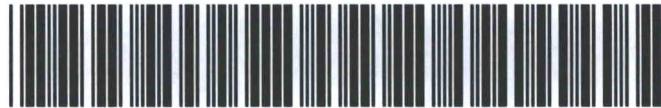




# AE Order Number Banner

## Report Description

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.



**App Number: pCS1731132655**

**3RP - 1057**

**BP AMERICA**

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

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 8, 2011

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

**Release Notification and Corrective Action**

**OPERATOR**

Initial Report  Final Report

Name of Company: BP America Production Co.	Contact: Steve Moskal
Address: 380 Airport Road, Durango, CO 81303	Telephone No.: 505-330-9179
Facility Name: Sandoval Gas Com A 001A	Facility Type: Natural Gas Well

Surface Owner: Federal	Mineral Owner: Federal	API No. 300422294
------------------------	------------------------	-------------------

**LOCATION OF RELEASE**

Unit Letter C	Section 35	Township 30N	Range 09W	Feet from the 1,150	North/South Line North	Feet from the 1,590	East/West Line West	County: San Juan
------------------	---------------	-----------------	--------------	------------------------	---------------------------	------------------------	------------------------	------------------

Latitude 36.77166° Longitude -107.75353°

**NATURE OF RELEASE**

Type of Release: produced water, oil	Volume of Release: unknown	Volume Recovered: unknown
Source of Release: Compressor pit - historical	Date and Hour of Occurrence: unknown	Date and Hour of Discovery: 10/28/2003
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

OIL CONS. DIV DIST. 3

JAN 31 2018

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action. \* A historical compressor discharge pit was noted in a 2003 pit closure. The pit was sampled with results above the pit closure standards as well as the spill and release guidelines. BP installed one soil boring with refusal at ~17' bgs. with a soil sample collected at that depth. This sample too was above the site closure standards. Groundwater is estimated to be 30-35' bgs. BP excavated approximately 50 cubic yards of soil in 2006 and treated with onsite composting and advanced one boring.

Describe Area Affected and Cleanup Action Taken. \* BP has installed a total of 4 groundwater monitoring wells; MW-1-dry; MW-2- LNAPL; MW-3-dry; MW-4-dry. Due to either dry wells or free product, there is no groundwater quality data available. The former third-party gathering company has identified groundwater impacts as well. Attached is the soil boring data from the monitoring well installations.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

**OIL CONSERVATION DIVISION**

Signature: <i>Steve Moskal</i>	Approved by Environmental Specialist: <i>[Signature]</i>	
Printed Name: Steve Moskal	Approval Date: 2/6/18	Expiration Date:
Title: Field Environmental Coordinator	Conditions of Approval: <i>Additional Remediation</i>	
E-mail Address: steven.moskal@bp.com	Attached <input type="checkbox"/>	
Date: January 30, 2018	Phone: 505-326-9497	

\* Attach Additional Sheets If Necessary

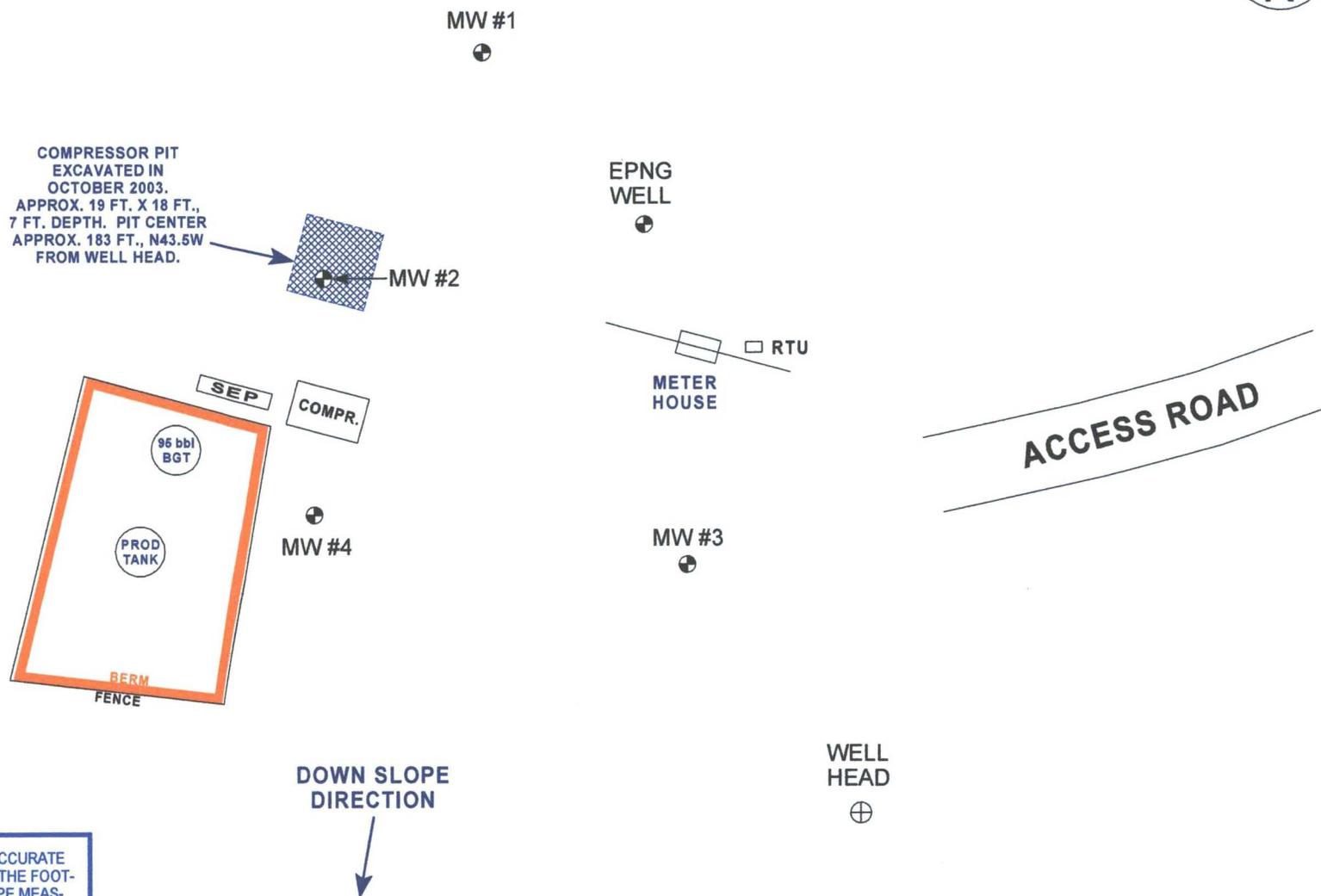
#NCS 180 374 2861

Will Be Required.

3RP-1057

22

# FIGURE 1



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.

0 40 80 FT.

BP AMERICA PRODUCTION CO.  
SANDOVAL GC A # 1A  
NE/4 NW/4 SEC. 35, T30N, 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: MW INSTALLATIONS  
DRAWN BY: NJV  
FILENAME: SANDOVAL GC A 1A-SM3.SKF  
REVISED: 12-08-11

**SITE  
MAP**  
11/11

# BLAGG ENGINEERING, Inc.

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

## BORE / TEST HOLE REPORT

BORING #..... BH1  
 MW #..... NA  
 PAGE #..... 1  
 DATE STARTED 09/20/06  
 DATE FINISHED 09/20/06  
 OPERATOR..... DP  
 PREPARED BY NJV

CLIENT: **BP AMERICA PRODUCTION CO.**  
 LOCATION NAME: SANDOVAL GC A #1A COMPRESSOR PIT UNIT C, SEC. 35, T30N, R9W  
 CONTRACTOR: **BLAGG ENGINEERING, INC. / ENVIROTECH, INC.**  
 EQUIPMENT USED: **MOBILE DRILL RIG (CME 75)**  
 BORING LOCATION: 180 FEET, N40W FROM WELL HEAD.

DEPTH (FT.)	INTERVAL	LITHOLOGY INTERVAL	OVM READING (ppm)	FIELD CLASSIFICATION AND REMARKS
				— GROUND SURFACE
2				DARK YELLOWISH ORANGE TO DARK YELLOWISH BROWN SAND (FILL MATERIAL), NON COHESIVE, SLIGHTLY MOIST, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 7.0 FT. BELOW GRADE).
4				
6				
8				DARK YELLOWISH BROWN / MEDIUM GRAY SAND INTERMIXED, NON COHESIVE, SLIGHTLY MOIST, FIRM, STRONG APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (7.0 - 12.0 FT. BELOW GRADE).
10				
12				MEDIUM GRAY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, STRONG APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (12.0 - 17.0 FT. BELOW GRADE).
14				
16			1,491	
18				BH1 @ 15-17 FT. TIME: 1218 BLOW COUNT = 50 PER 20 INCHES COLLECTED WITH SPLIT SPOON SAMPLER. TPH = 10,000 ppm, BENZENE = 19 ppm, TOTAL BTEX = 1,183 ppm, CHLORIDE = 5.5 ppm. AUGER REFUSAL - COBBLES ENCOUNTERED AT 17 FEET BELOW GRADE.
20				<p>NOTES: <span style="display: inline-block; width: 15px; height: 10px; background-color: #f0e68c; border: 1px solid black;"></span> - SAND.</p> <p><b>OVM</b> - Organic Vapor Meter or Photo-ionization Detector (PID).  <b>TPH</b> - Total Petroleum Hydrocarbons EPA Method 8015B.  <b>BTEX</b> - benzene, toluene, ethylbenzene, total xylenes EPA Method 8021B.  <b>ppm</b> - Parts per million (unit value).</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">                     OVM CALIBRATION = 51.3 ppm                      with 100 ppm Isobutylene gas &amp;                      response factor set @ 0.52 ;                      DATE - 09/19/06, TIME - 1535.                 </div>
22				
24				
26				
28				
30				
32				
34				
36				
38				
40				

# BLAGG ENGINEERING, INC.

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

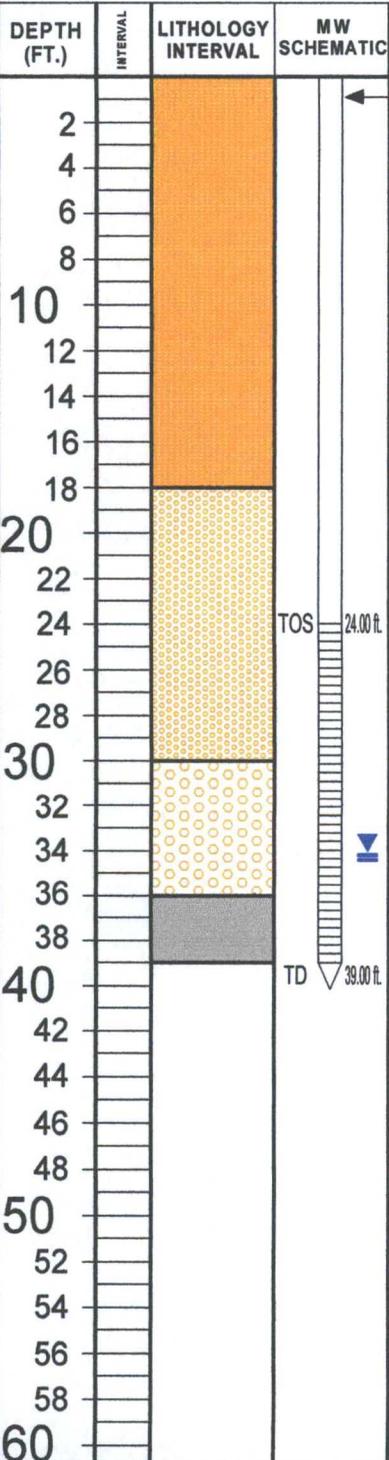
## MW # 1

# BORE / TEST HOLE REPORT

BORING #..... BH - 3  
MW #..... 1  
PAGE #..... 2  
DATE STARTED 12/01/11  
DATE FINISHED 12/02/11  
OPERATOR..... KP  
LOGGED BY..... JCB

CLIENT: BP AMERICA PRODUCTION CO.  
LOCATION NAME: SANDOVAL GC A # 1A COMPRESSOR PIT UNIT C, SEC. 35, T30N, R9W  
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.  
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM  
BORING LOCATION: 205 FEET, N26W FROM WELL HEAD.

## FIELD CLASSIFICATION AND REMARKS



GROUND SURFACE

TOP OF CASING APPROX. 2.75 FT. ABOVE GRADE.

DARK YELLOWISH BROWN SILTY SAND, NON COHESIVE, DRY TO MOIST, FIRM, THIN LAYERS OF ROUNDED PEBBLES TO 5.0 FEET BELOW GRADE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 18.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT WITH GRAVEL (18.0 - 30.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT WITH COBBLE TO BOULDER SIZE GRAVEL (30.0 - 36.0 FT. BELOW GRADE).

**GROUNDWATER ~ 33.97 ft. BELOW GRADE ; MEASURED 12/09/11.**

BLUE/VERY LIGHT GRAY SILTSTONE TO CLAYSTONE, NON COHESIVE, DRY, DENSE TO VERY DENSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (36.0 - 39.0 FT. BELOW GRADE).

**Monitor well dry to TD (5,677.94' elevation) (40.4' below casing top), measured on 11/09/2017**

- NOTES:
- SILTY SAND.
  - SILTY SAND & GRAVEL.
  - SILTSTONE / CLAYSTONE.
  - TOS - Top of screen of monitor well.
  - TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 1.00 ft. above grade to 24.00 ft. below grade, 0.020 slotted screen between 24.00 to 39.00 ft. below grade, sand packed annular to 22.0 ft. below grade, bentonite grout between 20.0 to 22.0 ft. below grade. Steel protector encompassing above grade casing and secured with padlock.

# BLAGG ENGINEERING, INC.

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

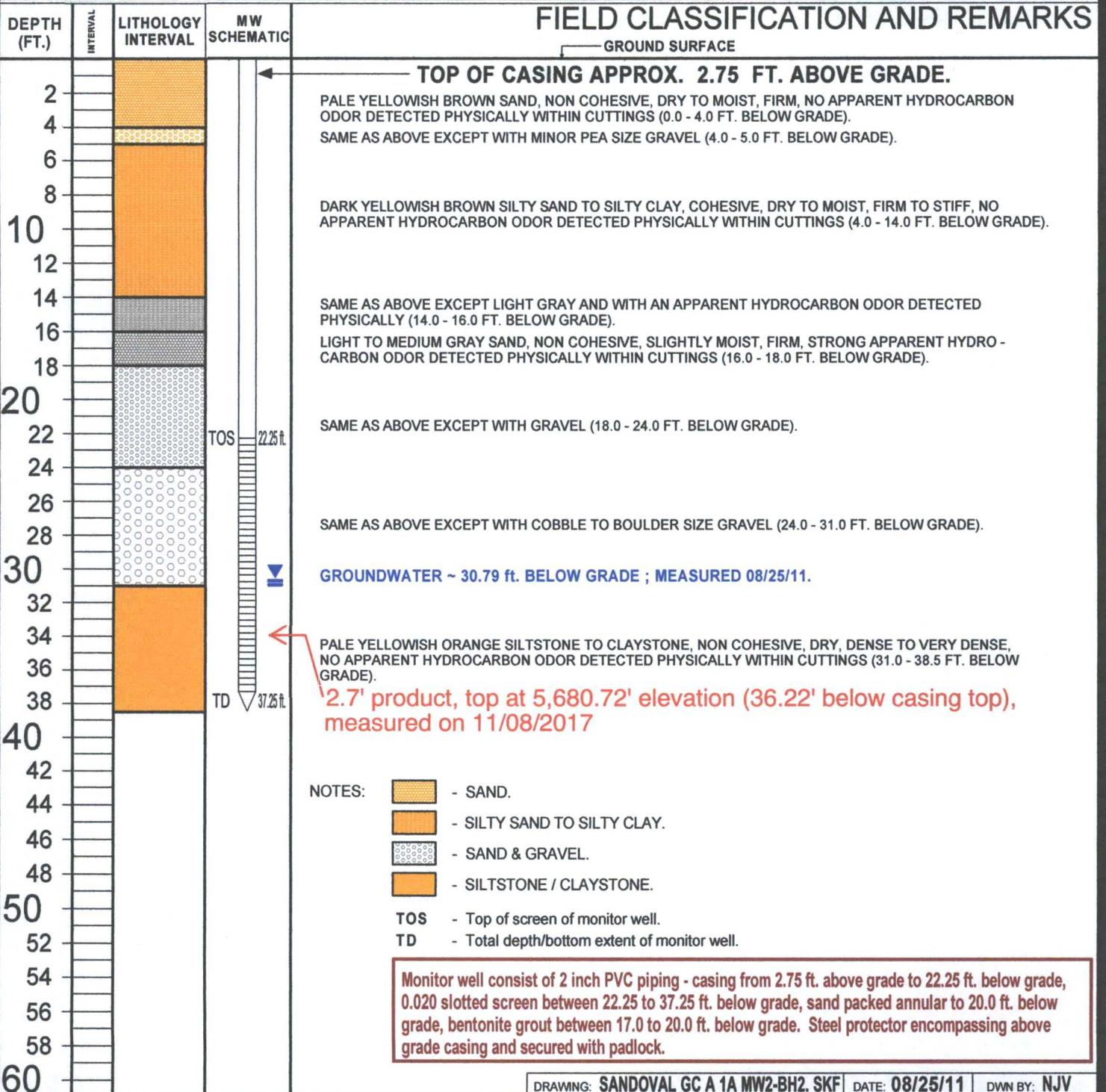
## MW # 2

## BORE / TEST HOLE REPORT

BORING #..... BH - 2  
MW #..... 2  
PAGE #..... 3  
DATE STARTED 08/11/11  
DATE FINISHED 08/22/11  
OPERATOR..... KP  
LOGGED BY..... NJV/JCB

CLIENT: BP AMERICA PRODUCTION CO.  
LOCATION NAME: SANDOVAL GC A # 1A COMPRESSOR PIT UNIT C, SEC. 35, T30N, R9W  
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.  
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM  
BORING LOCATION: 182.7 FEET, N45W FROM WELL HEAD.

### FIELD CLASSIFICATION AND REMARKS



- NOTES:
- SAND.
  - SILTY SAND TO SILTY CLAY.
  - SAND & GRAVEL.
  - SILTSTONE / CLAYSTONE.
  - TOS** - Top of screen of monitor well.
  - TD** - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.75 ft. above grade to 22.25 ft. below grade, 0.020 slotted screen between 22.25 to 37.25 ft. below grade, sand packed annular to 20.0 ft. below grade, bentonite grout between 17.0 to 20.0 ft. below grade. Steel protector encompassing above grade casing and secured with padlock.

# BLAGG ENGINEERING, INC.

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

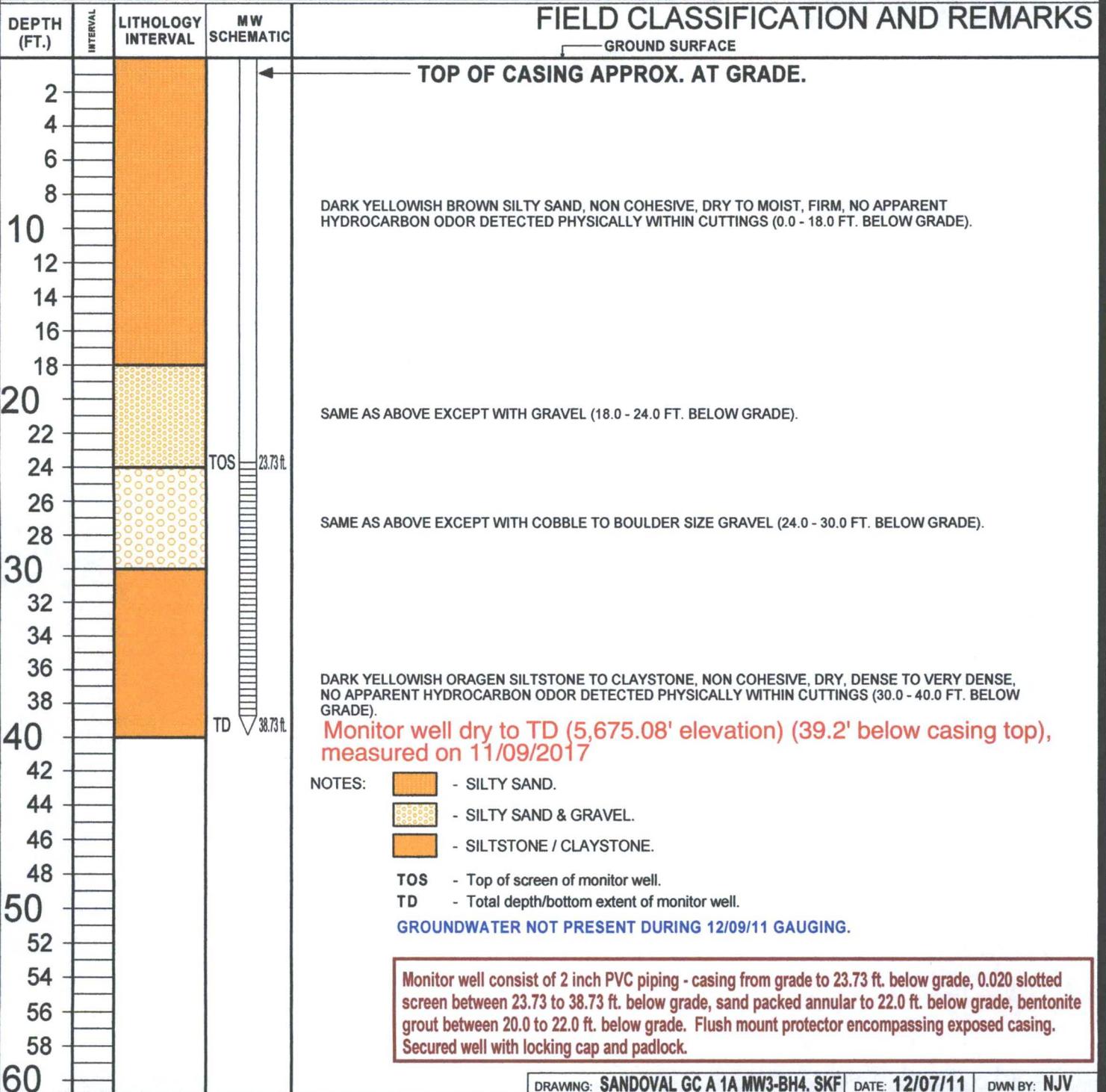
## MW # 3

# BORE / TEST HOLE REPORT

BORING #..... BH - 4  
MW #..... 3  
PAGE #..... 4  
DATE STARTED 12/05/11  
DATE FINISHED 12/05/11  
OPERATOR..... KP  
LOGGED BY..... JCB

CLIENT: BP AMERICA PRODUCTION CO.  
LOCATION NAME: SANDOVAL GC A #1A COMPRESSOR PIT UNIT C, SEC. 35, T30N, R9W  
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.  
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM  
BORING LOCATION: 73 FEET, N34.5W FROM WELL HEAD.

## FIELD CLASSIFICATION AND REMARKS



- NOTES:
- SILTY SAND.
  - SILTY SAND & GRAVEL.
  - SILTSTONE / CLAYSTONE.

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

GROUNDWATER NOT PRESENT DURING 12/09/11 GAUGING.

Monitor well consist of 2 inch PVC piping - casing from grade to 23.73 ft. below grade, 0.020 slotted screen between 23.73 to 38.73 ft. below grade, sand packed annular to 22.0 ft. below grade, bentonite grout between 20.0 to 22.0 ft. below grade. Flush mount protector encompassing exposed casing. Secured well with locking cap and padlock.

# BLAGG ENGINEERING, INC.

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

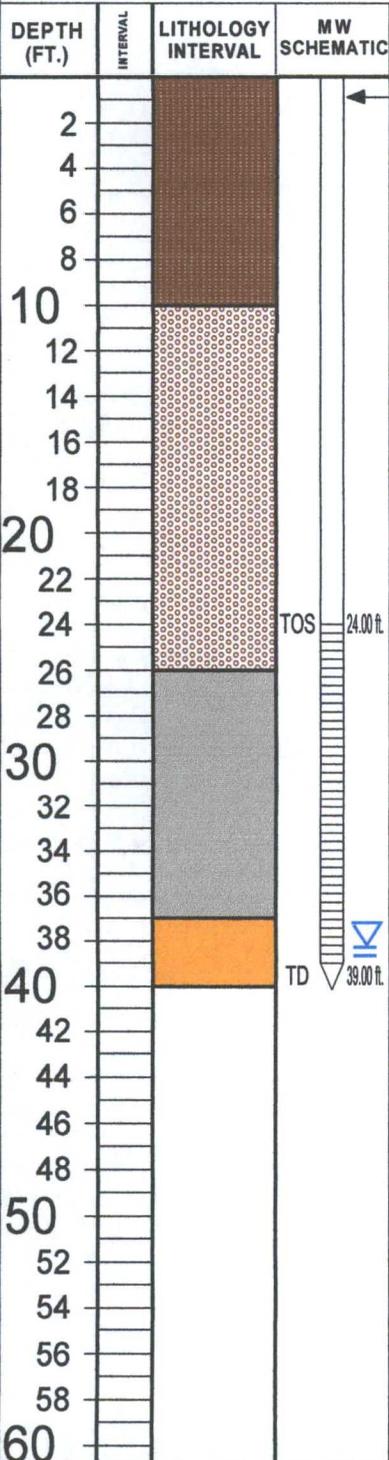
## MW # 4

## BORE / TEST HOLE REPORT

CLIENT: BP AMERICA PRODUCTION CO.  
 LOCATION NAME: SANDOVAL GC A #1A COMPRESSOR PIT UNIT C, SEC. 35, T30N, R9W  
 CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.  
 EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM  
 BORING LOCATION: 150 FEET, N61W FROM WELL HEAD.

BORING #..... BH - 5  
 MW #..... 4  
 PAGE #..... 5  
 DATE STARTED 12/06/11  
 DATE FINISHED 12/06/11  
 OPERATOR..... KP  
 LOGGED BY..... NJV

### FIELD CLASSIFICATION AND REMARKS



GROUND SURFACE

← TOP OF CASING APPROX. 0.25 FT. BELOW GRADE.

MODERATE YELLOWISH BROWN SILTY SAND, NON COHESIVE, DRY TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 10.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT WITH GRAVEL (10.0 - 26.0 FT. BELOW GRADE).

BLUE/VERY LIGHT GRAY SILTSTONE TO CLAYSTONE, NON COHESIVE, DRY, DENSE TO VERY DENSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (26.0 - 37.0 FT. BELOW GRADE).

GW measured at 5,676.07' elevation (38.25' below casing top), same as above except pale yellowish orange (37.0 - 40.0 FT. BELOW GRADE) measured on 11/20/2017

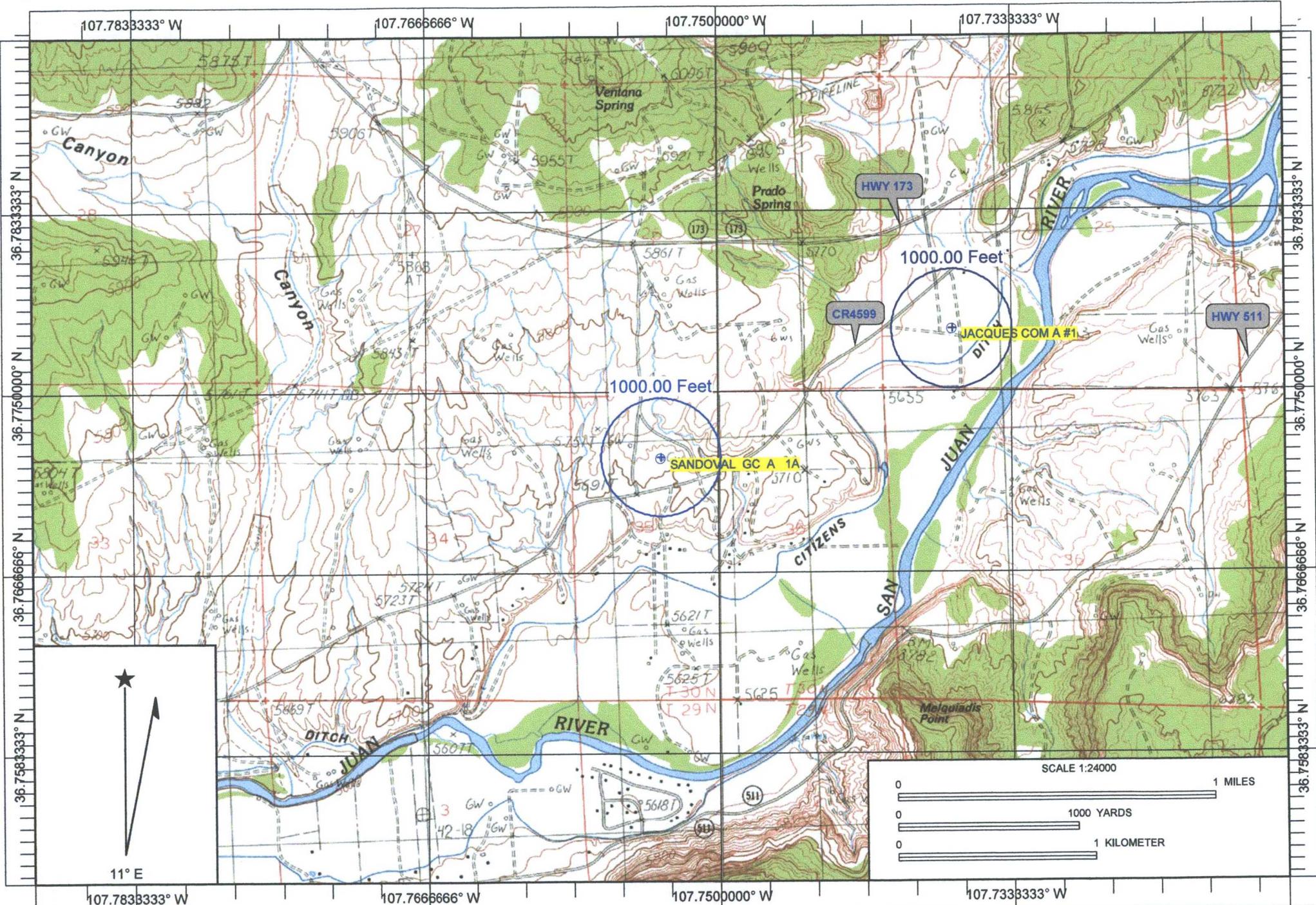
NOTES:

- SILTY SAND.
- SILTY SAND & GRAVEL.
- SILTSTONE / CLAYSTONE.

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

GROUNDWATER NOT PRESENT DURING 12/09/11 GAUGING.

Monitor well consist of 2 inch PVC piping - casing from 0.25 ft. to 24.00 ft. below grade, 0.020 slotted screen between 24.00 to 39.00 ft. below grade, sand packed annular to 22.0 ft. below grade, bentonite grout between 20.0 to 22.0 ft. below grade. Flush mount protector encompassing exposed casing. Secured well with locking cap and padlock.



Name: TURLEY  
 Date: 12/6/2007  
 Scale: 1 inch equals 2000 feet

Location: 036.7719316° N 107.7533950° W  
 Caption: Sandoval GC A #1A  
 Unit C, Sec. 35, T30N, R9W

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

State of New Mexico  
Energy Minerals and Natural Resources

Form C-144  
June 1, 2004

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

For drilling and production facilities, submit to appropriate NMOCD District Office.  
For downstream facilities, submit to Santa Fe office

**Pit or Below-Grade Tank Registration or Closure**

Is pit or below-grade tank covered by a "general plan"? Yes  No   
Type of action: Registration of a pit or below-grade tank  Closure of a pit or below-grade tank

Operator: BP AMERICA PROD. CO. Telephone: (505)-326-9200 e-mail address: \_\_\_\_\_  
Address: 200 ENERGY COURT. FARMINGTON. NM 87410  
Facility or well name: SANDOVAL GC A #1A API #: 30-045- 22294 U/L or Qtr/Qtr C Sec 35 T 30N R 9W  
County: SAN JUAN Latitude 36.77166 Longitude 107.75353 NAD: 1927  1983  Surface Owner Federal  State  Private  Indian

<b>Pit</b> Type: Drilling <input type="checkbox"/> Production <input type="checkbox"/> Disposal <input checked="" type="checkbox"/> <u>COMPRESSOR</u> Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input type="checkbox"/> Unlined <input checked="" type="checkbox"/> Liner type: Synthetic <input type="checkbox"/> Thickness _____ mil Clay <input type="checkbox"/> Pit Volume _____ bbl	<b>Below-grade tank</b> Volume: _____ bbl Type of fluid: _____ Construction material: <u>N/A</u> Double-walled, with leak detection? Yes <input type="checkbox"/> If not, explain why not. _____	
	Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet (20 points) 50 feet or more, but less than 100 feet (10 points) 100 feet or more (0 points)
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes (20 points) No (0 points)	<b>0</b>
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet (20 points) 200 feet or more, but less than 1000 feet (10 points) 1000 feet or more (0 points)	<b>0</b>
<b>Ranking Score (Total Points)</b>		<b>20</b>

**If this is a pit closure:** (1) attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if you are burying in place) onsite  offsite  If offsite, name of facility \_\_\_\_\_. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No  Yes  If yes, show depth below ground surface \_\_\_\_\_ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments: PIT LOCATED APPROXIMATELY 183 FT. N40W FROM WELL HEAD.  
PIT EXCAVATION: WIDTH 15 ft., LENGTH 14 ft., DEPTH 7 ft.  
PIT REMEDIATION: CLOSE AS IS: , LANDFARM: , COMPOST: , STOCKPILE: , OTHER  (explain) ESTABLISH VERTICAL EXTENT.  
**Cubic yards:**

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines , a general permit , or an alternative OCD-approved plan .

Date: 11/11/06  
 Printed Name/Title Jeff Blagg - P.E. # 11607 Signature *Jeff Blagg*  
 Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:  
 Printed Name/Title \_\_\_\_\_ Signature \_\_\_\_\_ Date: \_\_\_\_\_

VUL

B1298

District I

P.O. Box 1988, Hobbs, NM

District II

District III

District IV

1988 Elb Basin Rd., Amos, NM

State of New Mexico  
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION  
P.O. BOX 2088  
SANTA FE, NEW MEXICO 87504-2088

SUBMIT 1 COPY TO  
APPROPRIATE  
DISTRICT OFFICE  
AND 1 COPY TO  
SANTA FE OFFICE

**PIT REMEDIATION AND CLOSURE REPORT**

Operator: BP AMERICA PRODUCTION CO. Telephone: (505) 326-9200

Address: 200 ENERGY COURT, FARMINGTON, NM 87401

Facility or Well Name: Sandoval GC A #1A

Location: Unit or Qtr/Qtr Sec C Sec 35 T 30N R 9W County San Juan

Pit Type: Separator  Dehydrator  Other Compressor

Land Type: BLM  State  Fee  Other

Pit Location: (Attach diagram) Pit dimensions: length NA, width NA, depth NA

Reference: wellhead  other

Footage from reference: 183'

Direction from reference: 40 Degrees  East  North  West  South

Depth To Groundwater: (Vertical distance from contaminants to seasonal high water elevation of groundwater)

Less than 50 feet	(20 points)	<u>10 Kag</u>
50 feet to 99 feet	(10 points)	
Greater than 100 feet	(0 points)	

Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1000 feet from all other water sources)

Yes	(20 points)	<u>0</u>
No	(0 points)	

Distance To Surface Water: (Horizontal distance to perennial lakca, ponds, rivers, streams, creeks, irrigation canals and ditches)

Less than 100 feet	(20 points)	<u>0</u>
100 feet to 1000 feet	(10 points)	
Greater than 1000 feet	(0 points)	

RANKING SCORE (TOTAL POINTS): 10 Kag

Date Remediation Started: \_\_\_\_\_ Date Completed: 11-3-03

Remediation Method: Excavation  bag Approx. cubic yards bag NA 50  
(Check all appropriate sections) Landfarmed \_\_\_\_\_ Insitu Bioremediation \_\_\_\_\_  
Other CLOSE ASTS!

Remediation Location: Onsite  Offsite \_\_\_\_\_  
(i.e. landfarmed onsite, name and location of offsite facility)

General Description of Remedial Action: Excavation. Test hole advanced. No remediation necessary.  
Investigate Vertical extent

Groundwater Encountered: No  Yes \_\_\_\_\_ Depth \_\_\_\_\_

Final Pit Closure Sampling: Sample location see Attached Documents  
(if multiple samples, attach sample results and diagram of sample locations and depths)

Sample depth 10' (Test hole bottom)

Sample date 11/3/03 Sample time 1146

Sample Results

Soil: Benzene	(ppm)	<u>1.1</u>	Water: Benzene	(ppb)	_____
Total BTEX	(ppm)	<u>83.2</u>	Toluene	(ppb)	_____
Field Headspace	(ppm)	<u>654</u>	Ethylbenzene	(ppb)	_____
TPH	(ppm)	<u>3040</u>	Total Xylenes	(ppb)	_____

Groundwater Sample: Yes \_\_\_\_\_ No  (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 11-3-03 PRINTED NAME Jeffrey C. Blagg

SIGNATURE Jeffrey C. Blagg AND TITLE President P.E. # 11607

VUL

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

LOCATION NO: 81298  
 COCR NO: HALL

**FIELD REPORT: PIT CLOSURE VERIFICATION** PAGE No: 1 of 1

LOCATION: NAME: SANDOVAL GC A WELL#: 1A TYPE: COMPR.  
 QUAD/UNIT: C SEC: 35 TWP: 30N RING: 9W PM: NM CNTY: SJ ST: NM  
 QTR/FOOTAGE: 1150'N/1590'W NELNW CONTRACTOR: FLINT (LARRY)

DATE STARTED: 10/28/03  
 DATE FINISHED: \_\_\_\_\_  
 ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. 15 FT. x 14 FT. x 7 FT. DEEP. CUBIC YARDAGE: 50  
 DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: LANDFARM  
 LAND USE: RANGE - 8um LEASE: NM 073292 FORMATION: MV

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 183 FT. N40W FROM WELLHEAD.  
 DEPTH TO GROUNDWATER: <100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'  
 NMOCD RANKING SCORE: 10 NMOCD TPH CLOSURE STD: 1000 PPM

**SOIL AND EXCAVATION DESCRIPTION:**

OVM CALIB. READ. = 53.3 ppm  
 OVM CALIB. GAS = 100 ppm RF = 0.62  
 TIME: 2:25 am/pm DATE: 10/27/03

SOIL TYPE: SAND / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER \_\_\_\_\_  
 SOIL COLOR: MED. GRAY TO BLACK (3-10' BELOW GRADE)  
 COHESION (ALL OTHERS): NON COHESIVE / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE  
 CONSISTENCY (NON COHESIVE SOILS): LOOSE / FIRM / DENSE / VERY DENSE  
 PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC  
 DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD  
 MOISTURE: DRY / SLIGHTLY MOIST / MOIST / WET / SATURATED / SUPER SATURATED  
 DISCOLORATION/STAINING OBSERVED: YES / NO EXPLANATION - TEST HOLE / EXCAVATED SOIL  
 HC ODOR DETECTED: YES / NO EXPLANATION - EXCAVATION + OVM SAMPLE  
 SAMPLE TYPE: GRAB / COMPOSITE - # OF PTS. \_\_\_\_\_  
 ADDITIONAL COMMENTS: VERTICAL EXTENT NEEDS TO BE ESTABLISHED.

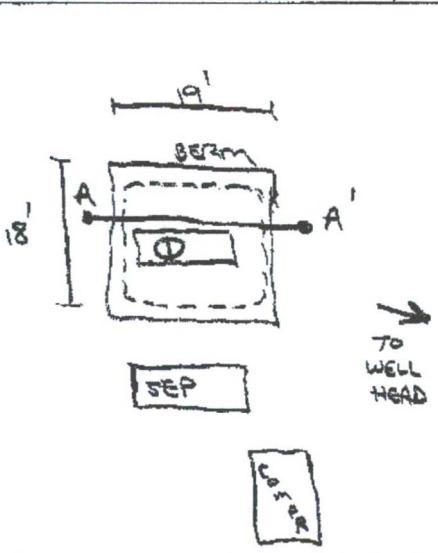
INVESTIGATE VERTICAL EXTENT

FIELD 418.1 CALCULATIONS

SAMP. TIME	SAMP. ID	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. (ppm)



PIT PERIMETER



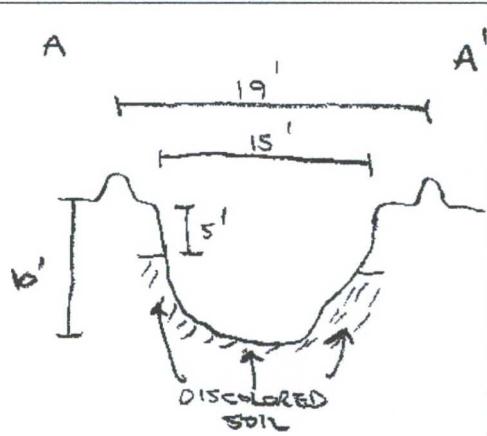
OVM READING

SAMPLE ID	FIELD HEADSPACE (ppm)
1 @ 7'	1477
2 @ 10'	654
3 @	
4 @	
5 @	

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
1 @ 7'	TPH (80158)	0950 10/28/03
"	BTEX (80218)	"
2 @ 10'	TPH (80158)	1146 11/2/03
"	BTEX (80218)	"

PIT PROFILE



P.D. = PIT DEPRESSION; B.G. = BELOW GRADE; B = BELOW  
 T.H. = TEST HOLE; - = APPROX.; T.B. = TANK BOTTOM

TRAVEL NOTES: CALLOUT: 10/27/03 - MORN. ONSITE: 10/28/03 - MORN.

# Hall Environmental Analysis Laboratory

Date: 07-Nov-03

CLIENT: Blagg Engineering  
 Lab Order: 0310222  
 Project: Sandoval GC A #1A  
 Lab ID: 0310222-03

Client Sample ID: 1 @ 7' Compressor Pit  
 Collection Date: 10/28/2003 9:50:00 AM

Matrix: SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JMP
Diesel Range Organics (DRO)	720	100		mg/Kg	20	10/31/2003 1:00:23 PM
Motor Oil Range Organics (MRO)	1700	1000		mg/Kg	20	10/31/2003 1:00:23 PM
Surr: DNOP	0	60-124	S	%REC	20	10/31/2003 1:00:23 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	3200	500		mg/Kg	100	11/3/2003 10:45:29 PM
Surr: BFB	115	74-118		%REC	100	11/3/2003 10:45:29 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	4.3	2.5		mg/Kg	100	11/3/2003 10:45:29 PM
Toluene	110	2.5		mg/Kg	100	11/3/2003 10:45:29 PM
Ethylbenzene	38	2.5		mg/Kg	100	11/3/2003 10:45:29 PM
Xylenes, Total	300	2.5		mg/Kg	100	11/3/2003 10:45:29 PM
Surr: 4-Bromofluorobenzene	131	74-118	S	%REC	100	11/3/2003 10:45:29 PM

Qualifiers: ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 \* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range

# Hall Environmental Analysis Laboratory

Date: 14-Nov-03

**CLIENT:** Blagg Engineering  
**Lab Order:** 0311023  
**Project:** Sandoval GC A #1A  
**Lab ID:** 0311023-01

**Client Sample ID:** 2@10' Compressor Pit  
**Collection Date:** 11/3/2003 11:46:00 AM

**Matrix:** SOIL

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE</b>						Analyst: JPM
Diesel Range Organics (DRO)	550	50		mg/Kg	10	11/7/2003 9:53:39 PM
Motor Oil Range Organics (MRO)	1800	500		mg/Kg	10	11/7/2003 9:53:39 PM
Surr: DNOP	0	60-124	S	%REC	10	11/7/2003 9:53:39 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	690	50		mg/Kg	10	11/6/2003 11:08:52 AM
Surr: BFB	117	74-118		%REC	10	11/6/2003 11:08:52 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	1.1	0.25		mg/Kg	10	11/6/2003 11:08:52 AM
Toluene	12	0.25		mg/Kg	10	11/6/2003 11:08:52 AM
Ethylbenzene	7.1	0.25		mg/Kg	10	11/6/2003 11:08:52 AM
Xylenes, Total	63	0.25		mg/Kg	10	11/6/2003 11:08:52 AM
Surr: 4-Bromofluorobenzene	151	74-118	S	%REC	10	11/6/2003 11:08:52 AM

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 \* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range

# BLAGG ENGINEERING, Inc.

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

## BORE / TEST HOLE REPORT

BORING #..... BH1  
MW #..... NA  
PAGE #..... 1  
DATE STARTED 09/20/06  
DATE FINISHED 09/20/06  
OPERATOR..... DP  
PREPARED BY NJV

CLIENT: **BP AMERICA PRODUCTION CO.**  
LOCATION NAME: SANDOVAL GC A #1A COMPRESSOR PIT UNIT C, SEC. 35, T30N, R9W  
CONTRACTOR: **BLAGG ENGINEERING, INC. / ENVIROTECH, INC.**  
EQUIPMENT USED: **MOBILE DRILL RIG (CME 75)**  
BORING LOCATION: 180 FEET, N40W FROM WELL HEAD.

DEPTH (FT.)	INTERVAL	LITHOLOGY INTERVAL	OVM READING (ppm)	FIELD CLASSIFICATION AND REMARKS
				— GROUND SURFACE
2				DARK YELLOWISH ORANGE TO DARK YELLOWISH BROWN SAND (FILL MATERIAL), NON COHESIVE, SLIGHTLY MOIST, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 7.0 FT. BELOW GRADE).
4				
6				
8				DARK YELLOWISH BROWN / MEDIUM GRAY SAND INTERMIXED, NON COHESIVE, SLIGHTLY MOIST, FIRM, STRONG APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (7.0 - 12.0 FT. BELOW GRADE).
10				
12				MEDIUM GRAY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, STRONG APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (12.0 - 17.0 FT. BELOW GRADE).
14				
16			1,491	
18				BH1 @ 15-17 FT. TIME: 1218 BLOW COUNT = 50 PER 20 INCHES COLLECTED WITH SPLIT SPOON SAMPLER. TPH = 10,000 ppm, BENZENE = 19 ppm, TOTAL BTEX = 1,183 ppm, CHLORIDE = 5.5 ppm.
20				AUGER REFUSAL - COBBLES ENCOUNTERED AT 17 FEET BELOW GRADE.
22				
24				
26				
28				
30				
32				
34				
36				
38				
40				

NOTES:  - SAND.

- OVM** - Organic Vapor Meter or Photo-ionization Detector (PID).
- TPH** - Total Petroleum Hydrocarbons EPA Method 8015B.
- BTEX** - benzene, toluene, ethylbenzene, total xylenes EPA Method 8021B.
- ppm** - Parts per million (unit value).

OVM CALIBRATION = 51.3 ppm  
with 100 ppm Isobutylene gas &  
response factor set @ 0.52;  
DATE - 09/19/06, TIME - 1535.

**Hall Environmental Analysis Laboratory, Inc.**

Date: 06-Oct-06

**CLIENT:** Blagg Engineering  
**Lab Order:** 0609259  
**Project:** Sandoval GC A #1A  
**Lab ID:** 0609259-01

**Client Sample ID:** BH1 @15'-17' COMPRESSOR P  
**Collection Date:** 9/20/2006 12:18:00 PM  
**Date Received:** 9/21/2006  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	1800	200		mg/Kg	20	9/26/2006 11:49:36 PM
Motor Oil Range Organics (MRO)	6800	1000		mg/Kg	20	9/26/2006 11:49:36 PM
Surr: DNOP	0	61.7-135	S	%REC	20	9/26/2006 11:49:36 PM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: BDH
Gasoline Range Organics (GRO)	8200	250		mg/Kg	50	9/29/2006 2:50:06 PM
Surr: BFB	348	84.5-129	S	%REC	50	9/29/2006 2:50:06 PM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: BDH
Benzene	19	2.5		mg/Kg	50	9/29/2006 2:50:06 PM
Toluene	320	5.0		mg/Kg	100	10/1/2006 6:10:42 PM
Ethylbenzene	64	2.5		mg/Kg	50	9/29/2006 2:50:06 PM
Xylenes, Total	780	15		mg/Kg	100	10/1/2006 6:10:42 PM
Surr: 4-Bromofluorobenzene	124	76.8-115	S	%REC	50	9/29/2006 2:50:06 PM
<b>EPA METHOD 9056A: ANIONS</b>						Analyst: TES
Chloride	5.5	1.5		mg/Kg	5	9/26/2006 3:18:32 PM

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit



CLIENT: <u>BP</u>	<b>BLAGG ENGINEERING, INC.</b> P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: <u>81298</u> C.O.C. NO: <u>13919</u>
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**FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION**

LOCATION: NAME: <u>SANDOVAL GC A</u> WELL#: <u>1A</u> PITS: <u>COMPR.</u>	DATE STARTED: <u>7/22/05</u>
QUAD/UNIT: <u>C</u> SEC: <u>35</u> TWP: <u>30N</u> RNG: <u>9W</u> PM: <u>NM</u> CNTY: <u>ST</u> ST: <u>NM</u>	DATE FINISHED: _____
QTR/FOOTAGE: _____ CONTRACTOR: <u>FLINT (LARRY)</u>	ENVIRONMENTAL SPECIALIST: <u>NV</u>

SOIL REMEDIATION:		50
REMEDICATION SYSTEM: <u>LANDFARM</u>	APPROX. CUBIC YARDAGE:	_____
LAND USE: <u>RANGE</u>	LIFT DEPTH (ft):	<u>0.5</u>

FIELD NOTES & REMARKS:	DEPTH TO GROUNDWATER: <u>&lt;100'</u>	NEAREST SURFACE WATER: <u>&gt;1,000'</u>
NEAREST WATER SOURCE: <u>&gt;1,000'</u>	NMOC D RANKING SCORE: <u>10</u>	NMOC D TPH CLOSURE STD: <u>1,000</u> PPM

SOIL TYPE: SAND SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER \_\_\_\_\_

SOIL COLOR: DK. YELL. ORANGE

COHESION (ALL OTHERS): NON COHESIVE / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE

CONSISTENCY (NON COHESIVE SOILS): LOOSE / FIRM / DENSE / VERY DENSE

PLASTICITY (CLAYS): NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC

DENSITY (COHESIVE CLAYS & SILTS): SOFT / FIRM / STIFF / VERY STIFF / HARD

MOISTURE: DRY / SLIGHTLY MOIST / MOIST / WET / SATURATED / SUPER SATURATED CLOSED

DISCOLORATION/STAINING OBSERVED: YES / NO EXPLANATION - \_\_\_\_\_

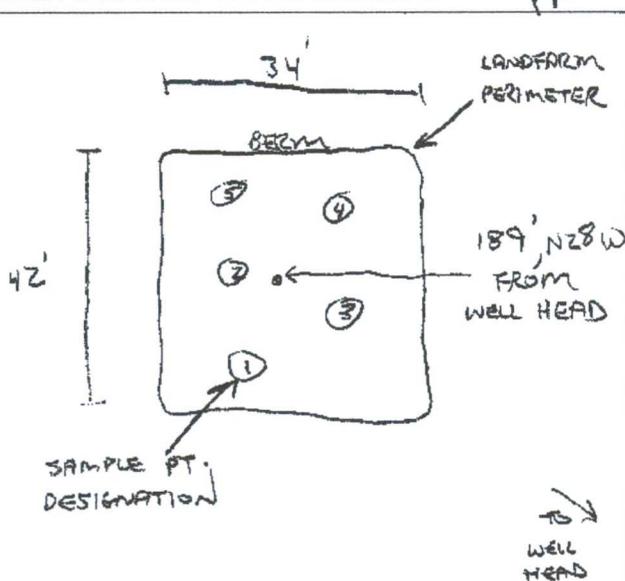
HC ODOR DETECTED: YES / NO EXPLANATION - \_\_\_\_\_

SAMPLING DEPTHS (LANDFARMS): 4-6 (INCHES)

SAMPLE TYPE: GRAB / COMPOSITE # OF PTS. 5

ADDITIONAL COMMENTS: \_\_\_\_\_

**SKETCH/SAMPLE LOCATIONS**



OVM CALIB. READ. = 53.4 ppm  
 OVM CALIB. GAS = 100 ppm RF = 0.52  
 TIME: 7:10 @ ppm DATE: 7/20/05

**OVM RESULTS**

**LAB SAMPLES**

SAMPLE ID	FIELD HEADSPACE (ppm)	SAMPLE ID	ANALYSIS	TIME	RESULTS
LF-1	0.0	LF-1	TPH (80158)	1255	ND

P.C. - 10/28/03

**SCALE**



TRAVEL NOTES: CALLOUT: <u>N/A</u>	ONSITE: <u>7/22/05</u>
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# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

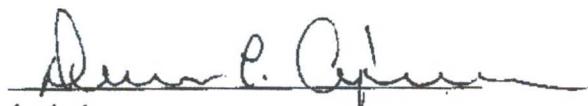
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	LF - 1	Date Reported:	07-28-05
Laboratory Number:	33833	Date Sampled:	07-22-05
Chain of Custody No:	13919	Date Received:	07-25-05
Sample Matrix:	Soil	Date Extracted:	07-27-05
Preservative:	Cool	Date Analyzed:	07-28-05
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

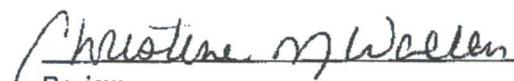
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Sandoval GC A #1A Landfarm 5 Pt. Composite Sample.**

  
Analyst

  
Review





STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
2040 S. PACHECO  
SANTA FE, NEW MEXICO 87505  
(505) 827-7131

July 9, 1998

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. 7-235-437-308**

Mr. B.D. Shaw  
Amoco Production Company  
200 Amoco Court  
Farmington, New Mexico 87401

**RE: SAN JUAN BASIN PIT GROUND WATER SITES**

Dear Mr. Shaw:

Information in El Paso Field Services (EPFS) recent annual ground water monitoring report shows the presence of shallow ground at some well sites operated by Amoco Production Company (Amoco). Disposal activities at EPFS pits on these locations have resulted in contamination of shallow ground water. These sites also apparently have former unlined production pits operated by Amoco, some of which appear to be contributing to ground water contamination seen in EPFS monitoring wells.

Due to the presence of ground water contamination at these sites and the apparent commingling of contaminated waters from EPFS's former unlined dehy pit and Amoco's former unlined production pits, the OCD requests that Amoco cooperate with EPFS to investigate and remediate contaminated ground water at the sites listed below:

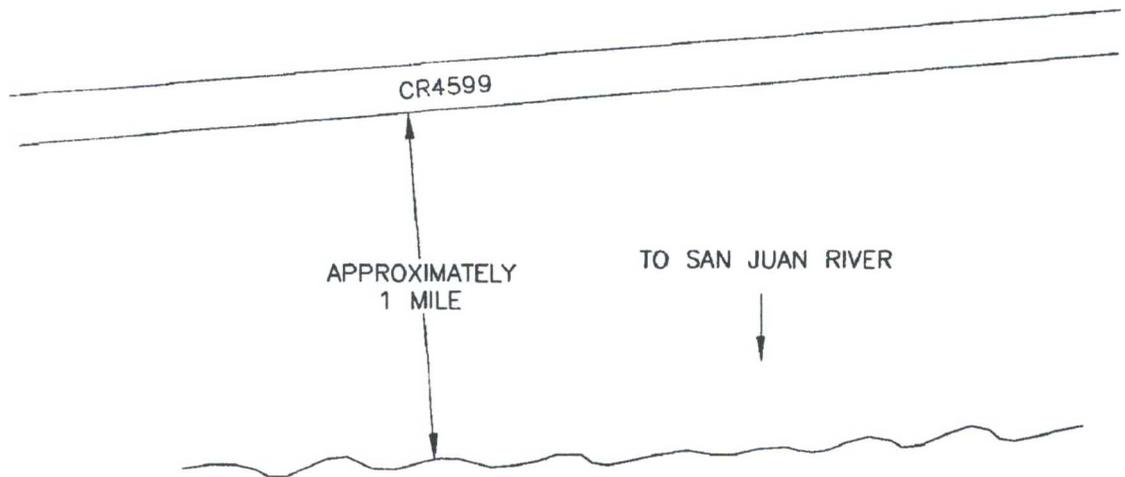
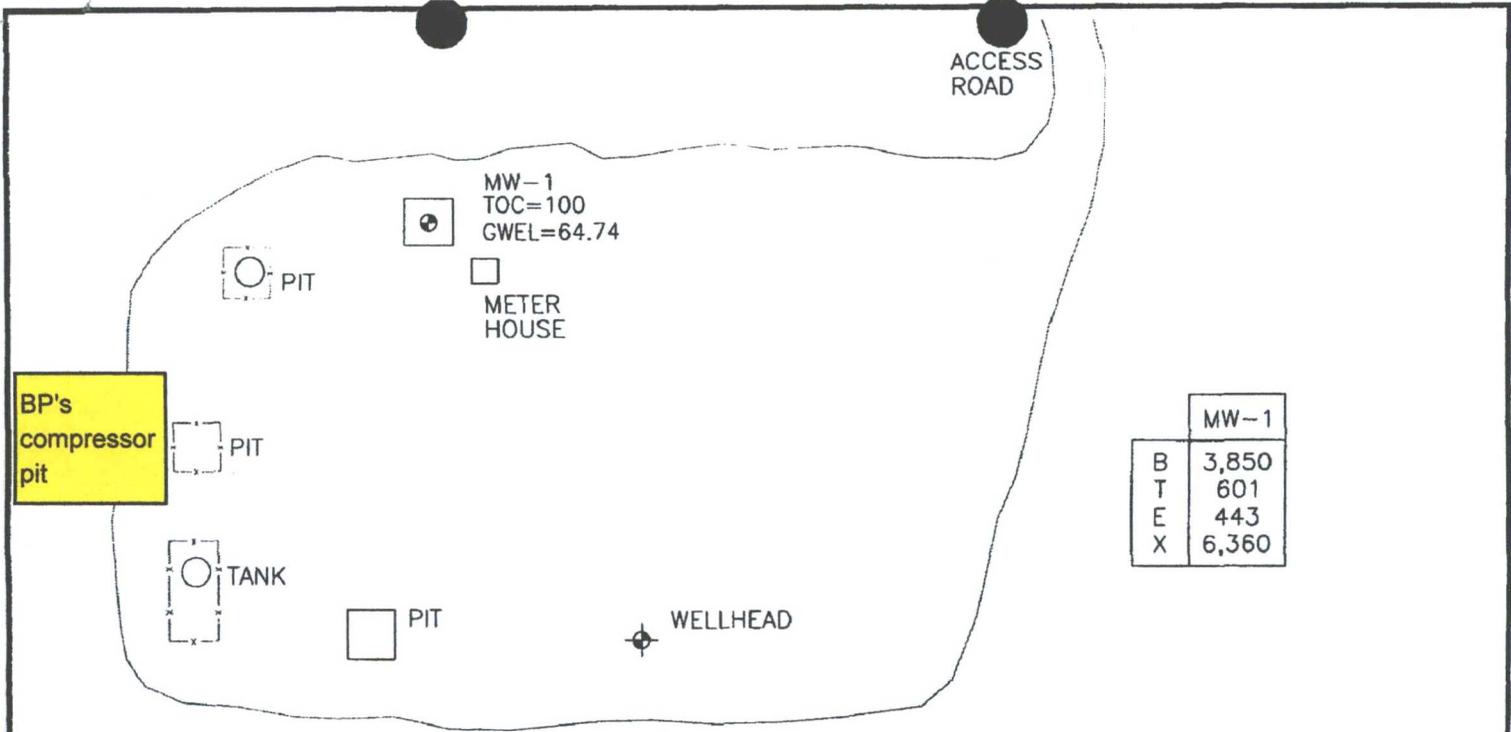
- |                                     |                              |
|-------------------------------------|------------------------------|
| 1. Coldiron Com A#1                 | Unit K, Sec. 02, T30N, R11W. |
| 2. Fields A #7A                     | Unit E, Sec. 34, T32N, R11W. |
| 3. Gallegos Canyon Unit Com A #142E | Unit G, Sec. 25, T29N, R12W. |
| 4. Sandoval Gas Com A #1A           | Unit C, Sec. 35, T30N, R09W. |

If you have any questions, please contact me at (505) 827-7154.

Sincerely,

  
William C. Olson  
Hydrologist  
Environmental Bureau

xc: Denny Foust, OCD Aztec District Office  
Sandra D. Miller, El Paso Field Services  
Bill Liess, BLM Farmington Office



**LEGEND**

- ⊕ MW-1      Approximate Monitoring Well Location and Number
- GWEL      Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
- TOC      Top of Casing
- B      Benzene ( $\mu\text{g/L}$ )
- T      Toluene ( $\mu\text{g/L}$ )
- E      Ethylbenzene ( $\mu\text{g/L}$ )
- X      Total Xylenes ( $\mu\text{g/L}$ )



NOT TO SCALE

sandovalgas\_03.dwg

SANDOVAL GAS COM A #1A, METER 89620  
MAY 2003

GROUNDWATER SITES  
EL PASO FIELD SERVICES

FIGURE 1