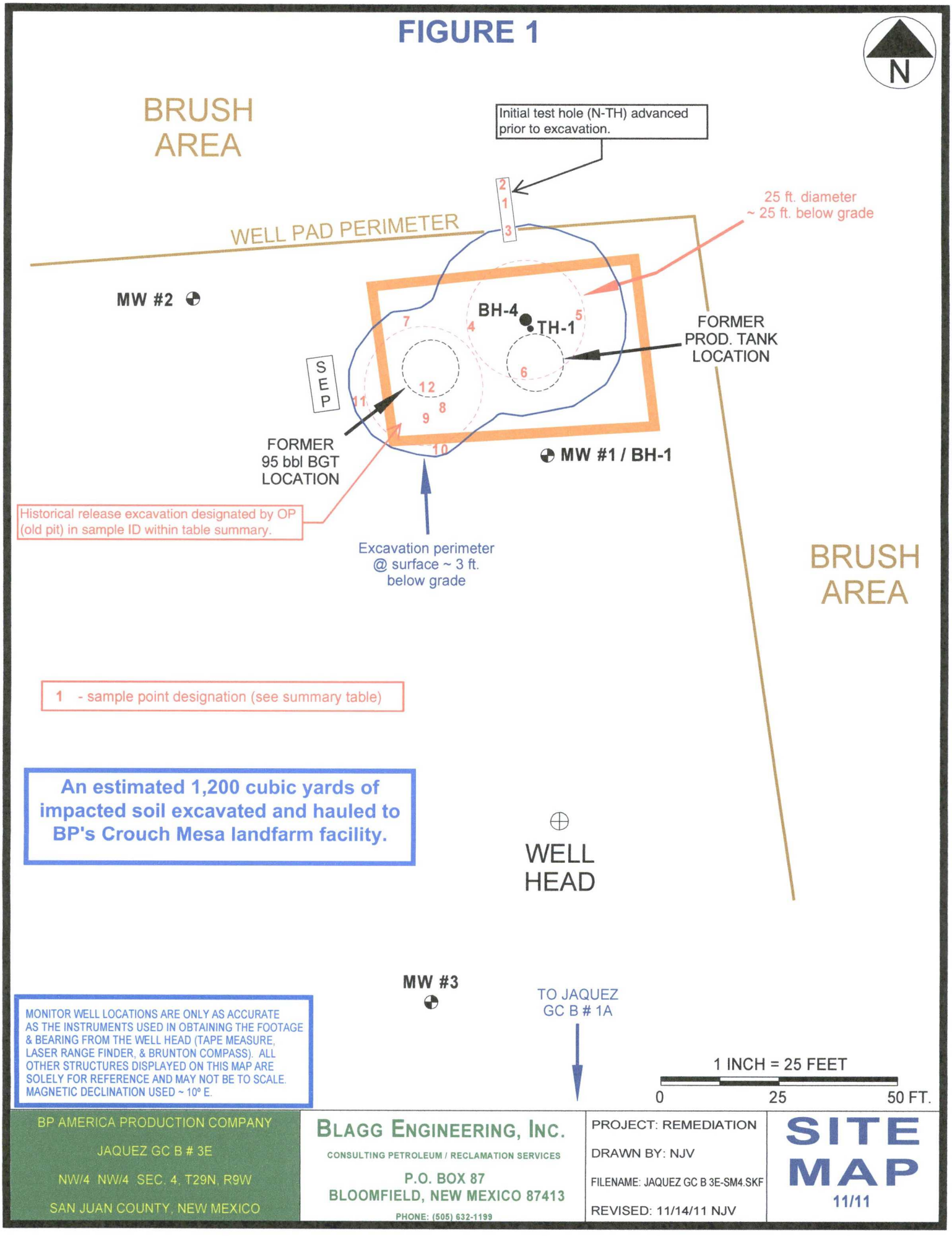
BLAGG ENGINEERING, INC.
CONSULTING PETROLEUM / RECLAMATION SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

PROJECT: REMEDIATION
DRAWN BY: NJV
FILENAME: JAQUEZ GC B 3E-SM7.SKF
REVISED: 03/11/12 NJV

VACUUM EXTRACTION DESIGN LAYOUT
03/12

Delineation Information

FIGURE 1



BP AMERICA PRODUCTION COMPANY

JAQUEZ GC B # 3E

NW/4 NW/4 SEC. 4, T29N, R9W

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

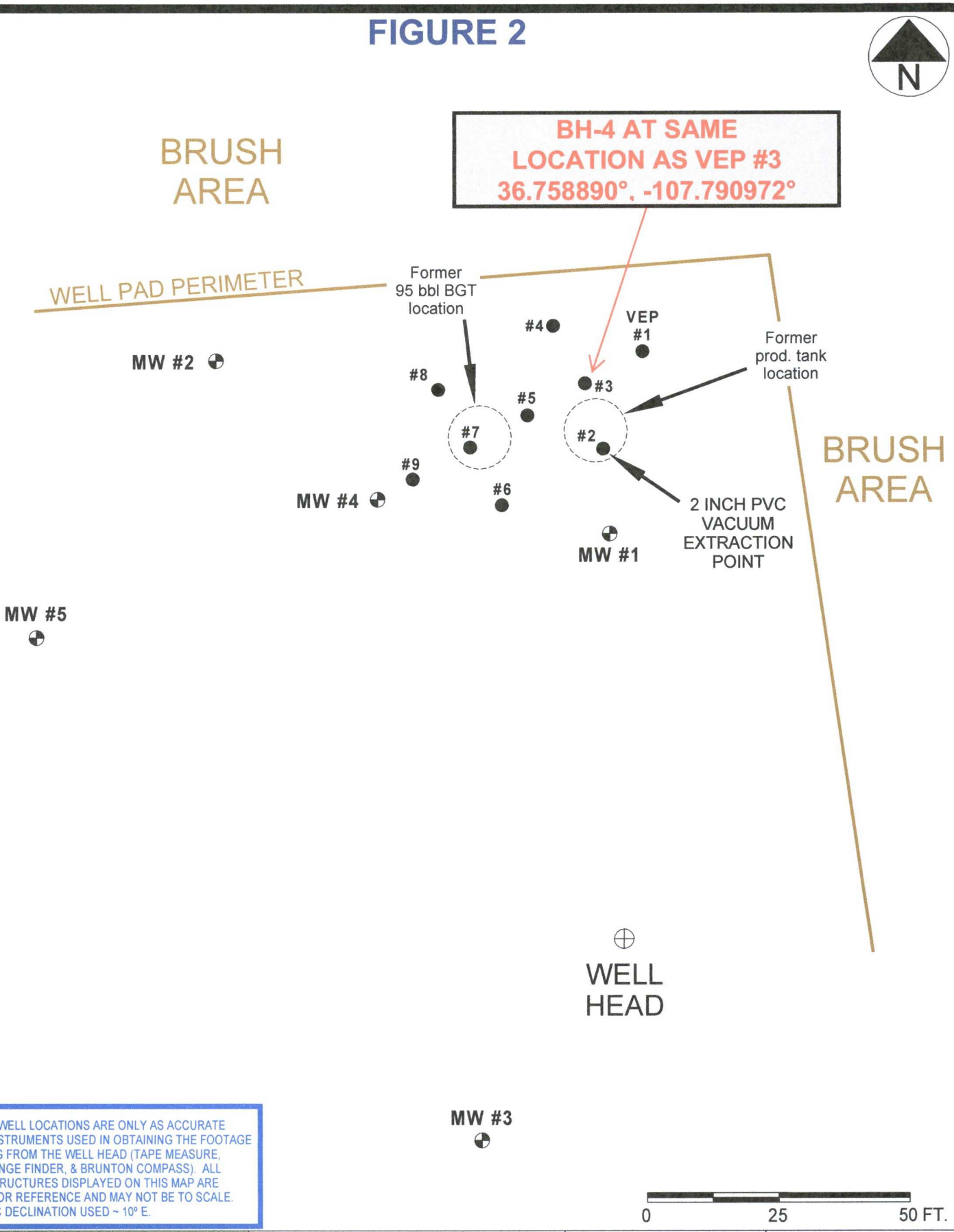
FILENAME: JAQUEZ GC B 3E-SM4.SKF

REVISED: 11/14/11 NJV

SITE MAP

11/11

FIGURE 2



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BP AMERICA PRODUCTION COMPANY
JAQUEZ GC B # 3E
NW/4 NW/4 SEC. 4, T29N, R9W
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: JAQUEZ GC B 3E-SM8.SKF
REVISED: 05/25/12 NJV

VACUUM EXTRACTION DESIGN LAYOUT
03/12

BP AMERICA PRODUCTION COMPANY

JAQUEZ GC B # 3E - Unit Letter D, Section 4, T29N, R9W - API Number: 30-045-24217

(*300 bbl Production Tank Release*)

SAMPLE ID & MAP NUMBER DESIGNATION		SAMPLE DATE	SAMPLE TIME	GRAB / COMPOSITE / SPLIT SPOON	FIELD OVM READING (ppm)	TPH - gasoline range (ppm)	TPH - diesel range (ppm)	TPH - cumulative (ppm)	Benzene (ppm)	Toluene (ppm)	Ethyl - benzene (ppm)	Total Xylenes (ppm)	BTEX - cumulative (ppm)
TH-1 @ 4'		09/12/11	1125	GRAB	1,118	9,700	8,200	17,900	7.8	310	87	1,100	1,505
TH-1 @ 8'		09/12/11	1152	GRAB	396	6,900	3,400	10,300	-	-	-	-	-
TH-1 @ 12'		09/12/11	1216	GRAB	257	5,700	3,600	9,300	-	-	-	-	-
TH-1 @ 15'		09/12/11	1236	GRAB	942	11,000	7,200	18,200	-	-	-	-	-
BH-1 @ 40-41.5'		09/20/11	1306	SPLIT SPOON	0.0	ND	ND	ND	-	-	-	-	-
BH-1 @ 45-46.5'		09/20/11	1321	SPLIT SPOON	2,073	120	170	290	-	-	-	-	-
BH-1 @ 50-51.5'		09/20/11	1410	SPLIT SPOON	0.0	ND	ND	ND	ND	ND	ND	ND	ND
BH-1 @ 55-56.5'		09/20/11	1426	SPLIT SPOON	0.0	ND	ND	ND	-	-	-	-	-
BH-4 @ 20-21.5'		09/22/11	1230	SPLIT SPOON	1,181	8,900	8,600	17,500	15	290	73	870	1,248
BH-4 @ 25-26.5'		09/22/11	1237	SPLIT SPOON	542	23	160	183					
BH-4 @ 30-31.5'		09/22/11	1244	SPLIT SPOON	224	ND	100	100					
BH-4 @ 35-36.5'		09/22/11	1257	SPLIT SPOON	470	24	210	234					
BH-4 @ 40-41.5'		09/22/11	1306	SPLIT SPOON	1,020	180	830	1,010					
BH-4 @ 45-46.5'		09/22/11	1322	SPLIT SPOON	1,293	73	50	123	ND	0.51	0.26	5.7	6.47
N -TH @ 12' - 25' from BH-4	1	11/01/11	1210	GRAB	4.0	ND	ND	ND	ND	ND	ND	ND	ND
N -TH @ 15' - 30' from BH-4	2	11/01/11	1218	GRAB	0.0	-	-	-	-	-	-	-	-
N -TH @ 21' - 30' from BH-4	2	11/01/11	1230	GRAB	0.0	ND	ND	ND	ND	ND	ND	ND	ND
N -TH @ 26' - 30' from BH-4	2	11/01/11	1240	GRAB	0.0	ND	ND	ND	ND	ND	ND	ND	ND
N-SW @ 15' - 20' from BH-4	3	11/03/11	1058	GRAB	6.6	ND	ND	ND	-	-	-	-	-
W-SW @ 15' - 15' from BH-4	4	11/03/11	1105	GRAB	8.3	ND	ND	ND	-	-	-	-	-
E-SW @ 15' - 15' from BH-4	5	11/03/11	1115	GRAB	46.6	ND	ND	ND	-	-	-	-	-
S-SW @ 15' - 15' from BH-4	6	11/04/11	1022	GRAB	0.0	ND	ND	ND	-	-	-	-	-
Overburden		11/09/11	1127	GRAB	16.2	25.0	6.5	31.5	-	-	-	-	-
OP-N-SW @ 15'	7	11/09/11	1117	GRAB	0.0	ND	ND	ND	-	-	-	-	-
OP-S-PB @ 21' (excavated)	8	11/09/11	1121	GRAB	234.4	1,800	620	2,420	ND	ND	0.82	21	21.82
OP-IS @ 12' (excavated)	9	11/09/11	1127	GRAB	749	530	330	860	ND	ND	0.47	13	13.47
OP-S-SW @ 21'	10	11/10/11	0956	GRAB	0.0	ND	ND	ND	-	-	-	-	-
OP-W-SW @ 21'	11	11/10/11	1000	GRAB	0.0	ND	ND	ND	-	-	-	-	-
OP-PB @ 26'	12	11/10/11	0958	GRAB	1,539	11,000	4,800	15,800	3.9	120	47	710	880.9
NMOCD RELEASE CLOSURE STANDARDS (soils) -					**100**	-	-	**100**	**10**	-	-	-	**50**

SAMPLE ID		SAMPLE DATE	SAMPLE TIME	APPROX. DEPTH TO WATER BELOW GRADE (feet)	APPROX. TOTAL DEPTH OF TEST WELL BELOW GRADE (feet)	Volume Purged (gallons)	pH	Conductivity (µmhos/cm)	Temperature (°Celcius)	Benzene (ppb)	Toluene (ppb)	Ethyl - benzene (ppb)	Total Xylenes (ppb)
MW # 1		09/25/11	1650	48.08	54.00	3.00	7.46	3,100	17.7	2.3	35	16	130
MW # 2		09/25/11	1710	49.30	60.00	7.38	7.38	2,400	17.4	ND	2.0	ND	3.2
MW # 3		09/25/11	1700	48.99	60.00	7.35	7.35	2,600	17.1	ND	ND	ND	ND
NMWQCC STANDARDS (groundwater) -										**10**	**750**	**750**	**620**

Notes:

OVM - Organic vapor meter or photo-ionization detector (PID).
TPH - Total petroleum hydrocarbons by US EPA Method 8015B.
BTEX - Benzene, toluene, ethylbenzene, total xylenes by US EPA Method 8021B.
ppm - Parts per million or milligram per kilogram (mg/Kg).
ppb - Parts per billion or microgram per liter (µg/L).
ND - Not detected at Reporting Limit.
NMOCD - New Mexico Oil Conservation Division.
NMWQCC - New Mexico Water Quality Control Commission.

NMOCD RELEASE CLOSURE STANDARDS REFERENCE: "*Guidelines for Remediation of Leaks, Spills and Releases" dated: August 13, 1993.*
NMWQCC STANDARDS REFERENCE: "*Water Quality Standards for Interstate and Intrastate Surface Waters in New Mexico (20.6.4 NMAC)" Effective date: October 12, 2000*
OVM CALIBRATION: *RESPONSE FACTOR = 0.52 , CALIBRATION GAS - 100 ppm ISOBUTYLENE.*

OVM CALIBRATION DATA

DATE	TIME	READING
11/01/11	1207	52.4
11/03/11	1127	53.3

DATE	TIME	READING
11/04/11	1045	52.3
11/09/11	1140	51.9

DATE	TIME	READING
11/10/11	1018	49.6

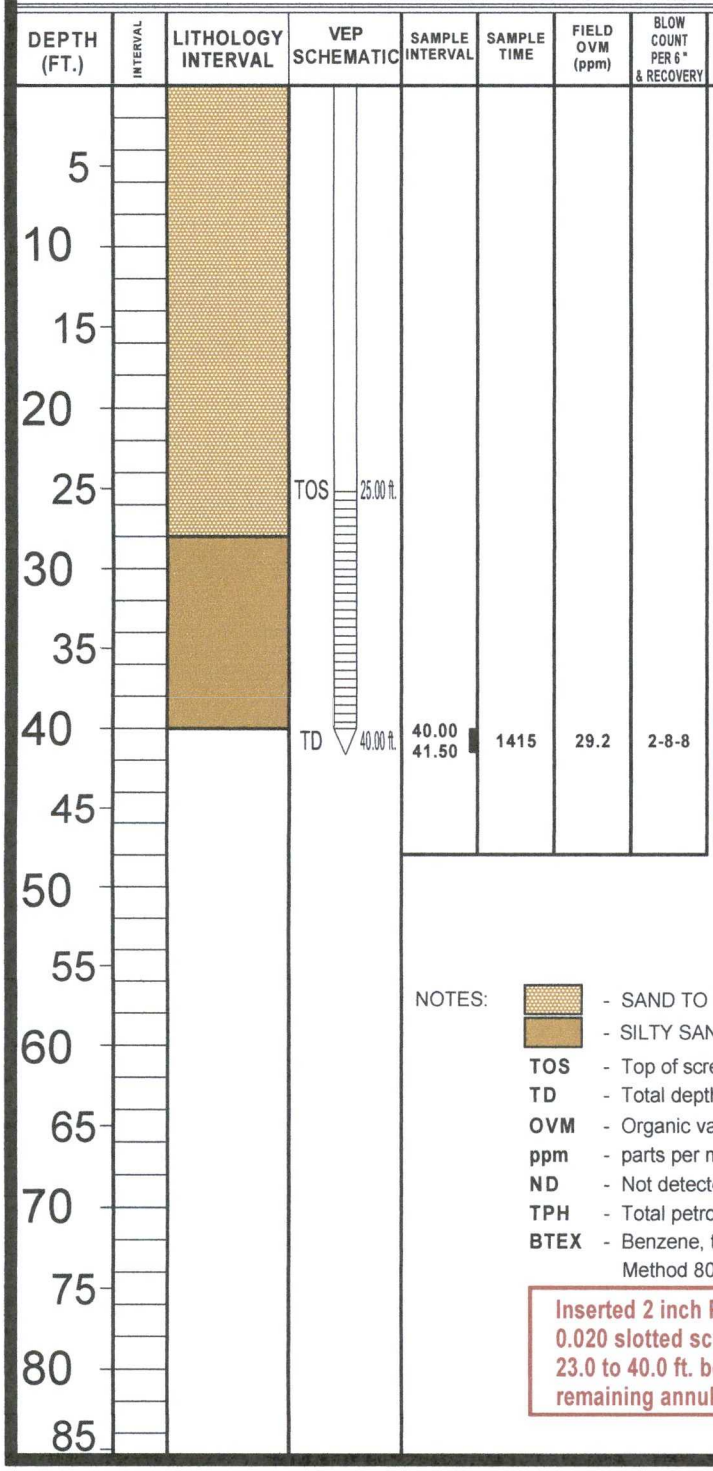
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

VEP #1

BORE / TEST HOLE REPORT

BORING #..... BH - 13
MW #..... NA
PAGE #..... 13
DATE STARTED 03/06/12
DATE FINISHED 03/06/12
OPERATOR..... KP
LOGGED BY..... NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION: 115.5 FEET, N2E FROM WELL HEAD.



MODERATE TO PALE YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 28.0 FT. BELOW GRADE).

DARK YELLOWISH ORANGE TO DARK YELLOWISH BROWN SILTY SAND TO SILTY CLAY, NON TO SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (28.0 - 40.0 FT. BELOW GRADE).

VEP #1 (BH-13) @ 40'-41.5' : TPH = 17 ppm; benzene = ND ppm; total BTEX = ND ppm.

NOTES:
- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.

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).
ND - Not detected at Reporting Limit.
TPH - Total petroleum hydrocarbon per US EPA Method 8015B.
BTEX - Benzene, toluene, ethylbenzene, total xylenes per US EPA Method 8021B.

OVM CALIBRATION:
52.5 ppm; RF = 0.52 (RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 03/06/12.
Time - 1230.

Inserted 2 inch PVC piping within boring - solid casing set at grade to 25.0 ft. below grade, 0.020 slotted screen set at 25.00 to 40.00 ft. below grade, sand packed annular between 23.0 to 40.0 ft. below grade, bentonite grout 20.0 to 23.0 ft. below grade, cuttings fill the remaining annular to grade.

DRAWING: JAQUEZ GC B 3E VEP-1. SKF | DATE: 06/19/12 | DWN BY: NJV

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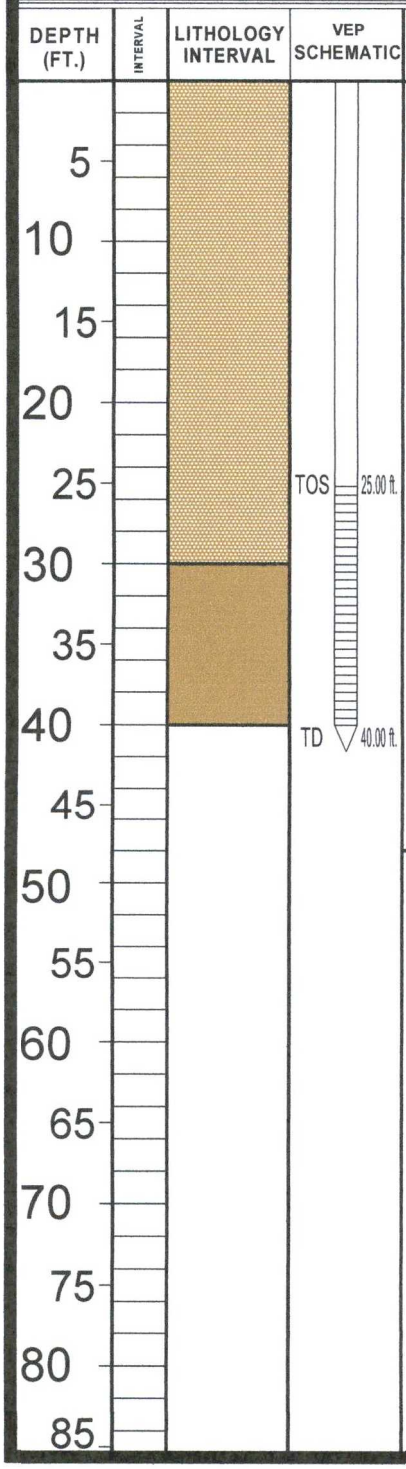
(505) 632-1199

VEP #2

BORE / TEST HOLE REPORT

BORING #..... BH - 11
MW #..... NA
PAGE #..... 11
DATE STARTED 03/05/12
DATE FINISHED 03/05/12
OPERATOR..... KP
LOGGED BY..... NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION: 93 FEET, N2.5W FROM WELL HEAD.



SAMPLE INTERVAL	SAMPLE TIME	FIELD OVM (ppm)	BLOW COUNT PER 6" & RECOVERY
40.00 41.50	1357	167.4	5-5-7

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

MODERATE TO PALE YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 30.0 FT. BELOW GRADE).

MODERATE BROWN SILTY SAND TO SILTY CLAY, NON TO SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS BETWEEN 30-38 FT., HYDROCARBON ODOR DETECTED WITHIN CUTTINGS BETWEEN 38-40 FT. (30.0 - 40.0 FT. BELOW GRADE).

VEP #2 (BH-11) @ 40'-41.5' : TPH = 919 ppm; benzene = ND ppm; total BTEX = 0.65 ppm.

NOTES:

- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.

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).
ND - Not detected at Reporting Limit.
TPH - Total petroleum hydrocarbon per US EPA Method 8015B.
BTEX - Benzene, toluene, ethylbenzene, total xylenes per US EPA Method 8021B.

OVM CALIBRATION:
51.5 ppm; RF = 0.52 (RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 03/05/12.
Time - 1110.

Inserted 2 inch PVC piping within boring - solid casing set at grade to 25.0 ft. below grade, 0.020 slotted screen set at 25.00 to 40.00 ft. below grade, sand packed annular between 23.0 to 40.0 ft. below grade, bentonite grout 20.0 to 23.0 ft. below grade, cuttings fill the remaining annular to grade.

DRAWING: JAQUEZ GC B 3E VEP-2. SKF | DATE: 06/19/12 | DWN BY: NJV

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(505) 632-1199

BH - 4

BORE / TEST HOLE REPORT

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION: 105.6 FEET, N4W FROM WELL HEAD.

BORING #..... BH - 4
MW #..... NA
PAGE #..... 4
DATE STARTED 09/22/11
DATE FINISHED 09/22/11
OPERATOR..... KP
LOGGED BY..... JCB

DEPTH (FT.)	INTERVAL	LITHOLOGY INTERVAL	VEP SCHEMATIC	SAMPLE INTERVAL	SAMPLE TIME	FIELD OVM (ppm)	BLOW COUNT PER 6" & RECOVERY
5							
10							
15							
20				20.00 21.50	1230	1,181	3-3-2
25				25.00 26.50	1237	542	2-2-2
30				30.00 31.50	1244	224	4-5-5
35				35.00 36.50	1257	470	5-5-6
40				40.00 41.50	1306	1,020	5-6-7
45			TD 45.00 ft.	45.00 46.50	1322	1,293	0-4-6
50							
55							
60							
65							
70							
75							
80							
85							

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

MODERATE TO DARK YELLOWISH BROWN INTERLAYERED INTERVALS OF COARSE SAND, SILTY SAND, MINOR CLAY LENSES, SLIGHTLY MOIST TO MOIST, FIRM TO SLIGHTLY STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 20.0 FT. BELOW GRADE).

BH @ 20'-21.5' : TPH = 17,500 ppm; benzene = 15 ppm; total BTEX = 1,248 ppm.

BH @ 25'-26.5' : TPH = 183 ppm.

DARK YELLOWISH ORANGE TO DARK YELLOWISH BROWN SILTY SAND, NON TO SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (20.0 - 42.0 FT. BELOW GRADE).

BH @ 30'-31.5' : TPH = 100 ppm.

BH @ 35'-36.5' : TPH = 234 ppm.

BH @ 40'-41.5' : TPH = 1,010 ppm.

BH @ 45'-46.5' : TPH = 123 ppm; benzene = ND ppm; total BTEX = 6.47 ppm.

DARK YELLOWISH BROWN SILTY CLAY TO CLAY, SLIGHTLY TO MEDIUM PLASTIC, MOIST, FIRM TO STIFF, NOT SATURATED, APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (42.0 - 46.5 FT. BELOW GRADE).

REMOVED DURING EXCAVATION PHASE OF REMEDIATION ACTIVITY.

NOTES:

- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.
- SILTY CLAY TO CLAY.

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).
ND - Not detected at Reporting Limit.
TPH - Total petroleum hydrocarbon per US EPA Method 8015B.
BTEX - Benzene, toluene, ethylbenzene, total xylenes per US EPA Method 8021B.

OVM CALIBRATION:
52.9 ppm; RF = 0.52 (RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 09/22/11.
Time - 1351.

Inserted 2 inch PVC piping within boring - 0.020 slotted screen between 0.00 to 45.00 ft. below grade, sand packed annular to 16.0 ft. below grade, cuttings fill the remaining annular to grade.

DRAWING: JAQUEZ GC B 3E BH-4. SKF | DATE: 10/03/11 | DWN BY: NJV

BLAGG ENGINEERING, INC.
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BLOOMFIELD, NM 87413
(505) 632-1199

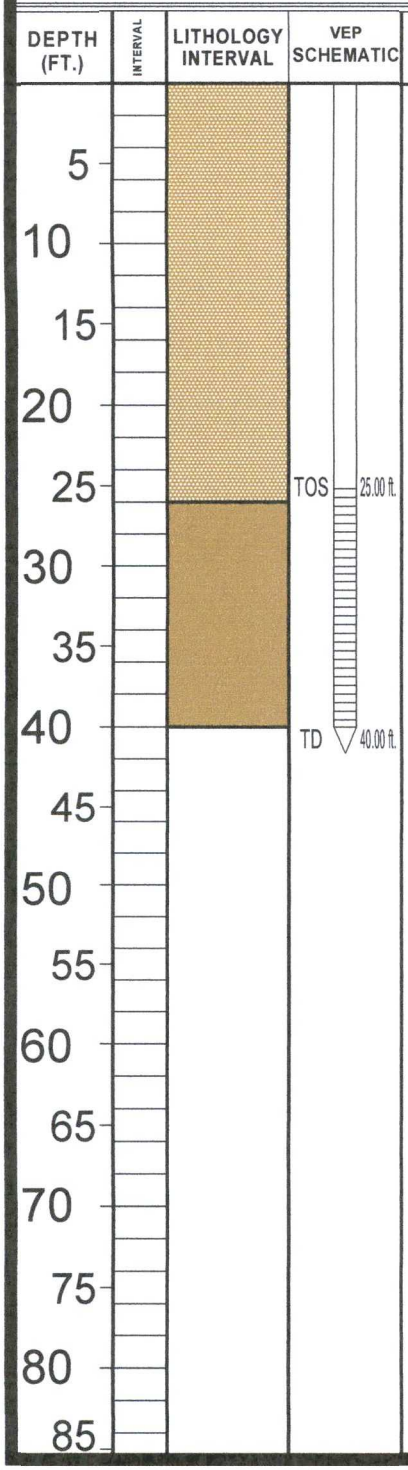
VEP #3

SAME LOCATION AS BH-4

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	105.6 FEET, N4W FROM WELL HEAD.

BORING #.....	BH - 14
MW #.....	NA
PAGE #.....	14
DATE STARTED	03/07/12
DATE FINISHED	03/07/12
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

MODERATE TO PALE YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 28.0 FT. BELOW GRADE).

DARK YELLOWISH ORANGE TO DARK YELLOWISH BROWN SILTY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (28.0 - 40.0 FT. BELOW GRADE).

NOTES:
- SAND TO SILTY SAND.
- SILTY SAND.

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

Inserted 2 inch PVC piping within boring - solid casing set at grade to 25.0 ft. below grade, 0.020 slotted screen set at 25.00 to 40.00 ft. below grade, sand packed annular between 23.0 to 40.0 ft. below grade, bentonite grout 20.0 to 23.0 ft. below grade, cuttings fill the remaining annular to grade.

DRAWING: JAQUEZ GC B 3E VEP-3. SKF | DATE: 06/19/12 | DWN BY: NJV

BLAGG ENGINEERING, INC.
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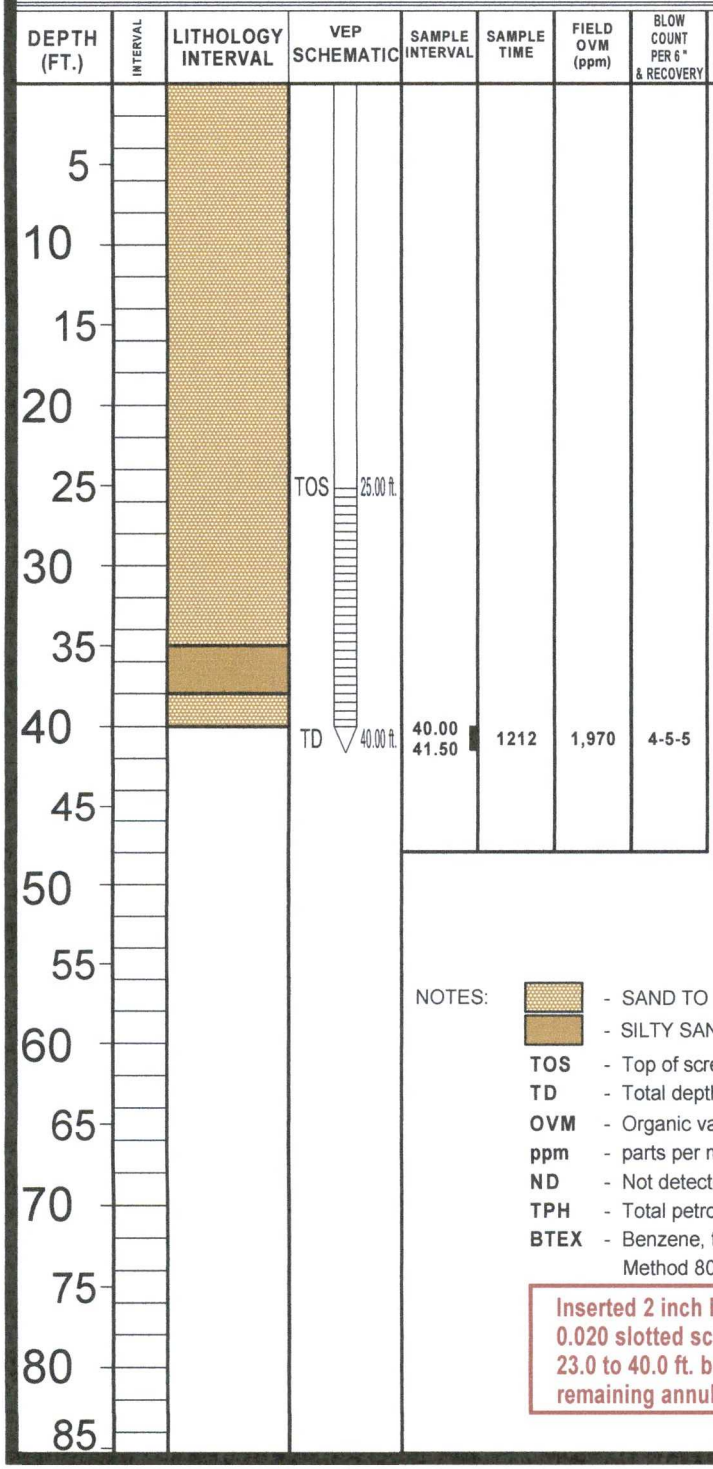
BLOOMFIELD, NM 87413
(505) 632-1199

VEP #4

BORE / TEST HOLE REPORT

BORING #..... BH - 12
MW #..... NA
PAGE #..... 12
DATE STARTED 03/06/12
DATE FINISHED 03/06/12
OPERATOR..... KP
LOGGED BY..... NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION: 117 FEET, N6.5W FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

MODERATE TO PALE YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 35.0 FT. BELOW GRADE).

MODERATE BROWN SILTY SAND TO SILTY CLAY, NON TO SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM, APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (35.0 - 38.0 FT. BELOW GRADE).

DARK YELLOWISH ORANGE SILTY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (38.0 - 40.0 FT. BELOW GRADE).

VEP #4 (BH-12) @ 40'-41.5' : TPH = 4,600 ppm; benzene = ND ppm; total BTEX = 160 ppm.

NOTES:

- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.

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).
ND - Not detected at Reporting Limit.
TPH - Total petroleum hydrocarbon per US EPA Method 8015B.
BTEX - Benzene, toluene, ethylbenzene, total xylenes per US EPA Method 8021B.

OVM CALIBRATION:
52.5 ppm; RF = 0.52 (RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 03/06/12.
Time - 1230.

Inserted 2 inch PVC piping within boring - solid casing set at grade to 25.0 ft. below grade, 0.020 slotted screen set at 25.00 to 40.00 ft. below grade, sand packed annular between 23.0 to 40.0 ft. below grade, bentonite grout 20.0 to 23.0 ft. below grade, cuttings fill the remaining annular to grade.

DRAWING: JAQUEZ GC B 3E VEP-4. SKF | DATE: 06/19/12 | DWN BY: NJV

BLAGG ENGINEERING, INC.
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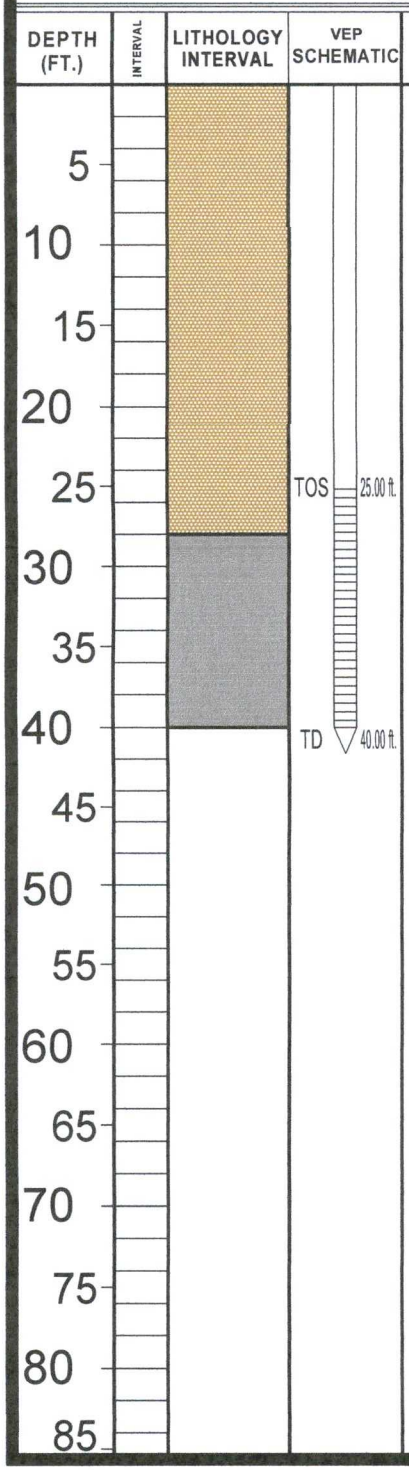
(505) 632-1199

VEP #5

BORE / TEST HOLE REPORT

BORING #..... BH - 10
MW #..... NA
PAGE #..... 10
DATE STARTED 03/01/12
DATE FINISHED 03/01/12
OPERATOR..... KP
LOGGED BY..... NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION: 101 FEET, N10.5W FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

MODERATE TO PALE YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 28.0 FT. BELOW GRADE).

MEDIUM GRAY SILTY SAND TO SILTY CLAY, NON TO SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM, APPARENT HYDRO - CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (28.0 - 40.0 FT. BELOW GRADE).

NOTES:
- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.

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

Inserted 2 inch PVC piping within boring - solid casing set at grade to 25.0 ft. below grade, 0.020 slotted screen set at 25.00 to 40.00 ft. below grade, sand packed annular between 23.0 to 40.0 ft. below grade, bentonite grout 20.0 to 23.0 ft. below grade, cuttings fill the remaining annular to grade.

DRAWING: JAQUEZ GC B 3E VEP-5. SKF | DATE: 06/19/12 | DWN BY: NJV

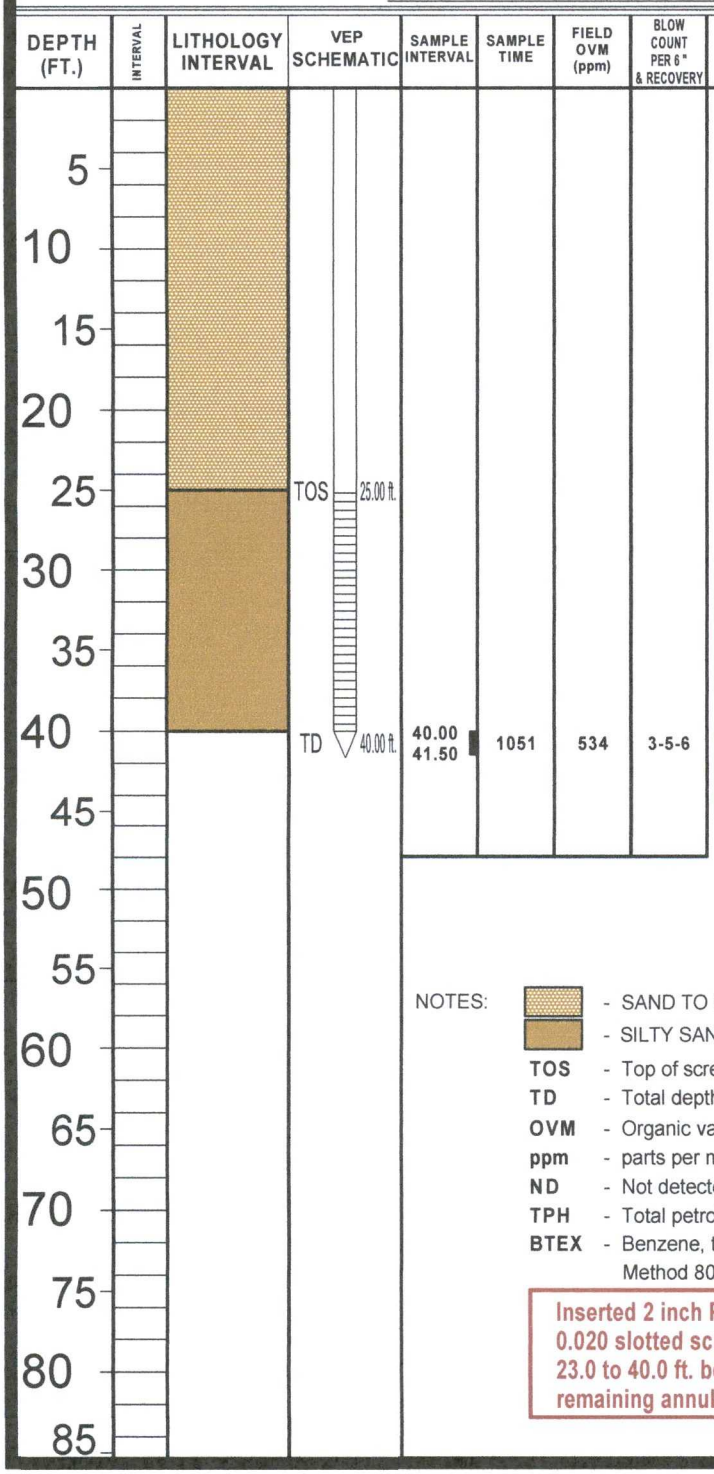
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

VEP #6

BORE / TEST HOLE REPORT

BORING #..... BH - 10
MW #..... NA
PAGE #..... 10
DATE STARTED 03/05/12
DATE FINISHED 03/05/12
OPERATOR..... KP
LOGGED BY..... NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION: 85.5 FEET, N16W FROM WELL HEAD.



MODERATE TO PALE YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 30.0 FT. BELOW GRADE).

MEDIUM TO DARK GRAY SILTY SAND TO SILTY CLAY, NON TO COHESIVE, SLIGHTLY MOIST, FIRM, APPARENT HYDRO CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (25.0 - 40.0 FT. BELOW GRADE).

VEP #6 (BH-10) @ 40'-41.5' : TPH = 4,300 ppm; benzene = ND ppm; total BTEX = 234 ppm.

NOTES:
- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.

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).
ND - Not detected at Reporting Limit.
TPH - Total petroleum hydrocarbon per US EPA Method 8015B.
BTEX - Benzene, toluene, ethylbenzene, total xylenes per US EPA Method 8021B.

OVM CALIBRATION:
51.5 ppm; RF = 0.52 (RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 03/05/12.
Time - 1110.

Inserted 2 inch PVC piping within boring - solid casing set at grade to 25.0 ft. below grade, 0.020 slotted screen set at 25.00 to 40.00 ft. below grade, sand packed annular between 23.0 to 40.0 ft. below grade, bentonite grout 20.0 to 23.0 ft. below grade, cuttings fill the remaining annular to grade.

DRAWING: JAQUEZ GC B 3E VEP-6. SKF | DATE: 06/19/12 | DWN BY: NJV

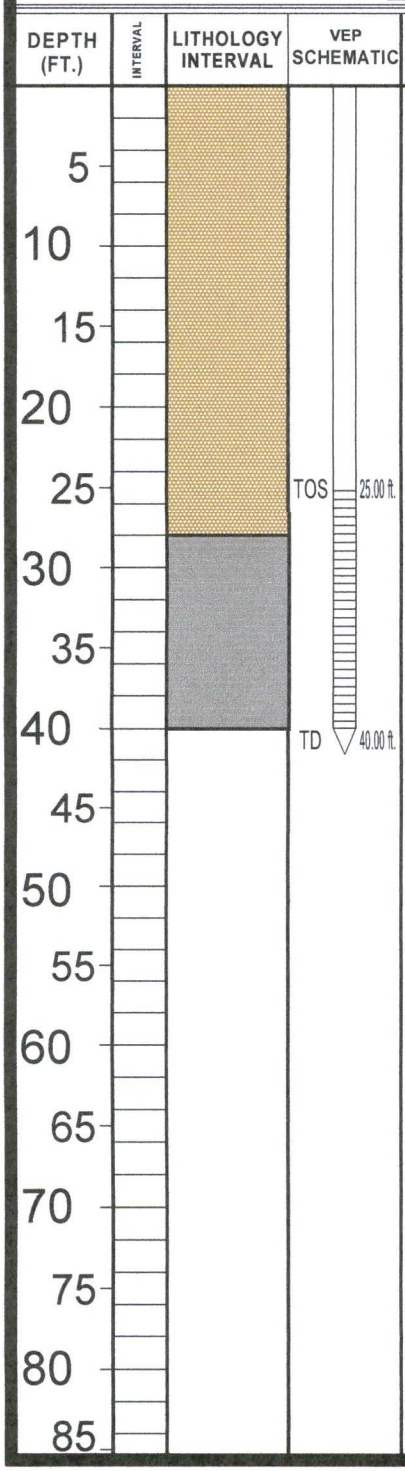
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

VEP #7

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	97.5 FEET, N17.5W FROM WELL HEAD.

BORING #.....	BH - 9
MW #.....	NA
PAGE #.....	9
DATE STARTED	02/29/12
DATE FINISHED	02/29/12
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

MODERATE BROWN TO DARK YELLOWISH ORANGE SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 28.0 FT. BELOW GRADE).

MEDIUM GRAY TO BLACK SILTY SAND TO SILTY CLAY, NON TO SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM, APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (28.0 - 40.0 FT. BELOW GRADE).

NOTES:
- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.

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

Inserted 2 inch PVC piping within boring - solid casing set at grade to 25.0 ft. below grade, 0.020 slotted screen set at 25.00 to 40.00 ft. below grade, sand packed annular between 23.0 to 40.0 ft. below grade, bentonite grout 20.0 to 23.0 ft. below grade, cuttings fill the remaining annular to grade.

DRAWING: JAQUEZ GC B 3E VEP-7. SKF | DATE: 06/19/12 | DWN BY: NJV

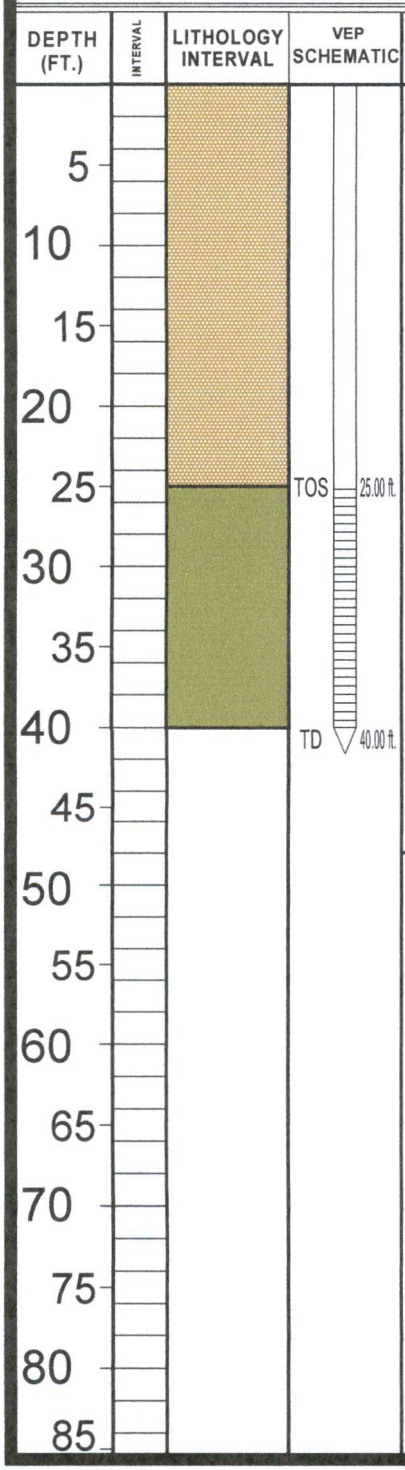
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

VEP #8

BORE / TEST HOLE REPORT

BORING #..... BH - 8
MW #..... NA
PAGE #..... 8
DATE STARTED 02/29/12
DATE FINISHED 02/29/12
OPERATOR..... KP
LOGGED BY..... NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION: 110 FEET, N19W FROM WELL HEAD.



SAMPLE INTERVAL	SAMPLE TIME	FIELD OVM (ppm)	BLOW COUNT PER 6" & RECOVERY
40.00 41.50	1115	558	3-3-7

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

MODERATE TO PALE YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 25.0 FT. BELOW GRADE).

OLIVE TO DARK MEDIUM GRAY SILTY SAND TO SILTY CLAY, NON TO COHESIVE, SLIGHTLY MOIST, FIRM, APPARENT HYDRO CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (25.0 - 40.0 FT. BELOW GRADE).

VEP #8 (BH-8) @ 40'-41.5' : TPH = 3,400 ppm; benzene = ND ppm; total BTEX = 221.7 ppm.

NOTES:

- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.

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).
ND - Not detected at Reporting Limit.
TPH - Total petroleum hydrocarbon per US EPA Method 8015B.
BTEX - Benzene, toluene, ethylbenzene, total xylenes per US EPA Method 8021B.

OVM CALIBRATION:
52.0 ppm; RF = 0.52 (RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 02/29/12.
Time - 1146.

Inserted 2 inch PVC piping within boring - solid casing set at grade to 25.0 ft. below grade, 0.020 slotted screen set at 25.00 to 40.00 ft. below grade, sand packed annular between 23.0 to 40.0 ft. below grade, bentonite grout 20.0 to 23.0 ft. below grade, cuttings fill the remaining annular to grade.

DRAWING: JAQUEZ GC B 3E VEP-8. SKF | DATE: 06/19/12 | DWN BY: NJV

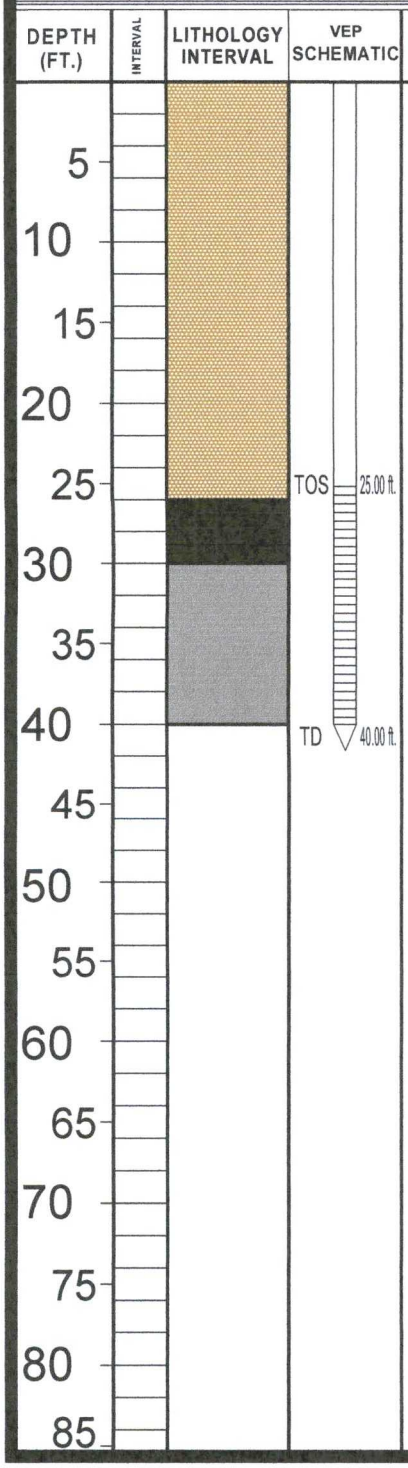
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

VEP #9

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	96 FEET, N25W FROM WELL HEAD.

BORING #.....	BH - 7
MW #.....	NA
PAGE #.....	7
DATE STARTED	02/27/12
DATE FINISHED	02/27/12
OPERATOR.....	KP
LOGGED BY.....	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

MODERATE BROWN TO DARK YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 26.0 FT. BELOW GRADE).

BLACK SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, STRONG APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (26.0 - 30.0 FT. BELOW GRADE).

OLIVE TO MEDIUM GRAY TO BLACK SILTY SAND TO SILTY CLAY, NON TO SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM, STRONG APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (30.0 - 40.0 FT. BELOW GRADE).

NOTES:
- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.

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

Inserted 2 inch PVC piping within boring - solid casing set at grade to 25.0 ft. below grade, 0.020 slotted screen set at 25.00 to 40.00 ft. below grade, sand packed annular between 23.0 to 40.0 ft. below grade, bentonite grout 20.0 to 23.0 ft. below grade, cuttings fill the remaining annular to grade.

DRAWING: JAQUEZ GC B 3E VEP-9. SKF | DATE: 06/19/12 | DWN BY: NJV

BP AMERICA PRODUCTION COMPANY

GROUNDWATER FIELD DATA & LAB BTEX RESULTS

JAQUEZ GC B # 3E
UNIT D, SEC. 4, T29N, R9W

REVISED DATE: March 1 , 2016
Submitted by Blagg Engineering, Inc.

								BTEX US EPA METHOD 8021B or 8260B			
SAMPLE DATE	WELL NAME / NUMBER	DEPTH TO WATER (ft)	WELL DEPTH (ft)	TDS (mg/L)	CONDUCT. (umhos)	pH	FREE PHASE PRODUCT (ft)	BENZENE (ppb)	TOLUENE (ppb)	ETHYL BENZENE (ppb)	TOTAL XYLENES (ppb)
09/25/11	MW #1	49.08	55.00		3,100	7.46		2.3	35	16	130
02/09/12		49.60			6,200	7.12		19	ND	ND	2.9
03/13/15	MW #1R	51.97	61.80		1,600	6.83		ND	ND	ND	ND
05/29/15		51.24			3,500	6.96		ND	ND	ND	ND
08/29/15		50.93			2,500	6.95		ND	ND	ND	ND
12/09/15		51.38			2,600	7.17		1.1	ND	ND	ND
02/25/16		51.90			2,600	6.96		ND	ND	ND	ND
09/25/11	MW #2	51.80	62.51		2,400	7.38		ND	2.0	ND	3.2
02/09/12		52.59			3,300	7.04		ND	ND	ND	ND
06/26/12		51.95			3,200	7.10		ND	ND	ND	ND
09/26/12		51.87			1,700	7.11		ND	ND	ND	ND
12/20/12		52.51			2,200	7.23		ND	ND	ND	ND
03/13/13		52.84			2,700	6.93		ND	ND	ND	ND
06/18/13		52.06			1,500	7.31		ND	ND	ND	ND
09/26/13		52.07			1,300	7.42		ND	ND	ND	ND
09/25/11	MW #3	48.99	60.00		2,600	7.35		ND	ND	ND	ND
02/09/12		49.96			3,300	7.24		ND	ND	ND	ND
03/14/12	MW #4	52.21	61.95		3,100	6.76		24	300	55	1,700
06/26/12		51.31			4,100	6.95		30	ND	21	170
09/26/12		51.23			1,900	6.78		10	1.1	15	11
12/20/12		51.95			2,600	6.98		6.6	ND	3.5	9.3
03/13/13		52.32			3,100	6.75		9.0	ND	1.2	3.5
06/18/13		51.44			1,600	7.02		9.9	ND	ND	3.1
09/26/13		50.32			1,600	7.08		11	ND	ND	2.0
12/19/13		52.04			1,600	6.88		9.9	ND	1.5	2.8
03/11/14		52.41			2,100	6.88		9.1	ND	ND	2.6
06/25/14		51.51			1,400	6.85		3.5	ND	1.5	2.4
08/28/14		51.40			1,700	6.93		1.4	ND	1.4	2.2
11/24/14		51.67			1,500	7.03		7.8	ND	ND	2.1
03/13/15		52.37			1,700	6.80		13	ND	ND	ND
05/29/15		51.76			2,700	7.11		7.1	ND	ND	ND
08/29/15		51.47			3,200	6.85		1.6	ND	ND	ND
12/09/15		51.82			3,500	6.83		ND	ND	ND	ND
02/25/16		52.35			3,300	6.80		ND	ND	ND	ND
03/14/12	MW #5	52.69	61.65		3,100	7.14		ND	ND	ND	ND
06/26/12		51.97			3,700	7.25		ND	ND	ND	ND
09/26/12		51.90			1,700	7.21		ND	ND	ND	4.0
12/20/12		52.60			2,300	7.44		ND	ND	ND	ND
03/13/13		52.84			2,600	7.22		ND	ND	ND	ND
06/18/13		52.08			1,500	7.37		ND	ND	ND	ND
09/26/13		52.16			800	7.56		ND	ND	ND	ND
					NMWQCC GROUNDWATER STANDARDS			10	750	750	620

BP AMERICA PRODUCTION COMPANY

GROUNDWATER FIELD DATA & LAB BTEX RESULTS

JAQUEZ GC B # 3E
UNIT D, SEC. 4, T29N, R9W

REVISED DATE: March 1 , 2016
Submitted by Blagg Engineering, Inc.

SAMPLE DATE	WELL NAME /NUMBER	Fluoride (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Nitrate-N (mg/L)	Iron (mg/L)	TDS (mg/L)
	MW #1R	Will collect this sample on next event					
06/18/13	MW #2	0.58	17	1,500	ND	8.4	2,620
06/18/13	MW #3	0.62	15	2,000	0.22	ND	3,120
06/18/13	MW #4	0.65	33	2,300	ND	5.5	4,100
06/18/13	MW #5	ND	17	1,900	ND	ND	3,180
01/20/16	LP AGT Produced Water	NA	NA	1.2	NA	51	140
NMWQCC GROUNDWATER STANDARDS		1.60	250	600	10	1.0	1,000

NOTES :

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

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

MW # 1

BORE / TEST HOLE REPORT

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION: 77 FEET, N2W FROM WELL HEAD.

BORING #..... BH - 1
MW #..... 1
PAGE #..... 1
DATE STARTED 09/20/11
DATE FINISHED 09/20/11
OPERATOR..... KP
LOGGED BY..... NJV

DEPTH (FT.)	SAMPLE INTERVAL	SAMPLE TIME	FIELD OVM (ppm)	BLOW COUNT PER 6" & RECOVERY
5	5.00 6.50	1148	66.6	4-2-2
10	10.00 11.50	1155	52.5	3-3-3
15	15.00 16.50	1200	0.0	3-2-3
20	20.00 21.50	1205	44.4	4-3-4
25	25.00 26.50	1215	0.0	5-6-7
30	30.00 31.50	1230	0.0	3-4-5
35	35.00 36.50	1254	16.1	4-3-4
40	40.00 41.50	1306	0.0	4-4-5
45	45.00 46.50	1321	2,073	0-5-8
50	50.00 51.50	1410	0.0	0-7-8
55	55.00 56.50	1426	0.0	6-9-12
60				
65				
70				
75				
80				
85				

TOS 34.00 ft.
TD 54.00 ft.

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.00 FT. ABOVE GRADE.

MODERATE TO DARK YELLOWISH BROWN INTERLAYERED INTERVALS OF COARSE SAND, SILTY SAND, THIN CLAY, SLIGHTLY MOIST TO MOIST, FIRM TO SLIGHTLY STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 40.0 FT. BELOW GRADE).

BH @ 40'-41.5' : TPH = ND ppm.

DARK YELLOWISH BROWN CLAY, SLIGHTLY TO MEDIUM PLASTIC, MOIST, FIRM TO STIFF, NOT SATURATED, APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (40.0 - 43.0 FT. BELOW GRADE).

BH @ 45'-46.5' : TPH = 290 ppm; benzene = ND ppm; total BTEX = 4.2 ppm.

GROUNDWATER ~ 48.00 ft. BELOW GRADE ; MEASURED 10/05/11.

BH @ 50'-51.5' : TPH = ND ppm; benzene = ND ppm; total BTEX = ND ppm.

SAME AS ABOVE EXCEPT NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (43.0 - 55.0 FT. BELOW GRADE).

BH @ 55'-56.5' : TPH = ND ppm.

NOTES:

- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.
- SILTY CLAY TO CLAY.

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).
ND - Not detected at Reporting Limit.
TPH - Total petroleum hydrocarbon per US EPA Method 8015B.
BTEX - Benzene, toluene, ethylbenzene, total xylenes per US EPA Method 8021B.

OVM CALIBRATION:
52.5 ppm; RF = 0.52
(RF = response factor).
100 ppm calibration gas
- isobutylene.
Date - 09/20/11.
Time - 1332.

Monitor well consist of 2 inch PVC piping - casing from 1.00 ft. above grade to 34.00 ft. below grade, 0.020 slotted screen between 34.00 to 54.00 ft. below grade, sand packed annular to 30.0 ft. below grade, bentonite grout between 27.0 to 30.0 ft. below grade, cuttings fill the remaining annular to grade. Secured casing top with locking cap and padlock.

DRAWING: JAQUEZ GC B 3E MW1-BH-1. SKF | DATE: 10/05/11 | DWN BY: NJV

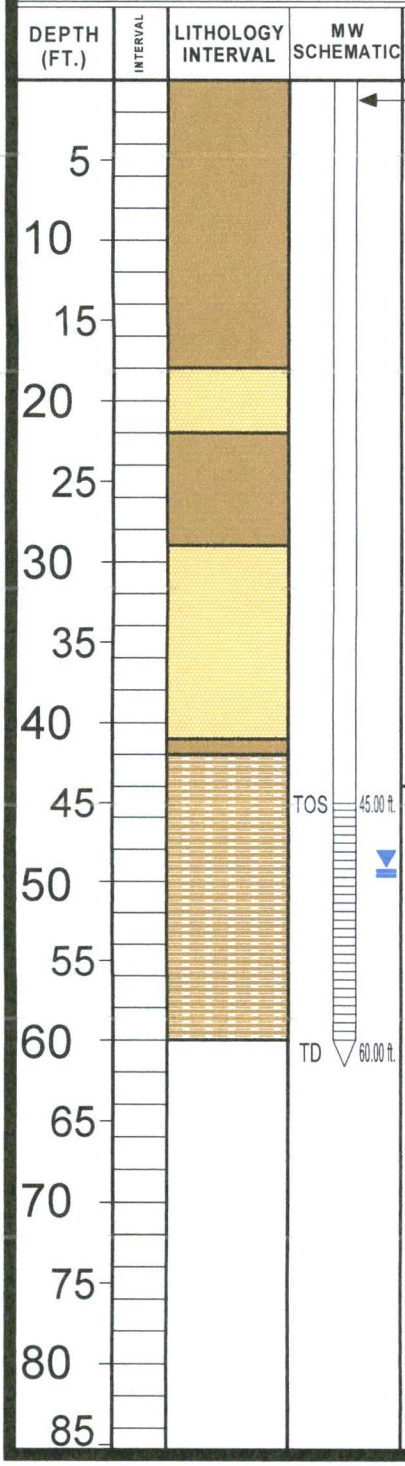
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 2

BORE / TEST HOLE REPORT

BORING #..... BH - 2
MW #..... 2
PAGE #..... 2
DATE STARTED 09/21/11
DATE FINISHED 09/21/11
OPERATOR..... KP
LOGGED BY..... NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION: 134.3 FEET, N35.25W FROM WELL HEAD.



SAMPLE INTERVAL	SAMPLE TIME	FIELD OVM (ppm)	BLOW COUNT PER 6" & RECOVERY
25.00 - 26.50	1040	0.0	4-7-7
30.00 - 31.50	1048	0.0	6-8-10
35.00 - 36.50	1100	0.0	6-10-10
40.00 - 41.50	1110	0.0	6-7-8

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.50 FT. ABOVE GRADE.

DARK YELLOWISH BROWN SILTY SAND, NON TO SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 18.0 FT. BELOW GRADE).

PALE YELLOWISH ORANGE SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (18.0 - 22.0 FT. BELOW GRADE).

PALE YELLOWISH BROWN SILTY SAND TO SILTY CLAY, SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM TO SLIGHTLY STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (22.0 - 29.0 FT. BELOW GRADE).

PALE YELLOWISH ORANGE SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (29.0 - 41.0 FT. BELOW GRADE).

PALE YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (41.0 - 42.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SILTY CLAY TO CLAY, SLIGHTLY TO MEDIUM PLASTIC, MOIST, FIRM TO STIFF, NOT SATURATED, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (42.0 - 54.0 FT. BELOW GRADE).

GROUNDWATER ~ 49.30 ft. BELOW GRADE ; MEASURED 10/05/11.

SAME AS ABOVE EXCEPT APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (54.0 - 55.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (55.0 - 60.0 FT. BELOW GRADE).

NOTES:
- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.
- SILTY CLAY TO CLAY.

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).

OVM CALIBRATION:
53.0 ppm; RF = 0.52 (RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 09/21/11.
Time - 1225.

Monitor well consist of 2 inch PVC piping - casing from 2.50 ft. above grade to 45.00 ft. below grade, 0.020 slotted screen between 45.00 to 60.00 ft. below grade, sand packed annular to 43.0 ft. below grade, bentonite grout between 40.0 to 43.0 ft. below grade, cuttings fill remaining annular to grade. Slip cap placed on casing top, enclosed with steel protector, cemented,and secured with padlock.

DRAWING: JAQUEZ GC B 3E MW2-BH-2. SKF | DATE: 10/05/11 | DWN BY: NJV

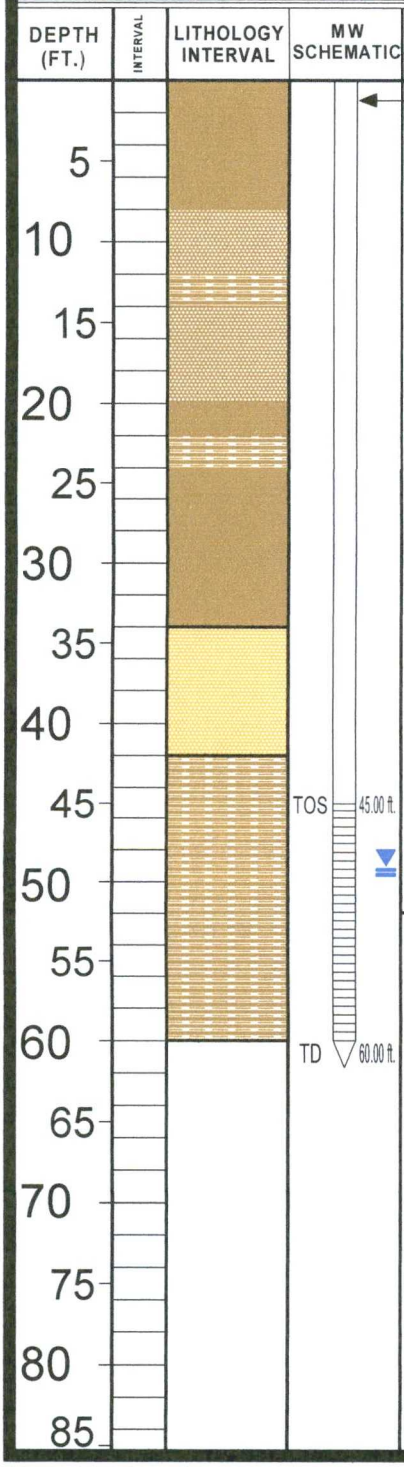
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 3

BORE / TEST HOLE REPORT

BORING #..... BH - 3
MW #..... 3
PAGE #..... 3
DATE STARTED 09/21/11
DATE FINISHED 09/22/11
OPERATOR..... KP
LOGGED BY..... JCB

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION: 47 FEET, S35W FROM WELL HEAD.



SAMPLE INTERVAL	SAMPLE TIME	FIELD OVM (ppm)	BLOW COUNT PER 6" & RECOVERY
25.00 26.50	1427	0.0	7-7-9
30.00 31.50	1452	0.0	8-8-10
35.00 36.50	1501	0.0	6-7-9
40.00 41.50	1508	0.0	6-5-5
45.00 46.50	1523	0.0	6-5-5
50.00 51.50	1540	0.0	0-5-5

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. AT GRADE.

MODERATE TO DARK YELLOWISH BROWN INTERLAYERED INTERVALS OF COARSE SAND, SILTY SAND, MINOR CLAY LENSES, SLIGHTLY MOIST TO MOIST, FIRM TO SLIGHTLY STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 24.0 FT. BELOW GRADE).

PALE YELLOWISH ORANGE SILTY SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (24.0 - 34.0 FT. BELOW GRADE).

PALE YELLOWISH ORANGE SAND TO SILTY SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (34.0 - 42.0 FT. BELOW GRADE).

GROUNDWATER ~ 49.00 ft. BELOW GRADE ; MEASURED 10/05/11.

DARK YELLOWISH BROWN SILTY CLAY TO CLAY, SLIGHTLY TO MEDIUM PLASTIC, MOIST TO WET, FIRM TO STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (42.0 - 60.0 FT. BELOW GRADE).

NOTES:
- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.
- SILTY CLAY TO CLAY.

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).

OVM CALIBRATION:
52.4 ppm; RF = 0.52 (RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 09/21/11.
Time - 1515.

Monitor well consist of 2 inch PVC piping - casing from grade to 45.00 ft. below grade, 0.020 slotted screen between 45.00 to 60.00 ft. below grade, sand packed annular to 43.0 ft. below grade, bentonite grout between 40.0 to 43.0 ft. below grade, cuttings fill remaining annular to grade. Flush mount well cover cemented around casing top and secured with locking cap and padlock.

DRAWING: JAQUEZ GC B 3E MW3-BH-3. SKF | DATE: 10/05/11 | DWN BY: NJV

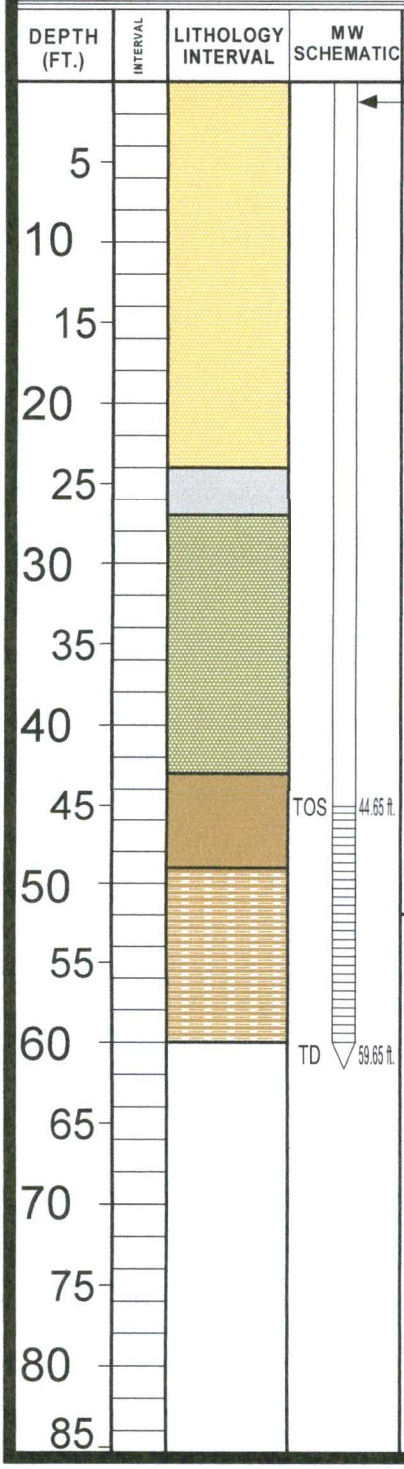
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 4

BORE / TEST HOLE REPORT

BORING #..... BH - 6
MW #..... 4
PAGE #..... 6
DATE STARTED 02/24/12
DATE FINISHED 02/24/12
OPERATOR..... KP
LOGGED BY..... NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION: 96 FEET, N29W FROM WELL HEAD.



SAMPLE INTERVAL	SAMPLE TIME	FIELD OVM (ppm)	BLOW COUNT PER 6" & RECOVERY
30.00 31.50	1340	243.2	2-3-2
35.00 36.50	1353	221.3	1-1-4
40.00 41.50	1405	243.2	4-8-6
45.00 46.50	1423	66.5	0-7-7
50.00 50.50	1438	203.9	0-4-6

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.30 FT. ABOVE GRADE.

DARK YELLOWISH BROWN SILTY SAND, NON TO SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 24.0 FT. BELOW GRADE).

OLIVE TO MEDIUM GRAY SILTY SAND TO SILTY CLAY, SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM TO SLIGHTLY STIFF, APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (24.0 - 27.0 FT.BELOW GRADE).

OLIVE GRAY PHASING INTO DARK YELLOWISH BROWN SAND TO SILTY SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, APPARENT HYDRO-CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (27.0 - 43.0 FT. BELOW GRADE).

MODERATE TO DARK YELLOWISH BROWN SAND TO SILTY CLAY, SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM TO SLIGHTLY STIFF, APPARENT HYDRO-CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (43.0 - 49.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SILTY CLAY TO CLAY, SLIGHTLY TO MEDIUM PLASTIC, MOIST TO WET, FIRM TO STIFF, APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (49.0 - 60.0 FT. BELOW GRADE).

NOTES:
- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.
- SILTY CLAY TO CLAY.

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).

OVM CALIBRATION:
52.0 ppm; RF = 0.52 (RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 02/24/12.
Time - 1123.

Monitor well consist of 2 inch PVC piping - casing from 2.30 ft. above grade to 44.65 ft. below grade, 0.020 slotted screen between 44.65 to 59.65 ft. below grade, sand packed annular to 42.0 ft. below grade, bentonite grout between 38.0 to 42.0 ft. below grade, cuttings fill remaining annular to grade. Slip cap placed on casing top, enclosed with steel protector, cemented,and secured with padlock.

DRAWING: JAQUEZ GC B 3E MW4-BH-6. SKF | DATE: 02/24/12 | DWN BY: NJV

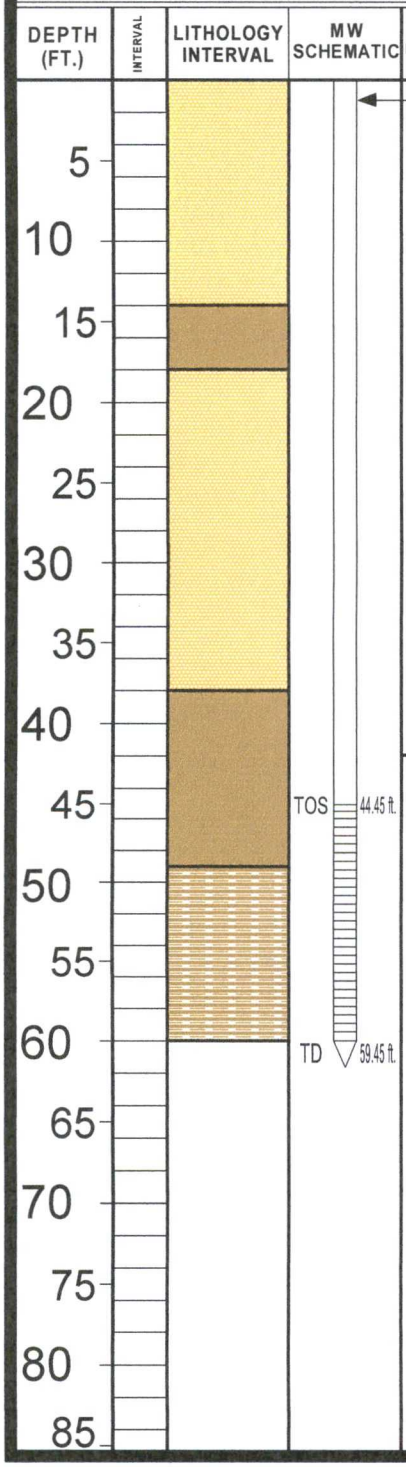
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 5

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION CO.
LOCATION NAME:	JAQUEZ GC B # 3E UNIT D, SEC. 4, T29N, R9W
CONTRACTOR:	BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75) - HOLLOW STEM AUGER
BORING LOCATION:	124 FEET, N61W FROM WELL HEAD.

BORING #.....	BH - 5
MW #.....	5
PAGE #.....	5
DATE STARTED	02/24/12
DATE FINISHED	02/24/12
OPERATOR.....	KP
LOGGED BY.....	NJV



SAMPLE INTERVAL	SAMPLE TIME	FIELD OVM (ppm)	BLOW COUNT PER 6" & RECOVERY
30.00 31.50	1030	0.0	4-9-9
35.00 36.50	1041	0.0	8-11-12
40.00 41.50	1049	0.0	3-5-8

FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.20 FT. ABOVE GRADE.

DARK YELLOWISH BROWN SILTY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 14.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SILTY SAND TO SILTY CLAY, SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM TO SLIGHTLY STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (14.0 - 18.0 FT.BELOW GRADE).

DARK YELLOWISH BROWN SAND TO SILTY SAND PHASING INTO PALE YELLOWISH ORANGE SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (18.0 - 38.0 FT. BELOW GRADE).

DARK YELLOWISH ORANGE TO PALE YELLOWISH BROWN SILTY SAND TO SILTY CLAY, SLIGHTLY COHESIVE, SLIGHTLY MOIST, FIRM TO SLIGHTLY STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (38.0 - 49.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SILTY CLAY TO CLAY, SLIGHTLY TO MEDIUM PLASTIC, MOIST TO WET, FIRM TO STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (49.0 - 60.0 FT. BELOW GRADE).

NOTES:

- SAND TO SILTY SAND.
- SILTY SAND TO SILTY CLAY.
- SILTY CLAY TO CLAY.

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).

OVM CALIBRATION:
52.0 ppm; RF = 0.52
(RF = response factor).
100 ppm calibration gas - isobutylene.
Date - 02/24/12.
Time - 1123.

Monitor well consist of 2 inch PVC piping - casing from 2.20 ft. above grade to 44.45 ft. below grade, 0.020 slotted screen between 44.45 to 59.45 ft. below grade, sand packed annular to 40.3 ft. below grade, bentonite grout between 36.7 to 40.3 ft. below grade, cuttings fill remaining annular to grade. Slip cap placed on casing top, enclosed with steel protector, cemented,and secured with padlock.

DRAWING: JAQUEZ GC B 3E MW5-BH-5. SKF | DATE: 02/24/12 | DWN BY: NJV

Laboratory Data: Excavation and Delineation

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Friday, September 30, 2011

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

TEL: (505) 632-1199
FAX (505) 632-3903

RE: Jaquez GC B 3E

Order No.: 1109903

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory, Inc. received 10 sample(s) on 9/23/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Sep-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH-1 40-41.5
Lab Order:	1109903	**Collection Date:**	9/20/2011 1:06:00 PM
Project:	Jaquez GC B 3E	**Date Received:**	9/23/2011
Lab ID:	1109903-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/27/2011 4:42:03 PM
Surr: DNOP	91.9	73.4-123		%REC	1	9/27/2011 4:42:03 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	9/27/2011 6:02:59 PM
Surr: BFB	93.8	75.2-136		%REC	1	9/27/2011 6:02:59 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Sep-11*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH-1 45-46.5
Lab Order:	1109903	**Collection Date:**	9/20/2011 1:21:00 PM
Project:	Jaquez GC B 3E	**Date Received:**	9/23/2011
Lab ID:	1109903-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	170	10		mg/Kg	1	9/27/2011 5:16:59 PM
Surr: DNOP	120	73.4-123		%REC	1	9/27/2011 5:16:59 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	120	97		mg/Kg	20	9/27/2011 6:32:54 PM
Surr: BFB	88.4	75.2-136		%REC	20	9/27/2011 6:32:54 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.97		mg/Kg	20	9/27/2011 6:32:54 PM
Toluene	ND	0.97		mg/Kg	20	9/27/2011 6:32:54 PM
Ethylbenzene	ND	0.97		mg/Kg	20	9/27/2011 6:32:54 PM
Xylenes, Total	4.2	1.9		mg/Kg	20	9/27/2011 6:32:54 PM
Surr: 4-Bromofluorobenzene	81.5	80-120		%REC	20	9/27/2011 6:32:54 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Sep-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH-1 50-51.5
Lab Order:	1109903	**Collection Date:**	9/20/2011 2:10:00 PM
Project:	Jaquez GC B 3E	**Date Received:**	9/23/2011
Lab ID:	1109903-03	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/27/2011 6:26:01 PM
Surr: DNOP	114	73.4-123		%REC	1	9/27/2011 6:26:01 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	9/27/2011 7:02:42 PM
Surr: BFB	88.1	75.2-136		%REC	1	9/27/2011 7:02:42 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.047		mg/Kg	1	9/27/2011 7:02:42 PM
Toluene	ND	0.047		mg/Kg	1	9/27/2011 7:02:42 PM
Ethylbenzene	ND	0.047		mg/Kg	1	9/27/2011 7:02:42 PM
Xylenes, Total	ND	0.094		mg/Kg	1	9/27/2011 7:02:42 PM
Surr: 4-Bromofluorobenzene	79.8	80-120	S	%REC	1	9/27/2011 7:02:42 PM

Qualifiers:

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

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH-1 55-56.5
Lab Order:	1109903	**Collection Date:**	9/20/2011 2:26:00 PM
Project:	Jaquez GC B 3E	**Date Received:**	9/23/2011
Lab ID:	1109903-04	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	9/27/2011 7:00:57 PM
Surr: DNOP	113	73.4-123		%REC	1	9/27/2011 7:00:57 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	9/28/2011 11:53:14 PM
Surr: BFB	91.2	75.2-136		%REC	1	9/28/2011 11:53:14 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Sep-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH-4 20-21.5
Lab Order:	1109903	**Collection Date:**	9/22/2011 12:30:00 PM
Project:	Jaquez GC B 3E	**Date Received:**	9/23/2011
Lab ID:	1109903-05	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	8600	100		mg/Kg	10	9/28/2011 12:10:32 AM
Surr: DNOP	0	73.4-123	S	%REC	10	9/28/2011 12:10:32 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	8900	470		mg/Kg	100	9/29/2011 12:22:07 AM
Surr: BFB	287	75.2-136	S	%REC	100	9/29/2011 12:22:07 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	15	4.7		mg/Kg	100	9/29/2011 12:22:07 AM
Toluene	290	4.7		mg/Kg	100	9/29/2011 12:22:07 AM
Ethylbenzene	73	4.7		mg/Kg	100	9/29/2011 12:22:07 AM
Xylenes, Total	870	9.4		mg/Kg	100	9/29/2011 12:22:07 AM
Surr: 4-Bromofluorobenzene	117	80-120		%REC	100	9/29/2011 12:22:07 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Sep-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH-4 25-26.5
Lab Order:	1109903	**Collection Date:**	9/22/2011 12:37:00 PM
Project:	Jaquez GC B 3E	**Date Received:**	9/23/2011
Lab ID:	1109903-06	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	160	9.6		mg/Kg	1	9/27/2011 7:35:36 PM
Surr: DNOP	115	73.4-123		%REC	1	9/27/2011 7:35:36 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	23	9.9		mg/Kg	2	9/29/2011 1:48:25 AM
Surr: BFB	154	75.2-136	S	%REC	2	9/29/2011 1:48:25 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Sep-11*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH-4 30-31.5
Lab Order:	1109903	**Collection Date:**	9/22/2011 12:44:00 PM
Project:	Jaquez GC B 3E	**Date Received:**	9/23/2011
Lab ID:	1109903-07	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	100	10		mg/Kg	1	9/27/2011 8:09:59 PM
Surr: DNOP	109	73.4-123		%REC	1	9/27/2011 8:09:59 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	9.5		mg/Kg	2	9/29/2011 2:17:09 AM
Surr: BFB	110	75.2-136		%REC	2	9/29/2011 2:17:09 AM

Qualifiers:

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

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH-4 35-36.5
Lab Order:	1109903	**Collection Date:**	9/22/2011 12:57:00 PM
Project:	Jaquez GC B 3E	**Date Received:**	9/23/2011
Lab ID:	1109903-08	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	210	9.8		mg/Kg	1	9/27/2011 8:44:40 PM
Surr: DNOP	108	73.4-123		%REC	1	9/27/2011 8:44:40 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	24	9.7		mg/Kg	2	9/29/2011 2:46:05 AM
Surr: BFB	230	75.2-136	S	%REC	2	9/29/2011 2:46:05 AM

Qualifiers:

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

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH-4 40-41.5
Lab Order:	1109903	**Collection Date:**	9/22/2011 1:06:00 PM
Project:	Jaquez GC B 3E	**Date Received:**	9/23/2011
Lab ID:	1109903-09	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	830	10		mg/Kg	1	9/27/2011 9:19:19 PM
Surr: DNOP	115	73.4-123		%REC	1	9/27/2011 9:19:19 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	180	97		mg/Kg	20	9/28/2011 3:33:18 AM
Surr: BFB	187	75.2-136	S	%REC	20	9/28/2011 3:33:18 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Sep-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	BH-4 45-46.5
Lab Order:	1109903	**Collection Date:**	9/22/2011 1:22:00 PM
Project:	Jaquez GC B 3E	**Date Received:**	9/23/2011
Lab ID:	1109903-10	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	50	10		mg/Kg	1	9/27/2011 9:53:59 PM
Surr: DNOP	117	73.4-123		%REC	1	9/27/2011 9:53:59 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	73	23		mg/Kg	5	9/29/2011 3:14:57 AM
Surr: BFB	158	75.2-136	S	%REC	5	9/29/2011 3:14:57 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.23		mg/Kg	5	9/29/2011 3:14:57 AM
Toluene	0.51	0.23		mg/Kg	5	9/29/2011 3:14:57 AM
Ethylbenzene	0.26	0.23		mg/Kg	5	9/29/2011 3:14:57 AM
Xylenes, Total	5.7	0.47		mg/Kg	5	9/29/2011 3:14:57 AM
Surr: 4-Bromofluorobenzene	101	80-120		%REC	5	9/29/2011 3:14:57 AM

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Jaquez GC B 3E **Work Order:** 1109903

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-28583		*MBLK*				Batch ID:	**28583**	Analysis Date:	9/27/2011 12:37:45 PM		
Diesel Range Organics (DRO)	ND	mg/Kg	10								
Sample ID: LCS-28583		*LCS*				Batch ID:	**28583**	Analysis Date:	9/27/2011 1:12:40 PM		
Diesel Range Organics (DRO)	55.89	mg/Kg	10	50	3.567	105	66.7	119			
Method: EPA Method 8015B: Gasoline Range											
Sample ID: MB-28579		*MBLK*				Batch ID:	**28579**	Analysis Date:	9/27/2011 1:24:32 PM		
G ıline Range Organics (GRO)	ND	mg/Kg	5.0								
ıple ID: **LCS-28579**		*LCS*				Batch ID:	**28579**	Analysis Date:	9/27/2011 9:33:15 PM		
Gasoline Range Organics (GRO)	29.68	mg/Kg	5.0	25	0	119	86.4	132			
Method: EPA Method 8021B: Volatiles											
Sample ID: MB-28579		*MBLK*				Batch ID:	**28579**	Analysis Date:	9/27/2011 1:24:32 PM		
Benzene	ND	mg/Kg	0.050								
Toluene	ND	mg/Kg	0.050								
Ethylbenzene	ND	mg/Kg	0.050								
Xylenes, Total	ND	mg/Kg	0.10								
Sample ID: LCS-28579		*LCS*				Batch ID:	**28579**	Analysis Date:	9/27/2011 10:03:14 PM		
Benzene	0.9909	mg/Kg	0.050	1	0.0236	96.7	83.3	107			
Toluene	0.9149	mg/Kg	0.050	1	0.0056	90.9	74.3	115			
Ethylbenzene	1.023	mg/Kg	0.050	1	0.0136	101	80.9	122			
Xylenes, Total	3.143	mg/Kg	0.10	3	0.0227	104	85.2	123			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date Received: 9/23/2011

Work Order Number 1109903 | Received by: AMG

Checklist completed by: _____ 9/23/11 | Sample ID labels checked by: _____

Signature | Date | Initials

Matrix: | Carrier name Courier

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑	
Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace? No VOA vials submitted ☐		Yes ☑	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☑	No ☐	N/A ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	*<2 >12 unless noted below.*
Container/Temp Blank temperature?	**3.3°**	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

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 BY 9/29/2011
Project Name: JAQUEZ GC B 3E
Project #:
Project Manager: JEFF BLAGG
Sampler: Jeff Blagg
On Ice: ☐ Yes ☐ No
Sample Temperature:

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	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)
9/20/2011	1306	SOIL	BH-1 @ 40-41½	4oz x 1	COOL	1109403-1			X									
"	1321	"	BH-1 @ 45-46½	"	"	-2	X		X									
"	1410	"	BH-1 @ 50-51½	"	"	-3	X		X									
"	1426	"	BH-1 @ 55-56½	"	"	-4			X									
9/22/2011	1230	SOIL	BH-4 @ 20-21½	4oz x 1	COOL	-5	X		X									
"	1237	"	BH-4 @ 25-26½	"	"	-6			X									
"	1244	"	BH-4 @ 30-31½	"	"	-7			X									
"	1257	"	BH-4 @ 35-36½	"	"	-8			X									
"	1306	"	BH-4 @ 40-41½	"	"	-9			X									
"	1322	"	BH-4 @ 45-46½	"	"	-10	X		X									

Date	Time	Relinquished by:	Received by:	Date	Time
9/22/11	1635	Jeff Blagg	Christine Walters	9/22/11	1635
9/23/11	810	Christine Walters			

Remarks: GRO + DRO ON 8015
WORKORDER N1464816
PAYKEY: ZVALENOLAB
CONTACT: Jeff Pecoe

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Friday, November 11, 2011

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

TEL: (505) 632-1199
FAX (505) 632-3903

RE: Jaquez GC B #3E

Order No.: 1111270

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 11/3/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Nov-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	N-TH @12'-20' From BH-4
Lab Order:	1111270	**Collection Date:**	11/1/2011 12:10:00 PM
Project:	Jaquez GC B #3E	**Date Received:**	11/3/2011
Lab ID:	1111270-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/5/2011 12:35:02 PM
Surr: DNOP	99.2	73.4-123		%REC	1	11/5/2011 12:35:02 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/7/2011 6:24:32 PM
Surr: BFB	97.1	75.2-136		%REC	1	11/7/2011 6:24:32 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.047		mg/Kg	1	11/7/2011 6:24:32 PM
Toluene	ND	0.047		mg/Kg	1	11/7/2011 6:24:32 PM
Ethylbenzene	ND	0.047		mg/Kg	1	11/7/2011 6:24:32 PM
Xylenes, Total	ND	0.047		mg/Kg	1	11/7/2011 6:24:32 PM
Surr: 4-Bromofluorobenzene	97.4	80-120		%REC	1	11/7/2011 6:24:32 PM
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Chloride	290	30		mg/Kg	20	11/9/2011 9:49:05 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Nov-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	N-TH@ 21'-30' From BH-4
Lab Order:	1111270	**Collection Date:**	11/1/2011 12:30:00 PM
Project:	Jaquez GC B #3E	**Date Received:**	11/3/2011
Lab ID:	1111270-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/5/2011 1:09:41 PM
Surr: DNOP	93.2	73.4-123		%REC	1	11/5/2011 1:09:41 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/7/2011 6:54:27 PM
Surr: BFB	96.8	75.2-136		%REC	1	11/7/2011 6:54:27 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.049		mg/Kg	1	11/7/2011 6:54:27 PM
Toluene	ND	0.049		mg/Kg	1	11/7/2011 6:54:27 PM
Ethylbenzene	ND	0.049		mg/Kg	1	11/7/2011 6:54:27 PM
Xylenes, Total	ND	0.049		mg/Kg	1	11/7/2011 6:54:27 PM
Surr: 4-Bromofluorobenzene	97.8	80-120		%REC	1	11/7/2011 6:54:27 PM
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Chloride	63	30		mg/Kg	20	11/10/2011 1:18:00 AM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *11-Nov-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	N-TH @ 26'-30- From BH-4
Lab Order:	1111270	**Collection Date:**	11/1/2011 12:40:00 PM
Project:	Jaquez GC B #3E	**Date Received:**	11/3/2011
Lab ID:	1111270-03	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/5/2011 1:44:04 PM
Surr: DNOP	87.4	73.4-123		%REC	1	11/5/2011 1:44:04 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/7/2011 7:24:13 PM
Surr: BFB	97.3	75.2-136		%REC	1	11/7/2011 7:24:13 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.050		mg/Kg	1	11/7/2011 7:24:13 PM
Toluene	ND	0.050		mg/Kg	1	11/7/2011 7:24:13 PM
Ethylbenzene	ND	0.050		mg/Kg	1	11/7/2011 7:24:13 PM
Xylenes, Total	ND	0.050		mg/Kg	1	11/7/2011 7:24:13 PM
Surr: 4-Bromofluorobenzene	98.7	80-120		%REC	1	11/7/2011 7:24:13 PM
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Chloride	210	30		mg/Kg	20	11/10/2011 12:43:11 AM

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Jaquez GC B #3E **Work Order:** 1111270

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-29219		*MBLK*				Batch ID:	**29219**	Analysis Date:	11/5/2011 2:46:52 AM		
Diesel Range Organics (DRO)	ND	mg/Kg	10								
ıple ID: LCS-29219		*LCS*				Batch ID:	**29219**	Analysis Date:	11/5/2011 3:21:17 AM		
[Range Organics (DRO)	48.17	mg/Kg	10	50	0	96.3	66.7	119			
Method: EPA Method 8015B: Gasoline Range											
ıple ID: MB-29220		*MBLK*				Batch ID:	**29220**	Analysis Date:	11/7/2011 2:24:44 PM		
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
ıple ID: LCS-29220		*LCS*				Batch ID:	**29220**	Analysis Date:	11/7/2011 12:54:52 PM		
(line Range Organics (GRO)	29.54	mg/Kg	5.0	25	0	118	86.4	132			
od: EPA Method 8021B: Volatiles											
Sample ID: MB-29220		*MBLK*				Batch ID:	**29220**	Analysis Date:	11/7/2011 2:24:44 PM		
Benzene	ND	mg/Kg	0.050								
Toluene	ND	mg/Kg	0.050								
Ethylbenzene	ND	mg/Kg	0.050								
Xylenes, Total	ND	mg/Kg	0.10								
Sample ID: LCS-29220		*LCS*				Batch ID:	**29220**	Analysis Date:	11/7/2011 1:24:56 PM		
ızene	1.018	mg/Kg	0.050	1	0.0224	99.6	83.3	107			
Toluene	0.9662	mg/Kg	0.050	1	0	96.6	74.3	115			
Ethylbenzene	1.084	mg/Kg	0.050	1	0.0045	108	80.9	122			
Xylenes, Total	3.326	mg/Kg	0.10	3	0	111	85.2	123			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG** Date Received: **11/3/2011**

Work Order Number **1111270** Received by: **LNM**

Checklist completed by: Signature Date 11/3/11 Sample ID labels checked by: Initials

Matrix: Carrier name: Courier

Shipping container/cooler in good condition?	Yes ✔	No	Not Present		
Custody seals intact on shipping container/cooler?	Yes ✔	No	Not Present	Not Shipped	
Custody seals intact on sample bottles?	Yes	No	N/A ✔		
Chain of custody present?	Yes ✔	No			
Chain of custody signed when relinquished and received?	Yes ✔	No			
Chain of custody agrees with sample labels?	Yes ✔	No			
Samples in proper container/bottle?	Yes ✔	No			
Sample containers intact?	Yes ✔	No			
Sufficient sample volume for indicated test?	Yes ✔	No			
All samples received within holding time?	Yes ✔	No		Number of preserved bottles checked for pH:	
Water - VOA vials have zero headspace?	No VOA vials submitted ✔	Yes	No		
Water - Preservation labels on bottle and cap match?	Yes	No	N/A ✔		
Water - pH acceptable upon receipt?	Yes	No	N/A ✔	*<2 >12 unless noted below.*	
Container/Temp Blank temperature?	**3.9°**	*<6° C Acceptable* If given sufficient time to cool.			

COMMENTS:

Client contacted Date contacted: Person contacted

Contacted by: Regarding:

Comments:

Corrective Action

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: JAQUEZ GC B # 3E

Project #:

Project Manager: JEFF BLAGG

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 3.9

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. 1111270	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	Air Bubbles (Y or N)
11/1/11	1210	SOIL	N-TH @ 12' - 20' FROM BH-4	4 oz. - 1	Cool	-1	✓		✓									✓			✓	
11/1/11	1230	SOIL	N-TH @ 21' - 30' FROM BH-4	4 oz. - 1	Cool	-2	✓		✓									✓			✓	
11/1/11	1240	SOIL	N-TH @ 26' - 36' FROM BH-4	4 oz. - 1	Cool	-3	✓		✓									✓			✓	

Analysis Request

Date	Time	Relinquished by:	Received by:	Date	Time
11/2/11	1300			11/2/2011	1300
11/2/11	1682			11/3/11	0940

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

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

Work Order: N1482937 Paykey: ZVALENOGEN

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.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, November 08, 2011

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

TEL: (505) 632-1199
FAX (505) 632-3903

RE: Jaquez GC B #3E

Order No.: 1111326

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 11/5/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682

Hall Environmental Analysis Laboratory, Inc.

Date: *08-Nov-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	N-SW@15'-20' from BH4
Lab Order:	1111326	**Collection Date:**	11/3/2011 10:58:00 AM
Project:	Jaquez GC B #3E	**Date Received:**	11/5/2011
Lab ID:	1111326-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2011 4:30:58 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/7/2011 4:30:58 PM
Surr: DNOP	105	73.4-123		%REC	1	11/7/2011 4:30:58 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/7/2011 4:27:46 PM
Surr: BFB	97.7	75.2-136		%REC	1	11/7/2011 4:27:46 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *08-Nov-11*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	W-SW@15'-15' from BH4
Lab Order:	1111326	**Collection Date:**	11/3/2011 11:05:00 AM
Project:	Jaquez GC B #3E	**Date Received:**	11/5/2011
Lab ID:	1111326-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/7/2011 5:05:38 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/7/2011 5:05:38 PM
Surr: DNOP	91.0	73.4-123		%REC	1	11/7/2011 5:05:38 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/7/2011 4:56:36 PM
Surr: BFB	97.5	75.2-136		%REC	1	11/7/2011 4:56:36 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *08-Nov-11*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	E-SW@15'-15' from BH4
Lab Order:	1111326	**Collection Date:**	11/3/2011 11:15:00 AM
Project:	Jaquez GC B #3E	**Date Received:**	11/5/2011
Lab ID:	1111326-03	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/7/2011 5:40:17 PM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/7/2011 5:40:17 PM
Surr: DNOP	92.1	73.4-123		%REC	1	11/7/2011 5:40:17 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/7/2011 5:25:27 PM
Surr: BFB	97.1	75.2-136		%REC	1	11/7/2011 5:25:27 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *08-Nov-11*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	S-SW@15'-15' from BH4
Lab Order:	1111326	**Collection Date:**	11/4/2011 10:22:00 AM
Project:	Jaquez GC B #3E	**Date Received:**	11/5/2011
Lab ID:	1111326-04	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/7/2011 6:15:13 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/7/2011 6:15:13 PM
Surr: DNOP	93.9	73.4-123		%REC	1	11/7/2011 6:15:13 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/7/2011 5:54:15 PM
Surr: BFB	96.2	75.2-136		%REC	1	11/7/2011 5:54:15 PM

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Jaquez GC B #3E **Work Order:** 1111326

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: MB-29228		*MBLK*				Batch ID:	**29228**	Analysis Date:		11/7/2011 10:04:57 AM	
l ·l Range Organics (DRO)	ND	mg/Kg	10								
Motor Oil Range Organics (MRO)	ND	mg/Kg	50								
Sample ID: LCS-29228		*LCS*				Batch ID:	**29228**	Analysis Date:		11/7/2011 9:39:35 AM	
Diesel Range Organics (DRO)	48.29	mg/Kg	10	50	0	96.6	66.7	119			
ıod: EPA Method 8015B: Gasoline Range											
S ıple ID: 1111326-01AMSD		*MSD*				Batch ID:	**29231**	Analysis Date:		11/8/2011 12:09:02 AM	
Gasoline Range Organics (GRO)	33.45	mg/Kg	4.8	23.88	0	140	72.4	149	4.22	19.2	
Sample ID: MB-29231		*MBLK*				Batch ID:	**29231**	Analysis Date:		11/7/2011 1:34:39 PM	
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Sample ID: LCS-29231		*LCS*				Batch ID:	**29231**	Analysis Date:		11/7/2011 12:36:56 PM	
Gasoline Range Organics (GRO)	28.72	mg/Kg	5.0	25	0	115	86.4	132			
S ıple ID: 1111326-01AMS		*MS*				Batch ID:	**29231**	Analysis Date:		11/7/2011 11:40:12 PM	
Gasoline Range Organics (GRO)	32.07	mg/Kg	4.7	23.7	0	135	72.4	149			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG | Date Received: 11/5/2011

Work Order Number 1111326 | Received by: AMF

Checklist completed by: _____ 11/5/11 | Sample ID labels checked by: _____

Signature | Date | Initials

Matrix: | Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐		
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐	
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑		
Chain of custody present?	Yes ☑	No ☐			
Chain of custody signed when relinquished and received?	Yes ☑	No ☐			
Chain of custody agrees with sample labels?	Yes ☑	No ☐			
Samples in proper container/bottle?	Yes ☑	No ☐			
Sample containers intact?	Yes ☑	No ☐			
Sufficient sample volume for indicated test?	Yes ☑	No ☐			
All samples received within holding time?	Yes ☑	No ☐		Number of preserved bottles checked for pH:	
Water - VOA vials have zero headspace? No VOA vials submitted ☑		Yes ☐	No ☐		
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑		
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	*<2 >12 unless noted below.*	
Container/Temp Blank temperature?	**2.9°**	*<6° C Acceptable* If given sufficient time to cool.			

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

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 (Next Day) COMPLETE BY 11/08/2011

Project Name: JAQUEZ GC B # 3E

Project #:

Project Manager: JEFF BLAGG

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.9°C

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + 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	Air Bubbles (Y or N)
11/3/11	1058	SOIL	N-SW @ 15' - 20' from BH-4	4 oz. - 1	Cool	1111326-1			✓												✓	
11/3/11	1105	SOIL	W-SW @ 15' - 15' from BH-4	4 oz. - 1	Cool	-2			✓												✓	
11/3/11	1115	SOIL	E-SW @ 15' - 15' from BH-4	4 oz. - 1	Cool	-3			✓												✓	
11/4/11	1022	SOIL	S-SW @ 15' - 15' from BH-4	4 oz. - 1	Cool	-4			✓												✓	

Date	Time	Relinquished by:	Received by:	Date	Time
11/4/11	1251		Christine Walters	11/4/11	1251
11/4/11	1659	Christine Walters			

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

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

Work Order: N1482937 Paykey: ZVALENOGEN

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.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, November 21, 2011

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

TEL: (505) 632-1199
FAX (505) 632-3903

RE: Jacquez GC B #3E

Order No.: 1111524

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory, Inc. received 7 sample(s) on 11/11/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Nov-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	Overburden
Lab Order:	1111524	**Collection Date:**	11/9/2011 11:27:00 AM
Project:	Jacquez GC B #3E	**Date Received:**	11/11/2011
Lab ID:	1111524-01	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	25	10		mg/Kg	1	11/13/2011 5:04:46 PM
Surr: DNOP	98.5	73.4-123		%REC	1	11/13/2011 5:04:46 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	6.5	4.7		mg/Kg	1	11/14/2011 4:18:30 PM
Surr: BFB	107	75.2-136		%REC	1	11/14/2011 4:18:30 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Nov-11*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	OP-N-SW @ 15'
Lab Order:	1111524	**Collection Date:**	11/9/2011 11:17:00 AM
Project:	Jacquez GC B #3E	**Date Received:**	11/11/2011
Lab ID:	1111524-02	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/13/2011 6:33:03 PM
Surr: DNOP	97.9	73.4-123		%REC	1	11/13/2011 6:33:03 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/14/2011 4:48:38 PM
Surr: BFB	109	75.2-136		%REC	1	11/14/2011 4:48:38 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Nov-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	OP-S-PB @ 21'
Lab Order:	1111524	**Collection Date:**	11/9/2011 11:21:00 AM
Project:	Jacquez GC B #3E	**Date Received:**	11/11/2011
Lab ID:	1111524-03	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	1800	100		mg/Kg	10	11/14/2011 8:03:34 AM
Surr: DNOP	0	73.4-123	S	%REC	10	11/14/2011 8:03:34 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	620	49		mg/Kg	10	11/14/2011 5:35:34 PM
Surr: BFB	349	75.2-136	S	%REC	10	11/14/2011 5:35:34 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.49		mg/Kg	10	11/14/2011 5:35:34 PM
Toluene	ND	0.49		mg/Kg	10	11/14/2011 5:35:34 PM
Ethylbenzene	0.82	0.49		mg/Kg	10	11/14/2011 5:35:34 PM
Xylenes, Total	21	0.98		mg/Kg	10	11/14/2011 5:35:34 PM
Surr: 4-Bromofluorobenzene	113	80-120		%REC	10	11/14/2011 5:35:34 PM
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Chloride	ND	7.5		mg/Kg	5	11/14/2011 6:24:34 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Nov-11*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	OP-IS @ 12'
Lab Order:	1111524	**Collection Date:**	11/9/2011 11:27:00 AM
Project:	Jacquez GC B #3E	**Date Received:**	11/11/2011
Lab ID:	1111524-04	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	530	10		mg/Kg	1	11/13/2011 7:32:30 PM
Surr: DNOP	93.0	73.4-123		%REC	1	11/13/2011 7:32:30 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	330	24		mg/Kg	5	11/14/2011 6:05:31 PM
Surr: BFB	407	75.2-136	S	%REC	5	11/14/2011 6:05:31 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.24		mg/Kg	5	11/14/2011 6:05:31 PM
Toluene	ND	0.24		mg/Kg	5	11/14/2011 6:05:31 PM
Ethylbenzene	0.47	0.24		mg/Kg	5	11/14/2011 6:05:31 PM
Xylenes, Total	13	0.49		mg/Kg	5	11/14/2011 6:05:31 PM
Surr: 4-Bromofluorobenzene	130	80-120	S	%REC	5	11/14/2011 6:05:31 PM
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Chloride	ND	7.5		mg/Kg	5	11/14/2011 6:59:24 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Nov-11*
Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	OP-S-SW @ 21'
Lab Order:	1111524	**Collection Date:**	11/10/2011 9:56:00 AM
Project:	Jacquez GC B #3E	**Date Received:**	11/11/2011
Lab ID:	1111524-05	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/13/2011 8:02:30 PM
Surr: DNOP	93.2	73.4-123		%REC	1	11/13/2011 8:02:30 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/15/2011 4:25:22 PM
Surr: BFB	94.5	75.2-136		%REC	1	11/15/2011 4:25:22 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Nov-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	OP-W-SW @ 21'
Lab Order:	1111524	**Collection Date:**	11/10/2011 10:00:00 AM
Project:	Jacquez GC B #3E	**Date Received:**	11/11/2011
Lab ID:	1111524-06	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/13/2011 9:02:31 PM
Surr: DNOP	96.0	73.4-123		%REC	1	11/13/2011 9:02:31 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/14/2011 7:35:30 PM
Surr: BFB	83.3	75.2-136		%REC	1	11/14/2011 7:35:30 PM

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Nov-11*

Analytical Report

CLIENT:	Blagg Engineering	**Client Sample ID:**	OP-PB @ 26'
Lab Order:	1111524	**Collection Date:**	11/10/2011 9:58:00 AM
Project:	Jacquez GC B #3E	**Date Received:**	11/11/2011
Lab ID:	1111524-07	**Matrix:**	SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JB**
Diesel Range Organics (DRO)	11000	1000		mg/Kg	100	11/14/2011 8:33:03 AM
Surr: DNOP	0	73.4-123	S	%REC	100	11/14/2011 8:33:03 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	4800	240		mg/Kg	50	11/14/2011 8:05:29 PM
Surr: BFB	175	75.2-136	S	%REC	50	11/14/2011 8:05:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	3.9	2.4		mg/Kg	50	11/14/2011 8:05:29 PM
Toluene	120	2.4		mg/Kg	50	11/14/2011 8:05:29 PM
Ethylbenzene	47	2.4		mg/Kg	50	11/14/2011 8:05:29 PM
Xylenes, Total	710	9.8		mg/Kg	100	11/16/2011 5:04:36 PM
Surr: 4-Bromofluorobenzene	111	80-120		%REC	50	11/14/2011 8:05:29 PM
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Chloride	ND	7.5		mg/Kg	5	11/15/2011 8:50:03 AM

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Jacquez GC B #3E
Work Order: 1111524

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB-29346		*MBLK*				Batch ID: **29346**		Analysis Date:		11/14/2011 1:11:13 PM	
Chloride	ND	mg/Kg	1.5								
Method: EPA Method 8015B: Diesel Range Organics											
Sample ID: 1111524-01AMSD		*MSD*				Batch ID: **29331**		Analysis Date:		11/13/2011 6:03:44 PM	
[Range Organics (DRO)	82.97	mg/Kg	9.8	49.12	25.25	118	61.9	125	5.38	22.3	
Sample ID: MB-29331		*MBLK*				Batch ID: **29331**		Analysis Date:		11/13/2011 4:05:57 PM	
D l Range Organics (DRO)	ND	mg/Kg	10								
ıple ID: LCS-29331		*LCS*				Batch ID: **29331**		Analysis Date:		11/13/2011 4:35:26 PM	
[Range Organics (DRO)	54.00	mg/Kg	10	50	0	108	66.7	119			
ıple ID: 1111524-01AMS		*MS*				Batch ID: **29331**		Analysis Date:		11/13/2011 5:34:14 PM	
D Range Organics (DRO)	87.56	mg/Kg	10	49.85	25.25	125	61.9	125			
Method: EPA Method 8015B: Gasoline Range											
Sample ID: 1111524-01AMSD		*MSD*				Batch ID: **29330**		Analysis Date:		11/15/2011 12:35:14 AM	
Gasoline Range Organics (GRO)	54.41	mg/Kg	5.0	24.78	6.516	193	72.4	149	62.1	19.2	SR
Sample ID: MB-29330		*MBLK*				Batch ID: **29330**		Analysis Date:		11/14/2011 1:18:35 PM	
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0								
Sample ID: LCS-29330		*LCS*				Batch ID: **29330**		Analysis Date:		11/14/2011 12:18:36 PM	
(ıline Range Organics (GRO)	29.51	mg/Kg	5.0	25	0	118	86.4	132			
ıple ID: 1111524-01AMS		*MS*				Batch ID: **29330**		Analysis Date:		11/15/2011 12:05:16 AM	
(ɔline Range Organics (GRO)	28.63	mg/Kg	4.9	24.53	6.516	90.1	72.4	149			
Method: EPA Method 8021B: Volatiles											
Sample ID: MB-29330		*MBLK*				Batch ID: **29330**		Analysis Date:		11/14/2011 1:18:35 PM	
Benzene	ND	mg/Kg	0.050								
Toluene	ND	mg/Kg	0.050								
Ethylbenzene	ND	mg/Kg	0.050								
Xylenes, Total	ND	mg/Kg	0.10								
Sample ID: LCS-29330		*LCS*				Batch ID: **29330**		Analysis Date:		11/14/2011 12:48:38 PM	
Benzene	1.013	mg/Kg	0.050	1	0.0185	99.5	83.3	107			
Toluene	0.9863	mg/Kg	0.050	1	0	98.6	74.3	115			
Ethylbenzene	1.101	mg/Kg	0.050	1	0	110	80.9	122			
Xylenes, Total	3.380	mg/Kg	0.10	3	0	113	85.2	123			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name BLAGG

Date Received: 11/11/2011

Work Order Number 1111524

Received by: AT

Checklist completed by: Signature 11/11/11 Date

Sample ID labels checked by: Initials

Matrix: Carrier name FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐				
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐			
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑				
Chain of custody present?	Yes ☑	No ☐					
Chain of custody signed when relinquished and received?	Yes ☑	No ☐					
Cl n of custody agrees with sample labels?	Yes ☑	No ☐					
Samples in proper container/bottle?	Yes ☑	No ☐					
Sample containers intact?	Yes ☑	No ☐					
Sufficient sample volume for indicated test?	Yes ☑	No ☐					
All samples received within holding time?	Yes ☑	No ☐					
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐				
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑				
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑				
Container/Temp Blank temperature?	1.4°	<6° C Acceptable If given sufficient time to cool.					

Number of preserved bottles checked for pH: _____

<2 >12 unless noted below.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

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:
JAQUEZ GC B # 3E

Project #:

Project Manager:
JEFF BLAGG

Sampler: **NELSON VELEZ** NV

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.4°

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. 1111524	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	Air Bubbles (Y or N)
11/9/11	1127	SOIL	Overburden	4 oz. - 1	Cool	-1			✓												✓	
11/9/11	1117	SOIL	OP-N-SW @ 15'	4 oz. - 1	Cool	-2			✓												✓	
11/9/11	1121	SOIL	OP-S-PB @ 21'	4 oz. - 1	Cool	-3	✓		✓									✓			✓	
11/9/11	1127	SOIL	OP-IS @ 12'	4 oz. - 1	Cool	-4	✓		✓									✓			✓	
11/10/11	0956	SOIL	OP-S-SW @ 21'	4 oz. - 1	Cool	-5			✓												✓	
11/10/11	1000	SOIL	OP-W-SW @ 21'	4 oz. - 1	Cool	-6			✓												✓	
11/10/11	0958	SOIL	OP-PB @ 26'	4 oz. - 1	Cool	-7	✓		✓									✓			✓	

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/10/11	1440			11/10/11	1446
Date:	Time:	Relinquished by:	Received by:	Date	Time
11/10/11	1510			11/11/11	108

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

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

Work Order: N1482937 Paykey: ZVALENOGEN

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.

Laboratory Data:
Soil Borings Delineation
Monitor Well Installations

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 14, 2012

Nelson Velez
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-3487
FAX (505) 632-3903

RE: Jaquez GC B#3E OrderNo.: 1203244

Dear Nelson Velez:

Hall Environmental Analysis Laboratory received 3 sample(s) on 3/7/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1203244**
Date Reported: **3/14/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Jaquez GC B#3E
Lab ID: 1203244-001 **Matrix:** SOIL

Client Sample ID: VEP #8 (BH-8) @ 40'-41.5'
Collection Date: 2/29/2012 11:15:00 AM
Received Date: 3/7/2012 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	1,700	100		mg/Kg	10	3/12/2012 2:24:17 PM
Surr: DNOP	0	77.4-131	S	%REC	10	3/12/2012 2:24:17 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	1,700	99		mg/Kg	20	3/8/2012 10:12:04 PM
Surr: BFB	290	69.7-121	S	%REC	20	3/8/2012 10:12:04 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.99		mg/Kg	20	3/8/2012 10:12:04 PM
Toluene	ND	0.99		mg/Kg	20	3/8/2012 10:12:04 PM
Ethylbenzene	1.7	0.99		mg/Kg	20	3/8/2012 10:12:04 PM
Xylenes, Total	220	2.0		mg/Kg	20	3/8/2012 10:12:04 PM
Surr: 4-Bromofluorobenzene	117	85.3-139		%REC	20	3/8/2012 10:12:04 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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Jaquez GC B#3E
Lab ID: 1203244-002 **Matrix:** SOIL

Client Sample ID: VEP #6 (BH-10) @ 40'-41.5'
Collection Date: 3/5/2012 10:51:00 AM
Received Date: 3/7/2012 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	2,100	99		mg/Kg	10	3/12/2012 2:45:36 PM
Surr: DNOP	0	77.4-131	S	%REC	10	3/12/2012 2:45:36 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	2,200	99		mg/Kg	20	3/8/2012 11:12:29 PM
Surr: BFB	309	69.7-121	S	%REC	20	3/8/2012 11:12:29 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.99		mg/Kg	20	3/8/2012 11:12:29 PM
Toluene	13	0.99		mg/Kg	20	3/8/2012 11:12:29 PM
Ethylbenzene	11	0.99		mg/Kg	20	3/8/2012 11:12:29 PM
Xylenes, Total	210	2.0		mg/Kg	20	3/8/2012 11:12:29 PM
Surr: 4-Bromofluorobenzene	124	85.3-139		%REC	20	3/8/2012 11:12:29 PM

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: Jaquez GC B#3E
Lab ID: 1203244-003 **Matrix:** SOIL

Client Sample ID: VEP #2 (BH-11) @ 40'-41.5'
Collection Date: 3/5/2012 1:57:00 PM
Received Date: 3/7/2012 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	880	99		mg/Kg	10	3/12/2012 3:28:23 PM
Surr: DNOP	0	77.4-131	S	%REC	10	3/12/2012 3:28:23 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	39	24		mg/Kg	5	3/9/2012 7:07:17 PM
Surr: BFB	199	69.7-121	S	%REC	5	3/9/2012 7:07:17 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.24		mg/Kg	5	3/9/2012 7:07:17 PM
Toluene	ND	0.24		mg/Kg	5	3/9/2012 7:07:17 PM
Ethylbenzene	ND	0.24		mg/Kg	5	3/9/2012 7:07:17 PM
Xylenes, Total	0.65	0.48		mg/Kg	5	3/9/2012 7:07:17 PM
Surr: 4-Bromofluorobenzene	103	85.3-139		%REC	5	3/9/2012 7:07:17 PM

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1203244**

14-Mar-12

Client: Blagg Engineering
Project: Jaquez GC B#3E

Sample ID **MB-1024**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **1024**	RunNo: **1395**
Prep Date: **3/9/2012**	Analysis Date: **3/12/2012**	SeqNo: **39228** 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		87.4	77.4	131			

Sample ID **LCS-1024**	SampType: **LCS**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **1024**	RunNo: **1395**
Prep Date: **3/9/2012**	Analysis Date: **3/12/2012**	SeqNo: **39318** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	81.4	62.7	139			
Surr: DNOP	4.3		5.000		86.3	77.4	131			

Sample ID **MB-1039**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **1039**	RunNo: **1395**
Prep Date: **3/12/2012**	Analysis Date: **3/12/2012**	SeqNo: **39319** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.5		10.00		84.5	77.4	131			

Sample ID **LCS-1039**	SampType: **LCS**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **1039**	RunNo: **1395**
Prep Date: **3/12/2012**	Analysis Date: **3/12/2012**	SeqNo: **39351** Units: **%REC**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		88.4	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#: **1203244**

14-Mar-12

Client: Blagg Engineering
Project: Jaquez GC B#3E

Sample ID **MB-990**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBS**	Batch ID: **990**	RunNo: **1348**
Prep Date: **3/7/2012**	Analysis Date: **3/8/2012**	SeqNo: **38690** 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	980		1,000		98.2	69.7	121			

Sample ID **LCS-990**	SampType: **LCS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **LCSS**	Batch ID: **990**	RunNo: **1348**
Prep Date: **3/7/2012**	Analysis Date: **3/8/2012**	SeqNo: **38694** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	32	5.0	25.00	0	126	98.5	133			
Surr: BFB	1,100		1,000		106	69.7	121			

Sample ID **1203239-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **BatchQC**	Batch ID: **990**	RunNo: **1348**
Prep Date: **3/7/2012**	Analysis Date: **3/8/2012**	SeqNo: **38695** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	43	4.8	23.85	7.869	145	85.4	147			
Surr: BFB	1,600		954.2		170	69.7	121			S

Sample ID **1203239-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **BatchQC**	Batch ID: **990**	RunNo: **1348**
Prep Date: **3/7/2012**	Analysis Date: **3/8/2012**	SeqNo: **38696** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	45	4.7	23.26	7.869	160	85.4	147	5.78	19.2	S
Surr: BFB	1,700		930.2		187	69.7	121	0	0	S

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#: **1203244**

14-Mar-12

Client: Blagg Engineering

Project: Jaquez GC B#3E

Sample ID **MB-990**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **990**	RunNo: **1348**
Prep Date: **3/7/2012**	Analysis Date: **3/8/2012**	SeqNo: **38712** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	85.3	139			

Sample ID **LCS-990**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **990**	RunNo: **1348**
Prep Date: **3/7/2012**	Analysis Date: **3/8/2012**	SeqNo: **38717** 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	102	83.3	107			
Toluene	1.0	0.050	1.000	0	99.9	74.3	115			
Ethylbenzene	1.1	0.050	1.000	0	105	80.9	122			
Xylenes, Total	3.3	0.10	3.000	0	109	85.2	123			
Surr: 4-Bromofluorobenzene	1.0		1.000		101	85.3	139			

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

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: 1203244

Received by/date: MG 03/07/12

Logged By: **Ashley Gallegos** 3/7/2012 9:30:00 AM

Completed By: **Ashley Gallegos** 3/7/2012 11:37:32 AM

Reviewed By: 03/07/12

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? FedEx

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: JAQUEZ GC B # 3E

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. 1203244	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	
2/29/12	1115	SOIL	VEP #8 (BH-8) @ 40'-41.5'	4 oz. - 1	Cool	-001	√		√											√		
3/5/12	1051	SOIL	VEP #6 (BH-10) @ 40'-41.5'	4 oz. - 1	Cool	-002	√		√											√		
3/5/12	1357	SOIL	VEP #2 (BH-11) @ 40'-41.5'	4 oz. - 1	Cool	-003	√		√											√		

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/6/12	1155			3/6/12	1155
Date:	Time:	Relinquished by:	Received by:	Date	Time
3/6/12	1621			03/07/12	0930

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

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

Work Order: N1511147 Paykey: ZPEACJDENV

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

March 19, 2012

Nelson Velez

Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-3487
FAX (505) 632-3903

RE: Jaquez GC B#3E OrderNo.: 1203411

Dear Nelson Velez:

Hall Environmental Analysis Laboratory received 2 sample(s) on 3/10/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1203411**
Date Reported: **3/19/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Jaquez GC B#3E
Lab ID: 1203411-001 **Matrix:** SOIL

Client Sample ID: VEP #4 (BH-12) @ 40'-41.5'
Collection Date: 3/6/2012 12:12:00 PM
Received Date: 3/10/2012 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	2,800	97		mg/Kg	10	3/15/2012 11:44:19 AM
Surr: DNOP	0	77.4-131	S	%REC	10	3/15/2012 11:44:19 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	1,800	240		mg/Kg	50	3/15/2012 1:34:05 PM
Surr: BFB	319	69.7-121	S	%REC	50	3/15/2012 1:34:05 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	2.4		mg/Kg	50	3/15/2012 1:34:05 PM
Toluene	ND	2.4		mg/Kg	50	3/15/2012 1:34:05 PM
Ethylbenzene	ND	2.4		mg/Kg	50	3/15/2012 1:34:05 PM
Xylenes, Total	160	4.9		mg/Kg	50	3/15/2012 1:34:05 PM
Surr: 4-Bromofluorobenzene	111	85.3-139		%REC	50	3/15/2012 1:34:05 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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Jaquez GC B#3E
Lab ID: 1203411-002 **Matrix:** SOIL

Client Sample ID: VEP #1 (BH-13) @ 40'-41.5'
Collection Date: 3/6/2012 2:15:00 PM
Received Date: 3/10/2012 10:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	17	10		mg/Kg	1	3/15/2012 8:31:38 AM
Surr: DNOP	89.6	77.4-131		%REC	1	3/15/2012 8:31:38 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/15/2012 2:02:51 PM
Surr: BFB	132	69.7-121	S	%REC	1	3/15/2012 2:02:51 PM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.048		mg/Kg	1	3/15/2012 2:02:51 PM
Toluene	ND	0.048		mg/Kg	1	3/15/2012 2:02:51 PM
Ethylbenzene	ND	0.048		mg/Kg	1	3/15/2012 2:02:51 PM
Xylenes, Total	ND	0.096		mg/Kg	1	3/15/2012 2:02:51 PM
Surr: 4-Bromofluorobenzene	99.1	85.3-139		%REC	1	3/15/2012 2:02:51 PM

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1203411**

19-Mar-12

Client: Blagg Engineering

Project: Jaquez GC B#3E

Sample ID **MB-1079**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **1079**	RunNo: **1473**
Prep Date: **3/14/2012**	Analysis Date: **3/15/2012**	SeqNo: **41291** 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	8.6		10.00		85.5	77.4	131			

Sample ID **LCS-1079**	SampType: **LCS**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **1079**	RunNo: **1473**
Prep Date: **3/14/2012**	Analysis Date: **3/15/2012**	SeqNo: **41292** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.1	62.7	139			
Surr: DNOP	4.2		5.000		84.5	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#: **1203411**

19-Mar-12

Client: Blagg Engineering

Project: Jaquez GC B#3E

Sample ID **MB-1070**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBS**	Batch ID: **1070**	RunNo: **1478**
Prep Date: **3/13/2012**	Analysis Date: **3/14/2012**	SeqNo: **41520** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1,000		90.0	69.7	121			

Sample ID **LCS-1070**	SampType: **LCS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **LCSS**	Batch ID: **1070**	RunNo: **1478**
Prep Date: **3/13/2012**	Analysis Date: **3/14/2012**	SeqNo: **41521** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	112	98.5	133			
Surr: BFB	980		1,000		98.0	69.7	121			

Sample ID **1203406-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **BatchQC**	Batch ID: **1070**	RunNo: **1478**
Prep Date: **3/13/2012**	Analysis Date: **3/14/2012**	SeqNo: **41525** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	24	119.8	0	25.7	85.4	147			S
Surr: BFB	4,400		4,794		92.2	69.7	121			

Sample ID **1203406-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **BatchQC**	Batch ID: **1070**	RunNo: **1478**
Prep Date: **3/13/2012**	Analysis Date: **3/14/2012**	SeqNo: **41526** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	35	24	122.2	0	28.5	85.4	147	12.4	19.2	S
Surr: BFB	4,600		4,888		93.3	69.7	121	0	0	

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#: **1203411**

19-Mar-12

Client: Blagg Engineering

Project: Jaquez GC B#3E

Sample ID **MB-1070**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **1070**	RunNo: **1478**
Prep Date: **3/13/2012**	Analysis Date: **3/14/2012**	SeqNo: **41531** 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	0.97		1.000		97.1	85.3	139			

Sample ID **LCS-1070**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **1070**	RunNo: **1478**
Prep Date: **3/13/2012**	Analysis Date: **3/14/2012**	SeqNo: **41532** 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	95.7	83.3	107			
Toluene	1.0	0.050	1.000	0	99.7	74.3	115			
Ethylbenzene	1.0	0.050	1.000	0	100	80.9	122			
Xylenes, Total	3.0	0.10	3.000	0	100	85.2	123			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.9	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: 1203411

Received by/date: AG 03/10/12

Logged By: **Ashley Gallegos** 3/10/2012 10:40:00 AM AG

Completed By: **Ashley Gallegos** 3/13/2012 8:49:34 AM AG

Reviewed By: IO 03/13/12

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	3.2	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: JAQUEZ GC B # 3E

Project #:

Project Manager: NELSON VELEZ

Sampler: NELSON VELEZ

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.2

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. 1203411	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
3/6/12	1212	SOIL	VEP #4 (BH-12) @ 40'-41.5'	4 oz. - 1	Cool	-001	√		√											√	
3/6/12	1415	SOIL	VEP #1 (BH-13) @ 40'-41.5'	4 oz. - 1	Cool	-002	√		√											√	

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/9/12	1230		Christine Walters	3/9/12	1230
3/9/12	1647	Christine Walters		3/10/12	10:40

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

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

Work Order: N1511147 Paykey: ZPEACJDENV

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

March 02, 2012

Jeff Blagg
Blagg Engineering
P. O. Box 87
Bloomfield, NM 87413
TEL: (505) 320-1183
FAX (505) 632-3903

RE: Jaquez GC B #3E OrderNo.: 1202892

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 3 sample(s) on 2/28/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1202892**
Date Reported: **3/2/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Jaquez GC B #3E
Lab ID: 1202892-001 **Matrix:** SOIL

Client Sample ID: BH-6 (MW#4) @ 40'-41.5'
Collection Date: 2/24/2012 2:05:00 PM
Received Date: 2/28/2012 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	770	9.8		mg/Kg	1	2/29/2012 9:54:01 AM
Surr: DNOP	90.1	77.4-131		%REC	1	2/29/2012 9:54:01 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	180	93		mg/Kg	20	3/2/2012 2:53:36 AM
Surr: BFB	141	69.7-121	S	%REC	20	3/2/2012 2:53:36 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.93		mg/Kg	20	3/2/2012 2:53:36 AM
Toluene	ND	0.93		mg/Kg	20	3/2/2012 2:53:36 AM
Ethylbenzene	ND	0.93		mg/Kg	20	3/2/2012 2:53:36 AM
Xylenes, Total	4.0	1.9		mg/Kg	20	3/2/2012 2:53:36 AM
Surr: 4-Bromofluorobenzene	113	85.3-139		%REC	20	3/2/2012 2:53:36 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		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Blagg Engineering
Project: Jaquez GC B #3E
Lab ID: 1202892-002 **Matrix:** SOIL

Client Sample ID: BH-6 (MW#4) @ 45'-46.5'
Collection Date: 2/24/2012 2:23:00 PM
Received Date: 2/28/2012 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	10	10		mg/Kg	1	2/29/2012 10:15:47 AM
Surr: DNOP	89.6	77.4-131		%REC	1	2/29/2012 10:15:47 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/2/2012 12:22:36 AM
Surr: BFB	139	69.7-121	S	%REC	1	3/2/2012 12:22:36 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.046		mg/Kg	1	3/2/2012 12:22:36 AM
Toluene	ND	0.046		mg/Kg	1	3/2/2012 12:22:36 AM
Ethylbenzene	ND	0.046		mg/Kg	1	3/2/2012 12:22:36 AM
Xylenes, Total	0.096	0.092		mg/Kg	1	3/2/2012 12:22:36 AM
Surr: 4-Bromofluorobenzene	115	85.3-139		%REC	1	3/2/2012 12:22:36 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: Jaquez GC B #3E
Lab ID: 1202892-003 **Matrix:** SOIL

Client Sample ID: BH-6 (MW#4) @ 50'-50.5
Collection Date: 2/24/2012 2:38:00 PM
Received Date: 2/28/2012 10:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE ORGANICS						Analyst: **JMP**
Diesel Range Organics (DRO)	14	9.7		mg/Kg	1	2/29/2012 10:37:33 AM
Surr: DNOP	89.4	77.4-131		%REC	1	2/29/2012 10:37:33 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	32	4.9		mg/Kg	1	3/2/2012 12:52:57 AM
Surr: BFB	146	69.7-121	S	%REC	1	3/2/2012 12:52:57 AM
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	0.049		mg/Kg	1	3/2/2012 12:52:57 AM
Toluene	0.41	0.049		mg/Kg	1	3/2/2012 12:52:57 AM
Ethylbenzene	0.11	0.049		mg/Kg	1	3/2/2012 12:52:57 AM
Xylenes, Total	2.7	0.097		mg/Kg	1	3/2/2012 12:52:57 AM
Surr: 4-Bromofluorobenzene	116	85.3-139		%REC	1	3/2/2012 12:52:57 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1202892**

02-Mar-12

Client: Blagg Engineering

Project: Jaquez GC B #3E

Sample ID **MB-872**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **872**	RunNo: **1169**
Prep Date: **2/28/2012**	Analysis Date: **2/29/2012**	SeqNo: **33257** 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		86.7	77.4	131			

Sample ID **LCS-872**	SampType: **LCS**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **872**	RunNo: **1169**
Prep Date: **2/28/2012**	Analysis Date: **2/29/2012**	SeqNo: **33258** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.2	62.7	139			
Surr: DNOP	4.4		5.000		87.7	77.4	131			

Sample ID **1202884-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **BatchQC**	Batch ID: **872**	RunNo: **1169**
Prep Date: **2/28/2012**	Analysis Date: **2/29/2012**	SeqNo: **33752** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	93	9.7	48.31	43.82	101	57.2	146			
Surr: DNOP	4.4		4.831		91.4	77.4	131			

Sample ID **1202884-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015B: Diesel Range Organics**
Client ID: **BatchQC**	Batch ID: **872**	RunNo: **1169**
Prep Date: **2/28/2012**	Analysis Date: **2/29/2012**	SeqNo: **33757** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	96	10	51.87	43.82	100	57.2	146	3.23	26.7	
Surr: DNOP	4.7		5.187		91.3	77.4	131	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1202892**

02-Mar-12

Client: Blagg Engineering

Project: Jaquez GC B #3E

Sample ID **MB-871**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBS**	Batch ID: **871**	RunNo: **1184**
Prep Date: **2/28/2012**	Analysis Date: **2/29/2012**	SeqNo: **34142** 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	1,100		1,000		110	69.7	121			

Sample ID **LCS-871**	SampType: **LCS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **LCSS**	Batch ID: **871**	RunNo: **1184**
Prep Date: **2/28/2012**	Analysis Date: **2/29/2012**	SeqNo: **34147** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	5.0	25.00	0	120	98.5	133			
Surr: BFB	1,200		1,000		119	69.7	121			

Sample ID **1202884-001AMS**	SampType: **MS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **BatchQC**	Batch ID: **871**	RunNo: **1184**
Prep Date: **2/28/2012**	Analysis Date: **2/29/2012**	SeqNo: **34148** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.7	23.26	1.342	119	85.4	147			
Surr: BFB	1,100		930.2		119	69.7	121			

Sample ID **1202884-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **BatchQC**	Batch ID: **871**	RunNo: **1184**
Prep Date: **2/28/2012**	Analysis Date: **2/29/2012**	SeqNo: **34150** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	4.8	23.76	1.342	123	85.4	147	4.94	19.2	
Surr: BFB	870		950.6		91.9	69.7	121	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1202892**

02-Mar-12

Client: Blagg Engineering

Project: Jaquez GC B #3E

Sample ID **MB-871**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS**	Batch ID: **871**	RunNo: **1184**
Prep Date: **2/28/2012**	Analysis Date: **2/29/2012**	SeqNo: **34176** 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	1.2		1.000		116	85.3	139			

Sample ID **LCS-871**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS**	Batch ID: **871**	RunNo: **1184**
Prep Date: **2/28/2012**	Analysis Date: **2/29/2012**	SeqNo: **34180** 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	100	83.3	107			
Toluene	0.98	0.050	1.000	0	98.2	74.3	115			
Ethylbenzene	1.0	0.050	1.000	0	104	80.9	122			
Xylenes, Total	3.2	0.10	3.000	0	107	85.2	123			
Surr: 4-Bromofluorobenzene	1.2		1.000		120	85.3	139			

Sample ID **1202885-001AMS**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **871**	RunNo: **1184**
Prep Date: **2/28/2012**	Analysis Date: **2/29/2012**	SeqNo: **34181** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.047	0.9372	0	105	67.2	113			
Toluene	0.98	0.047	0.9372	0	104	62.1	116			
Ethylbenzene	1.0	0.047	0.9372	0	111	67.9	127			
Xylenes, Total	3.2	0.094	2.812	0	113	60.6	134			
Surr: 4-Bromofluorobenzene	0.96		0.9372		103	85.3	139			

Sample ID **1202885-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **BatchQC**	Batch ID: **871**	RunNo: **1184**
Prep Date: **2/28/2012**	Analysis Date: **2/29/2012**	SeqNo: **34182** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.048	0.9643	0	104	67.2	113	1.32	14.3	
Toluene	1.0	0.048	0.9643	0	103	62.1	116	1.95	15.9	
Ethylbenzene	1.1	0.048	0.9643	0	111	67.9	127	3.27	14.4	
Xylenes, Total	3.3	0.096	2.893	0	114	60.6	134	3.54	12.6	
Surr: 4-Bromofluorobenzene	1.0		0.9643		104	85.3	139	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: 1202892

Received by/date: 2/28/12

Logged By: **Ashley Gallegos** 2/28/2012 10:20:00 AM

Completed By: **Ashley Gallegos** 2/28/2012 11:10:22 AM

Reviewed By: 2/28/12

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	4.9	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:
JAQUEZ GC B # 3E

Project #:

Project Manager:
JEFF BLAGG

Sampler: NELSON VELEZ

On Ice: ☑ Yes ☐ No

Sample Temperature: 4.9

HAL . ENVIRON . ENTAL 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. 1202892	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	
2/24/12	1405	SOIL	BH-6 (MW#4) @ 40'-41.5'	4 oz. - 1	Cool	-1	✓		✓											✓		
2/24/12	1423	SOIL	BH-6 (MW#4) @ 45'-46.5'	4 oz. - 1	Cool	2	✓		✓											✓		
2/24/12	1438	SOIL	BH-6 (MW#4) @ 50'-50.5'	4 oz. - 1	Cool	3	✓		✓											✓		

Date	Time	Relinquished by:	Received by:	Date	Time
2/27/12	0928		Christine Walters	2/27/12	0928
2/27/12	1644	Christine Walters		2/28/12	1020

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

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

Work Order: N1511147 Paykey: ZPEACJDENV

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