

3R - 368

REPORTS

DATE:

JAN. 2007

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3902

3R368

2007 APR 2 AM 11 45

March 30, 2007

Mr. Glenn Von Gonten, Hydrologist
New Mexico Oil Conservation Division-NMOCD
Environmental Bureau
1220 St. Francis Drive
Santa Fe, New Mexico 87505

**Re: REQUEST FOR PERMANENT CLOSURE
BP America Production Company (formerly BP Amoco)
Groundwater Monitoring Report
Lopez GC # 1, Unit D, Sec. 2, T29N, R9W, NMPM
San Juan County, New Mexico**

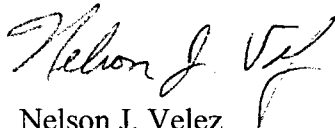
Dear Mr. Von Gonten:

BP America Production Company (BP) has retained Blagg Engineering, Inc. (BEI) to conduct environmental monitoring of groundwater at the Lopez GC # 1.

The last BEI correspondence concerning the above reference well site was with letter dated, February 2, 2001. Since then, BP has followed its NMOCD approved groundwater management plan and request permanent closure for the site.

If you have any questions concerning the enclosed documentation, please contact either myself or Jeffrey C. Blagg at the address or phone number listed above. Thank you for your cooperation and assistance.

Respectfully submitted:
Blagg Engineering, Inc.



Nelson J. Velez
Staff Geologist

Attachment: Groundwater Report

cc: Mr. Brandon Powell, NMOCD District III Office, Aztec, NM
Mr. Larry Schlotterback, BP, Farmington, NM (without lab reports)
Mr. Kevin Hansford, BP, Farmington, NM (without lab reports)

NJV/njv

Lopez GC 1 03-30-07.CVL.WPD

BP AMERICA PRODUCTION CO.

GROUNDWATER REMEDIATION REPORT

***LOPEZ GC #1
(D) SECTION 2, T29N, R9W, NMPM
SAN JUAN COUNTY, NEW MEXICO***

***PREPARED FOR:
MR. GLENN VON GONTEN
NEW MEXICO OIL CONSERVATION DIVISION***

JANUARY 2007

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

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

BP AMERICA PRODUCTION COMPANY

Lopez GC #1

Nw/4, Nw/4 Sec. 2, T29N, R9W

Historical Information:

Discovery of Potential Impacts:	Jan. 2001 (@ Landowner Gas Tap), Nov. 2001 (Piping trench)
Reclamation Procedures:	Excavation - Jan. 2001 (Transport Soils to BP Crouch Mesa LF)
Monitor Well Installation Dates:	Sept. 2006
Monitor Well Sampling Dates:	Sept. & Nov. 2006

A potential groundwater impact due to a historical release at a landowner gas tap was discovered during site work in January 2001. Groundwater was encountered at a depth of approximately 4'-5' below ground surface. All soils in the area of the gas tap with possible hydrocarbon content were excavated to below the water table and transported to the BP Crouch Mesa Waste Management facility in San Juan County, New Mexico. Water was sampled from the pit excavation and laboratory analysis found xylenes at 974 ug/L. Water sampled from adjacent test holes did not reveal the presence of any BTEX (benzene, toluene, ethyl-benzene, xylenes) constituents.

Groundwater Monitor Well Sampling Procedures:

Groundwater samples were collected from site monitor wells following US EPA: SW-846 protocol. After well development, samples were collected with new disposable bailers, placed into laboratory supplied containers with appropriate preservative and stored in an ice chest for express delivery to a qualified laboratory for testing. Analytical testing included BTEX by US EPA Method 8021B and general water chemistry. Waste generated during monitor well sampling and development was disposed of utilizing the separator tank pit located on the well site.

Groundwater Quality & Flow Direction Information:

Monitor well sampling and testing has not detected the presence of any BTEX constituents or any general water chemistry parameters above New Mexico Water Quality Control Commission (NMWQCC) standards. Summary laboratory analytical results are included in the tables on the following pages.

Groundwater contour maps of relative water table elevations for recent sample events are included (Figures 2 and 3). The general groundwater flow direction has been in a westerly direction with minor north and south components.

Summary and Recommendations:

Potential hydrocarbon impacted soil at the site has been remediated via excavation. With the exception of one (1) groundwater sample collected during the soil remediation process, there is no indication of any remaining groundwater impact due to possible releases at the site. Analytical testing indicate that all site wells meet NMWQCC standards for groundwater. Permanent site closure is recommended. Following approval by the New Mexico Oil Conservation Division, site monitor wells will be abandoned pursuant to the approved BP Ground Water Management Plan.

BP AMERICA PRODUCTION CO. GROUNDWATER LAB RESULTS
 SUBMITTED BY BLAGG ENGINEERING, INC.

Lopez GC # 1

UNIT D, SEC. 2, T29N, R9W

REVISED DATE: November 26, 2006

FILENAME: (Lop-4Q06.WK4) NJV

								BTEX EPA METHOD 8021B (ppb)			
SAMPLE DATE	WELL NAME or No.	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	Benzene	Toluene	Ethyl Benzene	Total Xylene
13-Sep-06	MW #1	6.19	15.00	428	600	7.11		ND	ND	ND	ND
13-Sep-06	MW #2	7.01	15.00	388	600	7.10		ND	ND	ND	ND
16-Nov-06		7.00			600	7.05		ND	ND	ND	ND
13-Sep-06	MW #3	7.04	15.00	504	700	7.21		ND	ND	ND	ND
16-Nov-06		6.76			800	7.02		ND	ND	ND	ND
13-Sep-06	MW #4	7.88	15.00	408	600	7.10		ND	ND	ND	ND
NMWQCC GROUNDWATER STANDARDS								10	750	750	620

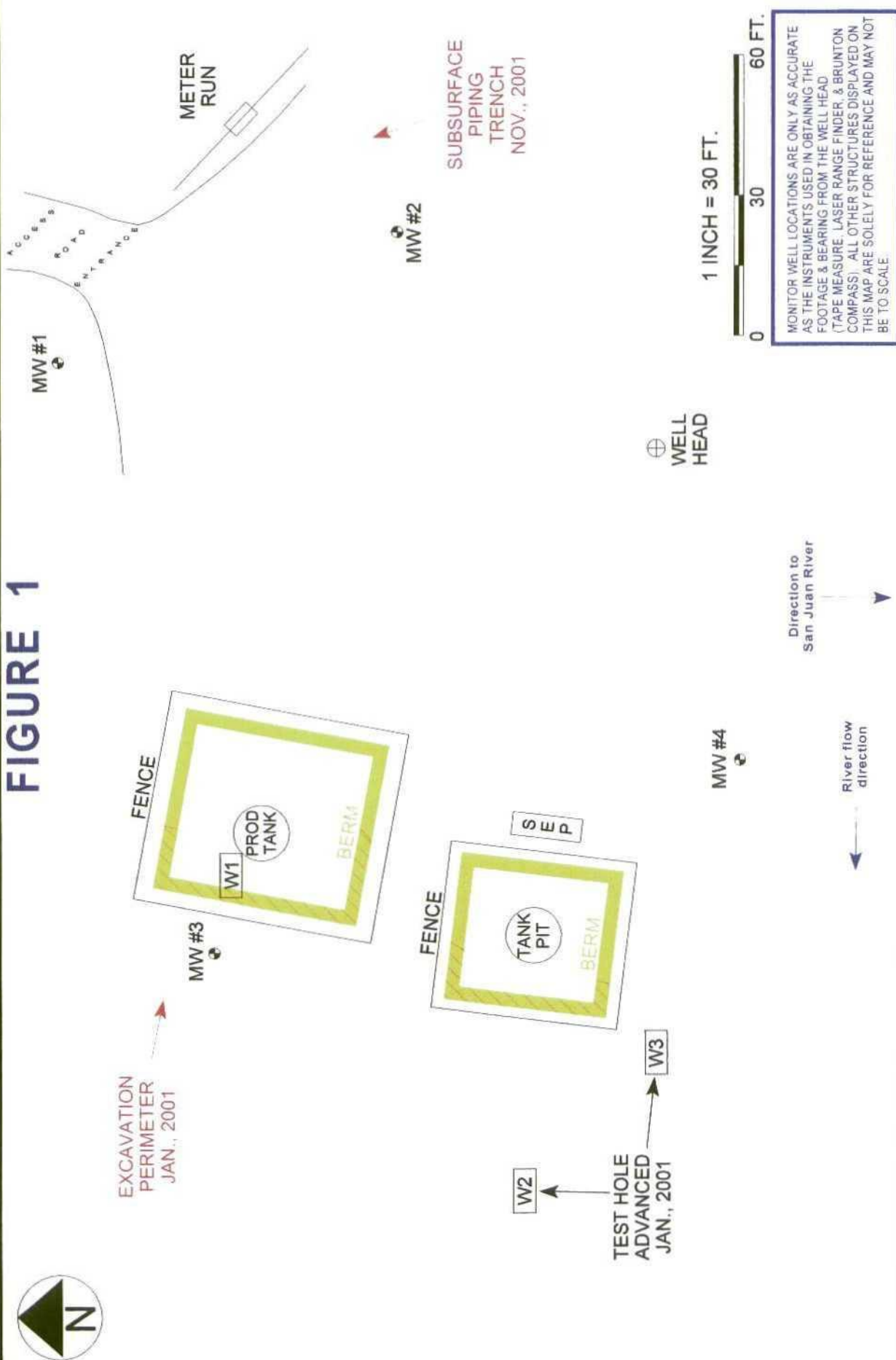
GENERAL WATER QUALITY
BP AMERICA PRODUCTION COMPANY

LOPEZ GC # 1

Sample Date : September 13 , 2006

PARAMETERS	MW # 1	MW # 2	MW # 3	MW # 4	Units
LAB pH	7.14	7.10	7.50	7.28	s. u.
LAB CONDUCTIVITY @ 25 C	628	606	733	628	umhos / cm
TOTAL DISSOLVED SOLIDS @ 180 C	428	388	504	408	mg / L
TOTAL DISSOLVED SOLIDS (Calc)	445	368	526	407	mg / L
SODIUM ABSORPTION RATIO	1.2	0.5	3.6	1.0	ratio
TOTAL ALKALINITY AS CaCO3	164	153	333	165	mg / L
TOTAL HARDNESS AS CaCO3	272	264	190	256	mg / L
BICARBONATE as HCO3	164	153	333	165	mg / L
CARBONATE AS CO3	< 0.1	< 0.1	< 0.1	< 0.1	mg / L
HYDROXIDE AS OH	< 0.1	< 0.1	< 0.1	< 0.1	mg / L
NITRATE NITROGEN	0.1	< 0.1	0.6	0.2	mg / L
NITRITE NITROGEN	0.008	0.006	0.031	0.010	mg / L
CHLORIDE	58.0	50.0	46.0	49.0	mg / L
FLUORIDE	0.40	0.44	0.11	0.08	mg / L
PHOSPHATE	0.70	0.40	2.00	1.40	mg / L
SULFATE	143	107	92.0	125	mg / L
IRON	0.012	0.086	0.110	0.061	mg / L
CALCIUM	86.4	82.4	57.3	79.8	mg / L
MAGNESIUM	13.6	14.3	11.5	13.8	mg / L
POTASSIUM	0.43	0.84	0.95	1.70	mg / L
SODIUM	43.6	20.0	113	36.3	mg / L
CATION / ANION DIFFERENCE	0.01	0.03	0.04	0.01	

FIGURE 1



BP AMERICA PRODUCTION CO.
LOPEZ GC #1
NW1/4 NW1/4 SEC. 2, T29N, R9W
SAN JUAN COUNTY, NEW MEXICO

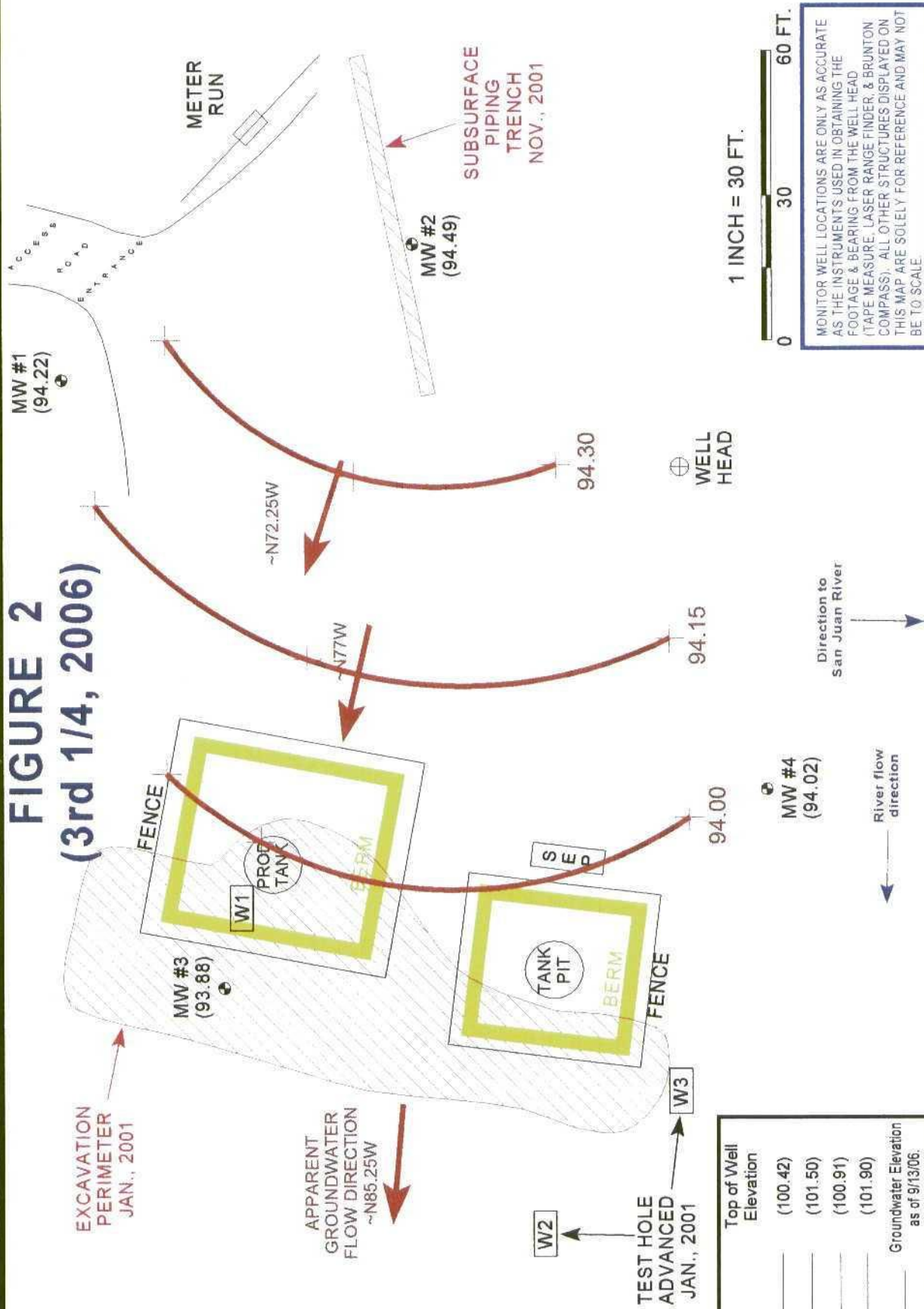
BLAGG ENGINEERING, INC.
 CONSULTING PETROLEUM / RECLAMATION SERVICES
 P.O. BOX 87
 BLOOMFIELD, NEW MEXICO 87413
 PHONE (505) 632-1199

PROJECT: MW INSTALLATIONS
DRAWN BY: NJV
FILENAME: LOPEZ GC 1-SM.SKF
REVISED: 09-12-06 NJV

SITE MAP
 09/06



FIGURE 2
(3rd 1/4, 2006)



Top of Well Elevation	Groundwater Elevation as of 9/13/06
MW #1 (100.42)	
MW #2 (101.50)	
MW #3 (100.91)	
MW #4 (101.90)	
MW #1 (94.22)	

BP AMERICA PRODUCTION CO.

LOPEZ GC #1

NW/4 NW/4 SEC. 2, 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: MW SAMPLING

DRAWN BY: NJV

FILENAME: 09-13-06-GW.SKF

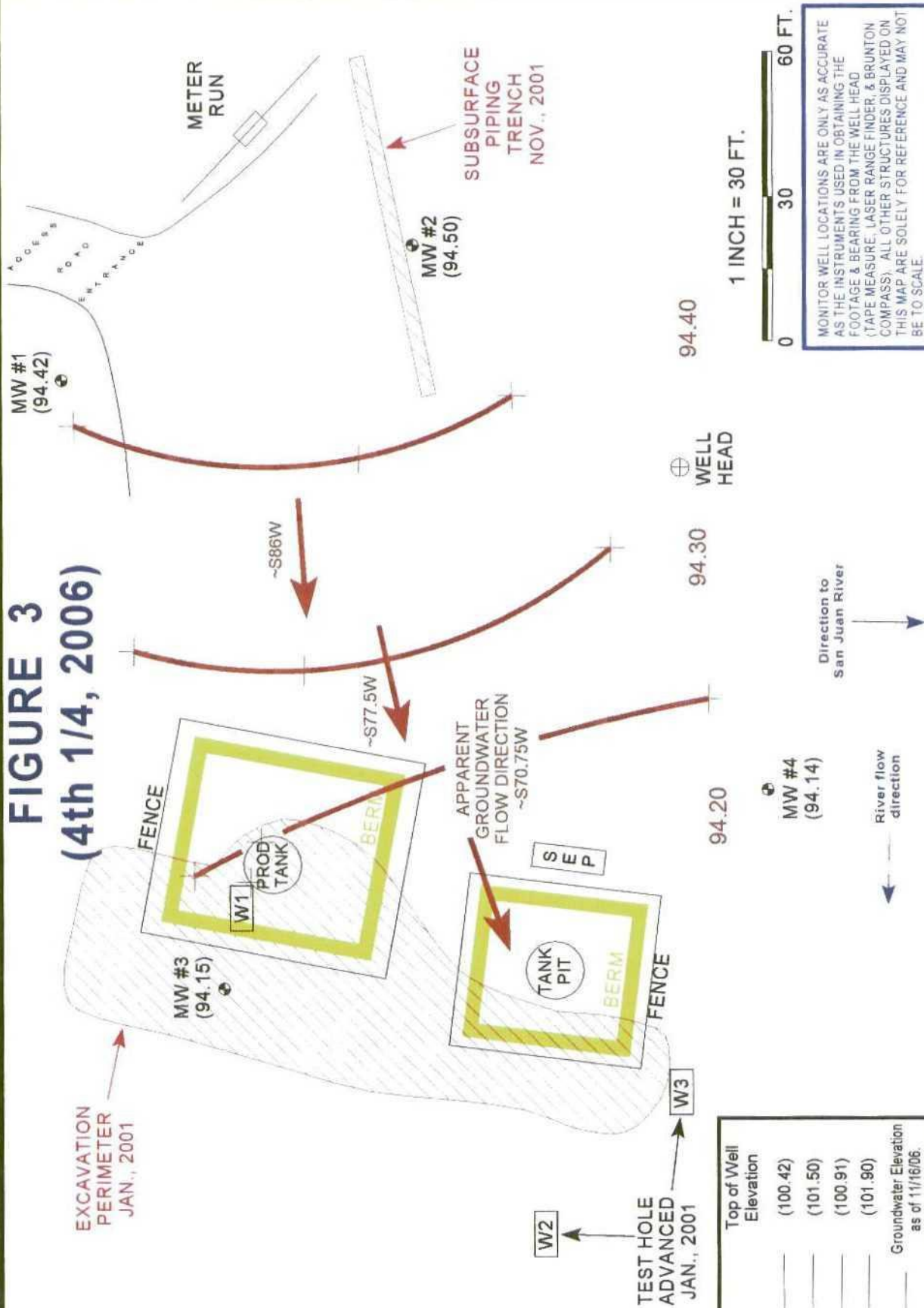
REVISED: 09-13-06 NJV

GROUNDWATER GRADIENT MAP

09/06



FIGURE 3
(4th 1/4, 2006)



Top of Well Elevation	Groundwater Elevation as of 11/16/06
MW #1 (100.42)	
MW #2 (101.50)	
MW #3 (100.91)	
MW #4 (101.90)	
MW #1 (94.42)	

BP AMERICA PRODUCTION CO.

LOPEZ GC #1

NW/4 NW/4 SEC. 2, 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: MW SAMPLING

DRAWN BY: NJV

FILENAME: 11-16-06-GW.SKF

REVISED: 11-16-06 NJV

GROUNDWATER GRADIENT MAP

11/06

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: LOPEZ GC #1 UNIT D, SEC. 2, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM
BORING LOCATION: 129 FT., N 8 E FROM WELL HEAD.

BORING #..... BH-3
MW #..... 1
PAGE #..... 1
DATE STARTED 9/05/06
DATE FINISHED 9/05/06
OPERATOR..... KP
PREPARED BY NJV

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
				TOP OF CASING APPROX. 2.20 FT. ABOVE GROUND SURFACE.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

MODERATE BROWN SAND, NON COHESIVE, FIRM, SLIGHTLY MOIST, NO APPARENT HC ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (0.0 - 4.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 3.84 FT. FROM GROUND SURFACE MEASURED 9/12/06

DUSKY BROWN SAND AND GRAVEL, NON COHESIVE, FIRM TO LOOSE, WET TO SATURATED, NO APPARENT HC ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (4.0 - 11.5 FT. BELOW GRADE).

SANDSTONE BEDROCK, LIGHT GRAY, DRY, NO APPARENT HC ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (11.5 - 13.0 FT. BELOW GRADE).

NOTE:

- SAND.
- SAND AND GRAVEL.
- BEDROCK (SANDSTONE).

TOS - TOP OF SCREEN FROM GROUND SURFACE.
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

Monitor well consist of 2 inch PVC piping - casing from 2.20 ft. above grade to 2.80 ft. below grade. 0.010 slotted screen between 2.80 to 12.80 feet below grade, sanded annular from 2.0 to 13.0 feet below grade, bentonite chips from grade to 2.0 feet below grade. enclosed above grade casing with well protector and secured with padlock.

BLAGG ENGINEERING, INC.

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

MW #2

BORE / TEST HOLE REPORT

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: LOPEZ GC #1 UNIT D, SEC. 2, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM
BORING LOCATION: 72 FT., N 40 E FROM WELL HEAD.

BORING #..... BH-4
MW #..... 2
PAGE #..... 2
DATE STARTED 9/05/06
DATE FINISHED 9/05/06
OPERATOR..... KP
PREPARED BY NJV

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
1				TOP OF CASING APPROX. 2.35 FT. ABOVE GROUND SURFACE.
2				DUSKY BROWN SAND AND GRAVEL, NON COHESIVE, FIRM TO LOOSE, MOIST TO SATURATED, NO APPARENT HC ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (0.0 - 2.0 FT. BELOW GRADE).
3			TOS 2.65	SAME AS ABOVE EXCEPT WITH STRONG HC ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (2.0 - 4.0 FT. BELOW GRADE).
4				DEPTH TO WATER APPROX. 4.59 FT. FROM GROUND SURFACE MEASURED 9/12/06
5				
6				
7				
8				SAME AS ABOVE EXCEPT SATURATED & WITH NO APPARENT HC ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (4.0 - 12.0 FT. BELOW GRADE).
9				
10				
11				
12				SANDSTONE BEDROCK, LIGHT GRAY, DRY, NO APPARENT HC ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (12.0 - 13.0 FT. BELOW GRADE).
13			TD 12.65	
14				
15				
16				
17				
18				
19				
20				

NOTE:  - SAND AND GRAVEL.
 - BEDROCK (SANDSTONE).
TOS - TOP OF SCREEN FROM GROUND SURFACE.
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.

Monitor well consist of 2 inch PVC piping - casing from 2.35 ft. above grade to 2.65 ft. below grade, 0.010 slotted screen between 2.65 to 12.65 feet below grade, sanded annular from 2.0 to 13.0 feet below grade, bentonite chips from grade to 2.0 feet below grade, enclosed above grade casing with well protector and secured with padlock.

BLAGG ENGINEERING, INC.

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

MW #3

BORE / TEST HOLE REPORT

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: LOPEZ GC #1 UNIT D, SEC. 2, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM
BORING LOCATION: 144 FT., N 49 E FROM WELL HEAD.

BORING #..... BH-2
MW #..... 3
PAGE #..... 3
DATE STARTED 9/05/06
DATE FINISHED 9/05/06
OPERATOR..... KP
PREPARED BY NJV

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
1				TOP OF CASING APPROX. 2.15 FT. ABOVE GROUND SURFACE.
2				
3			TOS 2.85	DARK YELLOWISH ORANGE SAND, NON COHESIVE, FIRM, SLIGHTLY MOIST, NO APPARENT HC ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (0.0 - 5.0 FT. BELOW GRADE).
4				
5				DEPTH TO WATER APPROX. 4.85 FT. FROM GROUND SURFACE MEASURED 9/12/06
6				
7				
8				DUSKY BROWN SAND AND GRAVEL, NON COHESIVE, FIRM TO LOOSE, WET TO SATURATED, NO APPARENT HC ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (5.0 - 12.0 FT. BELOW GRADE).
9				
10				
11				
12				SANDSTONE BEDROCK, LIGHT GRAY, DRY, NO APPARENT HC ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (12.0 - 13.0 FT. BELOW GRADE).
13			TD 12.85	
14				
15				NOTE: - SAND.
16				- SAND AND GRAVEL.
17				- BEDROCK (SANDSTONE).
18				TOS - TOP OF SCREEN FROM GROUND SURFACE.
19				TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
20				Monitor well consist of 2 inch PVC piping - casing from 2.15 ft. above grade to 2.85 ft. below grade, 0.010 slotted screen between 2.85 to 12.85 feet below grade, sanded annular from 2.0 to 13.0 feet below grade, bentonite chips from grade to 2.0 feet below grade, enclosed above grade casing with well protector and secured with 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: LOPEZ GC #1 UNIT D, SEC. 2, T29N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM
BORING LOCATION: 69.5 FT., S 75 W FROM WELL HEAD.

BORING #..... BH-1
MW #..... 4
PAGE #..... 4
DATE STARTED 9/05/06
DATE FINISHED 9/05/06
OPERATOR..... KP
PREPARED BY NJV

DEPTH FEET	INTERVAL	LITHOLOGY INTERVAL	MW SCHEMATIC	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
1				TOP OF CASING APPROX. 2.20 FT. ABOVE GROUND SURFACE.
2				
3				DARK YELLOWISH ORANGE SAND, NON COHESIVE, FIRM, SLIGHTLY MOIST, NO APPARENT HC ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (0.0 - 3.0 FT. BELOW GRADE).
4				
5				DEPTH TO WATER APPROX. 5.48 FT. FROM GROUND SURFACE MEASURED 9/12/06
6				
7				
8				DUSKY BROWN SAND AND GRAVEL, NON COHESIVE, FIRM TO LOOSE, MOIST TO SATURATED, NO APPARENT HC ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (4.0 - 12.0 FT. BELOW GRADE).
9				
10				
11				
12				SANDSTONE BEDROCK, LIGHT GRAY, DRY, NO APPARENT HC ODOR DETECTED PHYSICALLY FROM AUGER CUTTINGS (12.0 - 13.0 FT. BELOW GRADE).
13				
14				
15				NOTE: - SAND.
16				- SAND AND GRAVEL.
17				- BEDROCK (SANDSTONE).
18				TOS - TOP OF SCREEN FROM GROUND SURFACE.
19				TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
20				Monitor well consist of 2 inch PVC piping - casing from 2.35 ft. above grade to 2.65 ft. below grade. 0.010 slotted screen between 2.65 to 12.65 feet below grade, sanded annular from 2.0 to 13.0 feet below grade, bentonite chips from grade to 2.0 feet below grade, enclosed above grade casing with well protector and secured with padlock.

BLAGG ENGINEERING, INC.**MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA**CLIENT : **BP AMERICA PROD. CO.**CHAIN-OF-CUSTODY # : **N / A & 14675****LOPEZ GC # 1**LABORATORY (S) USED : **HALL ENVIRONMENTAL****UNIT D, SEC. 2, T29N, R9W****ENVIROTECH, INC.**Date : **September 13, 2006**SAMPLER : **N J V**Filename : **09-13-06.WK4**PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
MW - 1	100.42	94.22	6.20	15.00	0930	7.11	600	20.8	4.50
MW - 2	101.50	94.49	7.01	15.00	1000	7.10	600	19.6	4.00
MW - 3	100.91	93.88	7.03	15.00	0900	7.21	700	21.1	4.00
MW - 4	101.90	94.02	7.88	15.00	0830	7.10	600	19.3	3.50

INSTRUMENT CALIBRATIONS =	7.00	2,800
DATE & TIME =	09/13/06	0720

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

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in all MW's . Murky brown appearance in all MW's . Collected BTEX and major anions / cations from all MW's .

Top of casing MW # 1 ~ 2.20 ft. , MW # 2 ~ 2.35 ft. , MW # 3 ~ 2.15 ft. , MW # 4 ~ 2.35 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: 22-Sep-06

CLIENT: Blagg Engineering
Project: Lopez GC #1

Lab Order: 0609139

Lab ID: 0609139-01

Collection Date: 9/13/2006 9:30:00 AM

Client Sample ID: MW #1

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	9/20/2006 4:11:47 PM
Toluene	ND	1.0		µg/L	1	9/20/2006 4:11:47 PM
Ethylbenzene	ND	1.0		µg/L	1	9/20/2006 4:11:47 PM
Xylenes, Total	ND	3.0		µg/L	1	9/20/2006 4:11:47 PM
Surr: 4-Bromofluorobenzene	102	72.2-125		%REC	1	9/20/2006 4:11:47 PM

Lab ID: 0609139-02

Collection Date: 9/13/2006 10:00:00 AM

Client Sample ID: MW #2

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	9/21/2006 12:44:01 PM
Toluene	ND	1.0		µg/L	1	9/21/2006 12:44:01 PM
Ethylbenzene	ND	1.0		µg/L	1	9/21/2006 12:44:01 PM
Xylenes, Total	ND	3.0		µg/L	1	9/21/2006 12:44:01 PM
Surr: 4-Bromofluorobenzene	93.8	72.2-125		%REC	1	9/21/2006 12:44:01 PM

Lab ID: 0609139-03

Collection Date: 9/13/2006 9:00:00 AM

Client Sample ID: MW #3

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	9/20/2006 5:12:47 PM
Toluene	ND	1.0		µg/L	1	9/20/2006 5:12:47 PM
Ethylbenzene	ND	1.0		µg/L	1	9/20/2006 5:12:47 PM
Xylenes, Total	ND	3.0		µg/L	1	9/20/2006 5:12:47 PM
Surr: 4-Bromofluorobenzene	97.4	72.2-125		%REC	1	9/20/2006 5:12:47 PM

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation 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

Hall Environmental Analysis Laboratory, Inc.

Date: 22-Sep-06

CLIENT: Blagg Engineering
Project: Lopez GC #1

Lab Order: 0609139

Lab ID: 0609139-04

Collection Date: 9/13/2006 8:30:00 AM

Client Sample ID: MW #4

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

EPA METHOD 8021B: VOLATILES

Analyst: NSB

Benzene	ND	1.0		µg/L	1	9/20/2006 8:35:31 PM
Toluene	ND	1.0		µg/L	1	9/20/2006 8:35:31 PM
Ethylbenzene	ND	1.0		µg/L	1	9/20/2006 8:35:31 PM
Xylenes, Total	ND	3.0		µg/L	1	9/20/2006 8:35:31 PM
Surr: 4-Bromofluorobenzene	101	72.2-125		%REC	1	9/20/2006 8:35:31 PM

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation 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

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

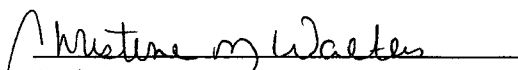
Client: Blagg / BP
Sample ID: MW #1
Laboratory Number: 38428
Chain of Custody: 14675
Sample Matrix: Water
Preservative: Cool
Condition: Cool & Intact

Project #: 94034-010
Date Reported: 09-14-06
Date Sampled: 09-13-06
Date Received: 09-13-06
Date Extracted: N/A
Date Analyzed: 09-14-06

Parameter	Analytical Result	Units		
pH	7.14	s.u.		
Conductivity @ 25° C	628	umhos/cm		
Total Dissolved Solids @ 180C	428	mg/L		
Total Dissolved Solids (Calc)	445	mg/L		
SAR	1.2	ratio		
Total Alkalinity as CaCO3	164	mg/L		
Total Hardness as CaCO3	272	mg/L		
Bicarbonate as HCO3	164	mg/L	2.69	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	0.1	mg/L	0.00	meq/L
Nitrite Nitrogen	0.008	mg/L	0.00	meq/L
Chloride	58.0	mg/L	1.64	meq/L
Fluoride	0.40	mg/L	0.02	meq/L
Phosphate	0.70	mg/L	0.02	meq/L
Sulfate	143	mg/L	2.97	meq/L
Iron	0.012	mg/L	0.00	meq/L
Calcium	86.4	mg/L	4.31	meq/L
Magnesium	13.6	mg/L	1.12	meq/L
Potassium	0.43	mg/L	0.01	meq/L
Sodium	43.6	mg/L	1.90	meq/L
Cations			7.34	meq/L
Anions			7.34	meq/L
Cation/Anion Difference			0.01%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Lopez GC #1 Grab Sample


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

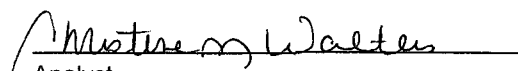
Client: Blagg / BP
Sample ID: MW #2
Laboratory Number: 38429
Chain of Custody: 14675
Sample Matrix: Water
Preservative: Cool
Condition: Cool & Intact

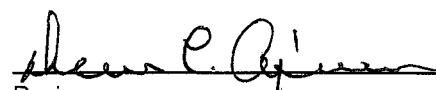
Project #: 94034-010
Date Reported: 09-14-06
Date Sampled: 09-13-06
Date Received: 09-13-06
Date Extracted: N/A
Date Analyzed: 09-14-06

Parameter	Analytical Result	Units		
pH	7.10	s.u.		
Conductivity @ 25° C	606	umhos/cm		
Total Dissolved Solids @ 180C	388	mg/L		
Total Dissolved Solids (Calc)	368	mg/L		
SAR	0.5	ratio		
Total Alkalinity as CaCO3	153	mg/L		
Total Hardness as CaCO3	264	mg/L		
Bicarbonate as HCO3	153	mg/L	2.50	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	<0.1	mg/L	0.00	meq/L
Nitrite Nitrogen	0.006	mg/L	0.00	meq/L
Chloride	50.0	mg/L	1.41	meq/L
Fluoride	0.44	mg/L	0.02	meq/L
Phosphate	0.40	mg/L	0.01	meq/L
Sulfate	107	mg/L	2.23	meq/L
Iron	0.086	mg/L	0.00	meq/L
Calcium	82.4	mg/L	4.11	meq/L
Magnesium	14.3	mg/L	1.17	meq/L
Potassium	0.84	mg/L	0.02	meq/L
Sodium	20.0	mg/L	0.87	meq/L
Cations			6.18	meq/L
Anions			6.18	meq/L
Cation/Anion Difference			0.03%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Lopez GC #1** **Grab Sample**


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

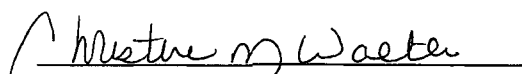
Client: Blagg / BP
Sample ID: MW #3
Laboratory Number: 38430
Chain of Custody: 14675
Sample Matrix: Water
Preservative: Cool
Condition: Cool & Intact

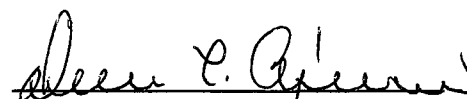
Project #: 94034-010
Date Reported: 09-14-06
Date Sampled: 09-13-06
Date Received: 09-13-06
Date Extracted: N/A
Date Analyzed: 09-14-06

Parameter	Analytical Result	Units		
pH	7.50	s.u.		
Conductivity @ 25° C	733	umhos/cm		
Total Dissolved Solids @ 180C	504	mg/L		
Total Dissolved Solids (Calc)	526	mg/L		
SAR	3.6	ratio		
Total Alkalinity as CaCO3	333	mg/L		
Total Hardness as CaCO3	190	mg/L		
Bicarbonate as HCO3	333	mg/L	5.46	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	0.6	mg/L	0.01	meq/L
Nitrite Nitrogen	0.031	mg/L	0.00	meq/L
Chloride	46.0	mg/L	1.30	meq/L
Fluoride	0.11	mg/L	0.01	meq/L
Phosphate	2.00	mg/L	0.06	meq/L
Sulfate	92.0	mg/L	1.92	meq/L
Iron	0.110	mg/L	0.00	meq/L
Calcium	57.3	mg/L	2.86	meq/L
Magnesium	11.5	mg/L	0.95	meq/L
Potassium	0.95	mg/L	0.02	meq/L
Sodium	113	mg/L	4.92	meq/L
Cations			8.75	meq/L
Anions			8.75	meq/L
Cation/Anion Difference			0.04%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Lopez GC #1 Grab Sample


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

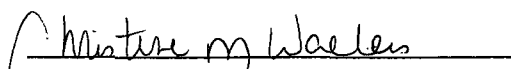
Client: Blagg / BP
Sample ID: MW #4
Laboratory Number: 38431
Chain of Custody: 14675
Sample Matrix: Water
Preservative: Cool
Condition: Cool & Intact

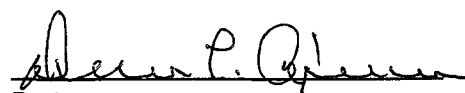
Project #: 94034-010
Date Reported: 09-14-06
Date Sampled: 09-13-06
Date Received: 09-13-06
Date Extracted: N/A
Date Analyzed: 09-14-06

Parameter	Analytical Result	Units		
pH	7.28	s.u.		
Conductivity @ 25° C	628	umhos/cm		
Total Dissolved Solids @ 180C	408	mg/L		
Total Dissolved Solids (Calc)	407	mg/L		
SAR	1.0	ratio		
Total Alkalinity as CaCO3	165	mg/L		
Total Hardness as CaCO3	256	mg/L		
Bicarbonate as HCO3	165	mg/L	2.70	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	0.2	mg/L	0.00	meq/L
Nitrite Nitrogen	0.010	mg/L	0.00	meq/L
Chloride	49.0	mg/L	1.38	meq/L
Fluoride	0.08	mg/L	0.00	meq/L
Phosphate	1.40	mg/L	0.04	meq/L
Sulfate	125	mg/L	2.60	meq/L
Iron	0.061	mg/L	0.00	meq/L
Calcium	79.8	mg/L	3.98	meq/L
Magnesium	13.8	mg/L	1.14	meq/L
Potassium	1.70	mg/L	0.04	meq/L
Sodium	36.3	mg/L	1.58	meq/L
Cations			6.74	meq/L
Anions			6.74	meq/L
Cation/Anion Difference			0.01%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Lopez GC #1 Grab Sample


Analyst


Review

HALL ENVIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4
www.hallenvironmental.com

Address: P.O. BOX 87

B.F.D. NM 87413

Phone #: 632-1199

Fax #:

Date	Time	Matrix	Sample I.D. No.
------	------	--------	-----------------

Matrix

Sample I.D. No.

Number/Volume

Preservative

$$\text{HqCl} \quad \text{HNO}_3$$

HEAL No.

FILE NO. 7-09136

9/13/06	0930	WATER	NW #1	2-40m/
---------	------	-------	-------	--------

2-40ml	MW #2	1000 WATER	9/13/06
--------	-------	------------	---------

9/13/06	0900	WATER	MW #3	2-40m/
---------	------	-------	-------	--------

2-40m	MW #4	WATER	0830	7/13/06
-------	-------	-------	------	---------

Date: /	Time:
---------	-------

Relinquished By: (Signature)

Received By: (Signature)

9-13-06

Date: 11/1 Time: 11:00

Relinquished By: (Signature)

Received By: (Signature) _____

Remarks:

ANALYSIS REQUEST

[illegible]

QA/QC Package:

Std Level 4

Other:

Project Name:

LOPER GC #1

Project #:

Project Manager:

Sampler:

Sample Temperature:

40

~~BTEX + MTBE + TMB-S (80218)~~
BTEX + MTBE + TPH (Gasoline Only)

CHAIN OF CUSTODY RECORD

14675

Client / Project Name		Project Location		ANALYSIS / PARAMETERS					Remarks		
BAGE/BF		LOPEZ GC #1							PRESERVED COOL		
Sampler: NV		Client No. 94034-010							GRAB SAMPLES		
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	MAJOR ANIONS CATIONS					
MW #1	9/13/06	0930	38428	WATER	1	✓					
MW #2	9/13/06	1000	38429	WATER	1	✓					
MW #3	9/13/06	0900	38430	WATER	1	✓					
MW #4	9/13/06	0830	38431	WATER	1	✓					
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time	
[Signature]		9/13/06		1053		[Signature]		9/13/06		1053	
Relinquished by: (Signature)						Received by: (Signature)					
Relinquished by: (Signature)						Received by: (Signature)					
Sample Receipt										Y N N/A	
Received Intact										✓	
Cool - Ice/Blue Ice										✓	

ENVIROTECHINC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Lopez GC #1

Work Order: 0609139

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	------	----------	-----------	------	----------	------

Method: SW8021

Sample ID: 5ML REAGENT BLA

MBLK

Batch ID: R20748 Analysis Date: 9/20/2006 9:52:55 AM

Benzene	ND	µg/L	1.0
Toluene	ND	µg/L	1.0
Ethylbenzene	ND	µg/L	1.0
Xylenes, Total	ND	µg/L	3.0

Sample ID: b 5

MBLK

Batch ID: R20767 Analysis Date: 9/21/2006 10:48:20 AM

Benzene	ND	µg/L	1.0
Toluene	ND	µg/L	1.0
Ethylbenzene	ND	µg/L	1.0
Xylenes, Total	ND	µg/L	3.0

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R20748 Analysis Date: 9/20/2006 6:39:35 PM

Benzene	18.43	µg/L	1.0	92.1	85	115
Toluene	18.58	µg/L	1.0	92.9	85	118
Ethylbenzene	19.05	µg/L	1.0	95.2	85	116
Xylenes, Total	58.23	µg/L	3.0	97.1	85	119

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R20767 Analysis Date: 9/21/2006 6:07:28 PM

Benzene	19.01	µg/L	1.0	95.0	85	115
Toluene	19.38	µg/L	1.0	96.9	85	118
Ethylbenzene	20.21	µg/L	1.0	101	85	116
Xylenes, Total	60.43	µg/L	3.0	101	85	119

Qualifiers:

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	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG**

Date and Time Received:

9/13/2006

Work Order Number **0609139**

Received by **GLS**

Checklist completed by

Signature

Date

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 ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

4°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding

Comments:

Corrective Action

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

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

LOPEZ GC #1

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

UNIT D, SEC. 2, T29N, R9W

Date : **November 16, 2006**

SAMPLER : **N J V**

Filename : **11-16-06.WK4**

PROJECT MANAGER : **N J V**

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
MW - 1	100.42	94.42	6.00	15.00	-	-	-	-	-
MW - 2	101.50	94.50	7.00	15.00	1355	7.05	600	17.1	4.00
MW - 3	100.91	94.15	6.76	15.00	1325	7.02	800	17.9	4.00
MW - 4	101.90	94.14	7.76	15.00	-	-	-	-	-

INSTRUMENT CALIBRATIONS =

DATE & TIME =

7.00	2,800
11/14/06	0945

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

Ideally a minimum of three (3) wellbore volumes:

2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

Excellent recovery in MW # 2 & # 3. Murky brown appearance in both MW's. Collected samples from MW # 2 & # 3 for BTEX analysis only.

Top of casing MW # 1 ~ 2.20 ft., MW # 2 ~ 2.35 ft., MW # 3 ~ 2.15 ft., MW # 4 ~ 2.35 ft. above grade.

Hall Environmental Analysis Laboratory, Inc.

Date: 28-Nov-06

CLIENT: Blagg Engineering
Project: Lopez GC #1

Lab Order: 0611237

Lab ID: 0611237-01

Collection Date: 11/16/2006 1:55:00 PM

Client Sample ID: MW #2

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	11/28/2006 1:12:45 AM
Toluene	ND	1.0		µg/L	1	11/28/2006 1:12:45 AM
Ethylbenzene	ND	1.0		µg/L	1	11/28/2006 1:12:45 AM
Xylenes, Total	ND	3.0		µg/L	1	11/28/2006 1:12:45 AM
Surr: 4-Bromofluorobenzene	80.2	70.2-105		%REC	1	11/28/2006 1:12:45 AM

Lab ID: 0611237-02

Collection Date: 11/16/2006 1:25:00 PM

Client Sample ID: MW #3

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	1.0		µg/L	1	11/28/2006 1:42:54 AM
Toluene	ND	1.0		µg/L	1	11/28/2006 1:42:54 AM
Ethylbenzene	ND	1.0		µg/L	1	11/28/2006 1:42:54 AM
Xylenes, Total	ND	3.0		µg/L	1	11/28/2006 1:42:54 AM
Surr: 4-Bromofluorobenzene	78.8	70.2-105		%REC	1	11/28/2006 1:42:54 AM

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com



ANALYSIS REQUEST

CHAIN-OF-CUSTODY RECORD					QA / QC Package:		
					Std ☐	Level 4 ☐	Other:
Client: <u>BLAKE ENER. / BP AMERICA</u>					Project Name: <u>LOPER GC #1</u>		
Address: <u>P.O. BOX 87</u>					Project #: <u>21</u>		
<u>BLFD, NM 87413</u>					Project Manager: <u>NV</u>		
					Sampler: <u>NV</u>		
Phone #: <u>632-1199</u>					Sample Temperature: <u>30</u>		
Fax #:							
Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative HgCl ₂ HNO ₃		HEAL No.
<u>11/16/06</u>	<u>1355</u>	<u>WATER</u>	<u>MW # 2</u>	<u>2-40 ml</u>	☒	☐	<u>0611237</u>
<u>11/16/06</u>	<u>1325</u>	<u>WATER</u>	<u>MW # 3</u>	<u>2-40 ml</u>	☒	☐	<u>2</u>
Date: <u>11/16/06</u>	Time: <u>1700</u>	Relinquished By: (Signature) <u>[Signature]</u>		Received By: (Signature) <u>[Signature]</u>		Date: <u>11/17/06</u>	
Date: <u>11/16/06</u>	Time: <u>1700</u>	Relinquished By: (Signature) <u>[Signature]</u>		Received By: (Signature) <u>[Signature]</u>		Date: <u>11/17/06</u>	

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Lopez GC #1

Work Order: 0611237

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
---------	--------	-------	-----	------	----------	-----------	------	----------	------

Method: SW8021

Sample ID: 5ML RB

MBLK

Batch ID: R21562 Analysis Date: 11/27/2006 9:36:50 AM

Benzene	ND	µg/L	1.0
Toluene	ND	µg/L	1.0
Ethylbenzene	ND	µg/L	1.0
Xylenes, Total	ND	µg/L	3.0

Sample ID: 100NG BTEX LCS

LCS

Batch ID: R21562 Analysis Date: 11/27/2006 10:12:30 PM

Benzene	18.66	µg/L	1.0	93.3	85.9	113
Toluene	18.42	µg/L	1.0	92.1	86.4	113
Ethylbenzene	18.02	µg/L	1.0	90.1	83.5	118
Xylenes, Total	54.95	µg/L	3.0	91.6	83.4	122

Qualifiers:

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	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **BLAGG**

Date and Time Received:

11/17/2006

Work Order Number **0611237**

Received by **TLS**

Checklist completed by

Signature

Date

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 ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☐

Yes ☒

No ☐

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

3°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

Regarding

Comments:

Corrective Action

BLAGG ENGINEERING INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903

February 2, 2001

Mr. William C. Olson, Hydrologist
New Mexico Oil Conservation Division
1220 St. Francis Drive
Santa Fe, New Mexico 87504

Re: Notice of Groundwater Impact
BP-Amoco: Lopez GC 1
(D) Sec. 2 - T29N - R9W, San Juan County, NM

Dear Mr. Olson:

On behalf of BP-Amoco, Blagg Engineering, Inc. (BEI) has conducted environmental monitoring at the subject location. A potential release of hydrocarbons to the environment was discovered by a private landowner during installation of a gas tap. A preliminary site assessment indicates that limited groundwater impacts are present with a potential source area between the production tank and separator unit. During the assessment contaminated soils were excavated and groundwater was pumped from the excavation. Groundwater was found between 4' - 5' below ground surface.

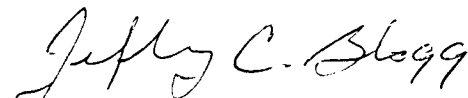
The original source of contamination is speculative. No known earthen pits or other releases have been identified in the areas that were remediated. However, contaminated soil has been removed from the site and transported to BP-Amoco's Crouch Mesa landfarm/compost facility. This site will be placed on BP-Amoco's scheduled groundwater monitoring program to quantify water quality.

Attached, please find site diagrams indicating the areas remediated and initial groundwater sample locations. Groundwater was sampled prior to any pumping of groundwater. Also attached are laboratory groundwater BTEX reports.

If you have questions or need additional information, please contact myself at (505)632-1199.

Respectfully:

Blagg Engineering, Inc.



Jeffrey C. Blagg, P.E.

President

Attachments: Site Diagrams
Lab Reports

cc: B.D.Shaw - BP San Juan Op Center
Denny Foust - NMOCD Aztec

File: lopezgc1.wpd

CLIENT: <u>BP</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: _____ C.D.C. NO: _____
-------------------	--	--

FIELD REPORT: CLOSURE VERIFICATION	PAGE No: <u>1</u> of <u>1</u>
------------------------------------	-------------------------------

LOCATION: NAME: <u>LOPEZ GC</u> WELL #: <u>1</u> PIT: _____	DATE STARTED: <u>1/22/01</u> DATE FINISHED: _____
QUAD/UNIT: <u>D</u> SEC: <u>2</u> TWP: <u>29N</u> RNG: <u>9W</u> PM: <u>NM</u> CNTY: <u>SJ</u> ST: <u>NM</u>	ENVIRONMENTAL SPECIALIST: <u>Blagg</u>
QTR/FOOTAGE: <u>NW/4</u> <u>NW/4</u> CONTRACTOR: _____	

EXCAVATION APPROX. <u>20</u> FT. x <u>30</u> FT. x <u>6</u> FT. DEEP. CUBIC YARDAGE: _____
DISPOSAL FACILITY: <u>CRATER MESA LF</u> REMEDIATION METHOD: <u>EXCAVATE</u>
LAND USE: _____ LEASE: _____ FORMATION: _____

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY _____ FT. _____ FROM WELLHEAD.
DEPTH TO GROUNDWATER: <u>4'±</u> NEAREST WATER SOURCE: <u>< 100</u> NEAREST SURFACE WATER: <u>> 100</u>
NMCD RANKING SCORE: <u>20</u> NMCD TPH CLOSURE STD: <u>100</u> PPM
SOIL AND EXCAVATION DESCRIPTION:

CHECK ONE:
☐ PIT ABANDONED
☐ STEEL TANK INSTALLED
☐ FIBERGLASS TANK INSTALLED

CONTAINING SOILS DISCOVERED IN EXCAVATION
 CONTAINING 10 LB OF SOIL / REMOVED
 SOURCE: 1/23/01

SCALE



0 FT

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

PIT PERIMETER

SEE ATTACHED

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1	
2	
3	
4	
5	

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
W1 @ 4'	BTEX	1015
W2 @ 4'	"	1130
W3 @ 6'	"	1145

PIT PROFILE

1/23/01
 1/24/01
 1/26/01

TRAVEL NOTES.	CALLOUT: _____	ONSITE: _____
---------------	----------------	---------------

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

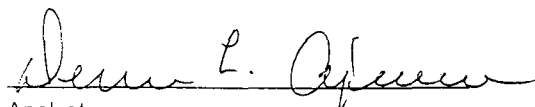
Client:	Blagg / BP-EES	Project #:	04034-010
Sample ID:	Pile 89	Date Reported:	01-25-01
Laboratory Number:	19135	Date Sampled:	01-23-01
Chain of Custody No:	8481	Date Received:	01-24-01
Sample Matrix:	Soil	Date Extracted:	01-24-01
Preservative:	Cool	Date Analyzed:	01-25-01
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

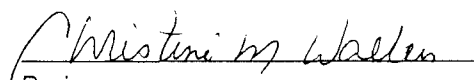
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	2.4	0.2
Diesel Range (C10 - C28)	36.8	0.1
Total Petroleum Hydrocarbons	39.2	0.1

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: Lopez GC #1.


Analyst


Review

08481

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

CLIENT: AMOCOBLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199DATE: 8-24-98

FIELD REPORT: PIT INVENTORY & SITE MAP

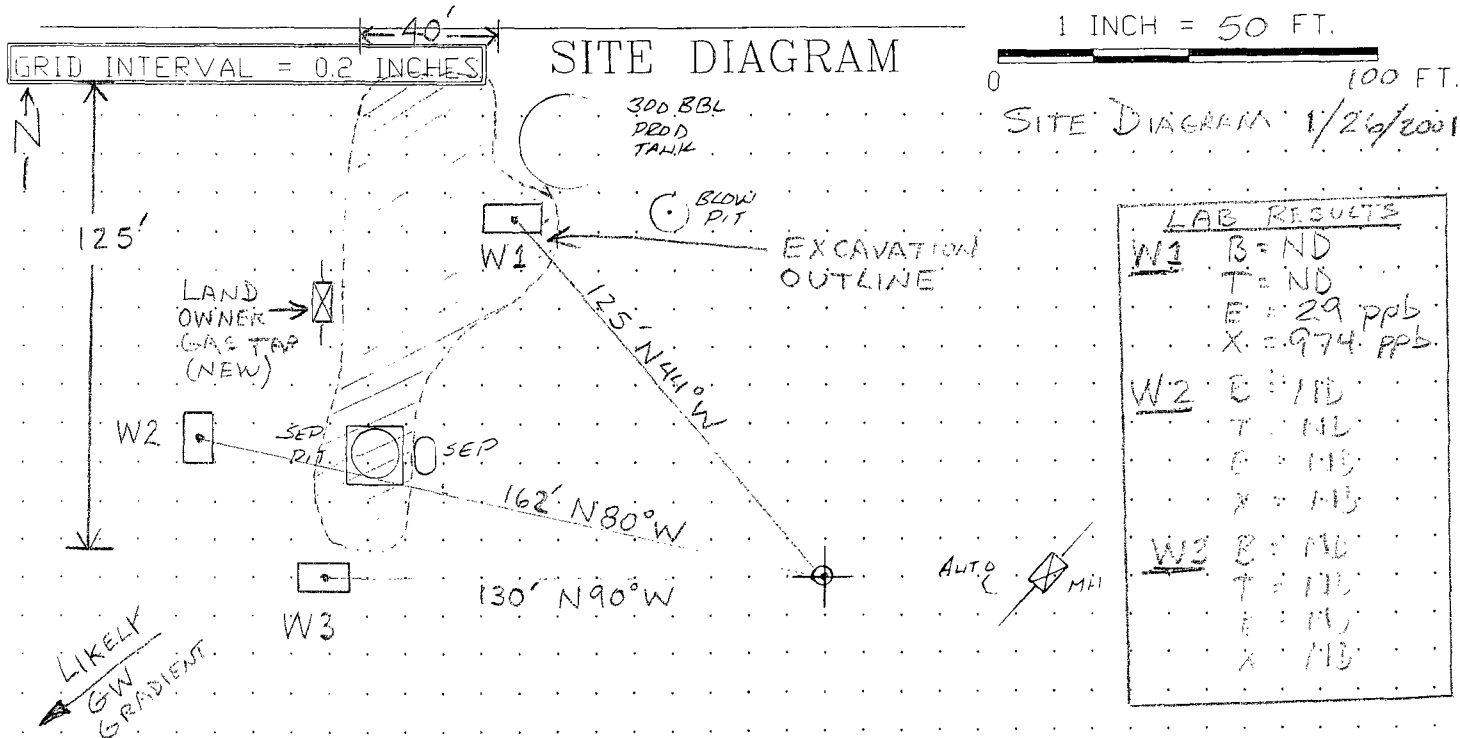
PAGE No: 1 of 1LOCATION NAME: LOPEZ GAS COM 1DATE
DRILLED: 3-22-79UNIT: D SEC. 2 TWP. 29N RNG. 9W CTY. SJ P.M. NMENVIRONMENTAL
SPECIALIST: EPPREVIOUS OPERATOR(S): NONE

	DEHYDRATOR	SEPARATOR PROD	BLOW		
Type of containment	E / F / ST	E / F / ST	E / F / ST	E / F / ST	E / F / ST
Pit fenced	Y / N	Y / N	Y / N	Y / N	Y / N
Pit netted	Y / N	Y / N	Y / N	Y / N	Y / N
Bermed adequately	Y / N	Y / N	Y / N	Y / N	Y / N
Weeds in pit area	Y / N	Y / N	Y / N	Y / N	Y / N
Lined	Y / N	Y / N	Y / N	Y / N	Y / N
Type of liner					
Spills or leaks	Y / N	Y / N	Y / N	Y / N	Y / N
Piping leaks	Y / N	Y / N	Y / N	Y / N	Y / N
Fluid present in pit	Y / N	Y / N	Y / N	Y / N	Y / N
Daily volume (< 5 bbl/day)	Y / N	Y / N	Y / N	Y / N	Y / N
Leak detection present	Y / N	Y / N	Y / N	Y / N	Y / N
Waste Non-exempt	Y / N	Y / N	Y / N	Y / N	Y / N
Utilized by one operator	Y / N	Y / N	Y / N	Y / N	Y / N
Other operator(s) name					
Dimension (L x W x D) ft.		12' x 5'	4' x 6'		
Distance (ft) - Bearing from well head.		105' 282°	100' 336°		

INSPECTION CHECKLIST

Storage tank(s) on-site	Y / N
1) # of tanks	1
2) bermed adequately	Y / N
3) tank overflow observed	Y / N
4) piping leaks observed	Y / N
Automation observed	Y / N
cathodic protection leaking	Y / N
Well head leaking	Y / N
Surface equipment leaking	Y / N
1) Unit type	
Well pad level	Y / N
Chemical drums	Y / N
1) labeled	Y / N
2) leaking	Y / N

NOTE: Type of containment symbols:

E = Earthen Pit
F = Fiberglass tank Pit
ST = Steel tank PitCOMMENTS: BLOW PIT NOT FENCED OR BERMEDWEATHER/SITE CONDITIONS: SUNNY / PARTLY SUNNY / CLOUDY / FOG / COLD / WARM / HOT /
RAINING / SNOWING / DRY / WET / MUDDY / VERY MUDDY / SNOW PACKED / ROUGH / SMOOTH.

OFF: (505) 325-5667
FAX: (505) 327-1496



LAB: (505) 325-1556
FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 31-Jan-01

Client:	Blagg Engineering	Client Sample Info:	Lopez GC #1
Work Order:	0101029	Client Sample ID:	W1 @ 4ft.
Lab ID:	0101029-01A	Matrix:	AQUEOUS
Project:	Lopez GC #1	Collection Date:	1/23/2001 10:15:00 AM
		COC Record:	11102

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	2.5		µg/L	5	1/29/2001
Toluene	ND	2.5		µg/L	5	1/29/2001
Ethylbenzene	29	2.5		µg/L	5	1/29/2001
m,p-Xylene	970	5		µg/L	5	1/29/2001
o-Xylene	3.8	2.5		µg/L	5	1/29/2001

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surrogate - Surrogate

1 of 1

P.O. BOX 2606 • FARMINGTON, NM 87499

EMAIL: ONSITE@ONSITELTD.COM

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667
FAX: (505) 327-1496



LAB: (505) 325-1556
FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 31-Jan-01

Client:	Blagg Engineering	Client Sample Info:	Lopez GC #1
Work Order:	0101036	Client Sample ID:	W2 @ 4ft.
Lab ID:	0101036-01A	Matrix:	AQUEOUS
Project:	Lopez GC #1	Collection Date:	1/26/2001 11:30:00 AM
		COC Record:	11104

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	1/29/2001
Toluene	ND	0.5		µg/L	1	1/29/2001
Ethylbenzene	ND	0.5		µg/L	1	1/29/2001
m,p-Xylene	ND	1		µg/L	1	1/29/2001
o-Xylene	ND	0.5		µg/L	1	1/29/2001

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

1 of 2

P.O. BOX 2606 • FARMINGTON, NM 87499
EMAIL: ONSITE@ONSITELTD.COM

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667
FAX: (505) 327-1496



LAB: (505) 325-1556
FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 31-Jan-01

Client:	Blagg Engineering	Client Sample Info:	Lopez GC #1
Work Order:	0101036	Client Sample ID:	W3 @ 6ft.
Lab ID:	0101036-02A	Matrix:	AQUEOUS
Project:	Lopez GC #1	Collection Date:	1/26/2001 11:45:00 AM
		COC Record:	11104

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
AROMATIC VOLATILES BY GC/PID		SW8021B		Analyst: DM		
Benzene	ND	0.5		µg/L	1	1/29/2001
Toluene	ND	0.5		µg/L	1	1/29/2001
Ethylbenzene	ND	0.5		µg/L	1	1/29/2001
m,p-Xylene	ND	1		µg/L	1	1/29/2001
o-Xylene	ND	0.5		µg/L	1	1/29/2001

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

2 of 2

P.O. BOX 2606 • FARMINGTON, NM 87499

EMAIL: ONSITE@ONSITELTD.COM

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -



Date: _____

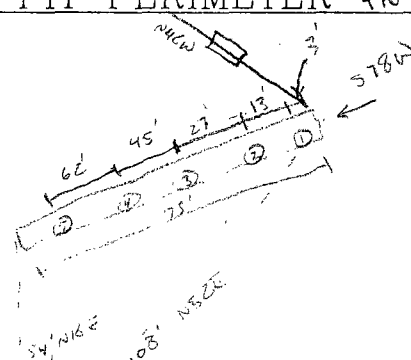
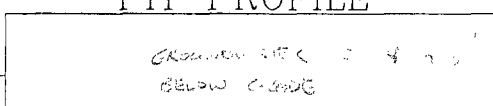
Page: _____ of _____

Distribution: White - On Site	Yellow - Lab	Pink - Sampler	Goldenrod - Client
-------------------------------	--------------	----------------	--------------------



2011

[illegible]

CLIENT: <u>BP</u>	BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199	LOCATION NO: _____ C.O.C. NO: <u>8792</u>																																																						
FIELD REPORT: CLOSURE VERIFICATION		PAGE No: <u>1</u> of <u>1</u>																																																						
LOCATION: NAME: <u>LOPEZ GC</u> WELL #: <u>1</u> PIT: <u>DEHY.</u> QUAD/UNIT: <u>D SEC: 2</u> TWP: <u>29N</u> RNG: <u>9W</u> PM: <u>NM</u> CNTY: <u>SJ</u> ST: <u>NM</u> QTR/FOOTAGE: _____ NW/NEW CONTRACTOR: <u>FLINT</u>		DATE STARTED: <u>11/16/01</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV/TCB</u>																																																						
EXCAVATION APPROX. <u>75</u> FT. x <u>5</u> FT. x <u>4.5</u> FT. DEEP. CUBIC YARDAGE: <u>N/A</u> DISPOSAL FACILITY: <u>ON-SITE</u> REMEDIATION METHOD: <u>AIR SPARGING</u> LAND USE: <u>RANGE</u> LEASE: <u>FEE</u> FORMATION: <u>OK</u>																																																								
FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY <u>77</u> FT. <u>N40E</u> FROM WELLHEAD DEPTH TO GROUNDWATER: <u><50'</u> NEAREST WATER SOURCE: <u>>1000'</u> NEAREST SURFACE WATER: <u><1000'</u> NMOC D RANKING SCORE: <u>10</u> NMOC D TPH CLOSURE STD: <u>100</u> PPM																																																								
SOIL AND EXCAVATION DESCRIPTION: SOIL TYPE: <u>SAND</u> / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER _____ SOIL COLOR: <u>LT. MED. TO DK. GRAY</u> COHESION (ALL OTHERS): <u>NON COHESIVE</u> / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE CONSISTENCY (NON COHESIVE SOILS): <u>LOOSE</u> / 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 / <u>MOIST</u> / <u>WET</u> / SATURATED / SUPER SATURATED DISCOLORATION/STAINING OBSERVED: YES / <u>NO</u> EXPLANATION - <u>NOT DISTINGUISHABLE</u> HC ODOR DETECTED: <u>YES</u> / NO EXPLANATION - <u>SAMPLES 2, 3, & 4</u> SAMPLE TYPE: <u>GRAB</u> COMPOSITE - # OF PTS. _____ ADDITIONAL COMMENTS: _____	DVM CALIB. READ: <u>53.2</u> ppm DVM CALIB. GAS = <u>100</u> ppm RF = <u>0.52</u> TIME: <u>2:02</u> am/pm DATE: <u>11/15/01</u> CHECK ONE ☒ PIT ABANDONED ☐ STEEL TANK INSTALLED ☐ FIBERGLASS TANK INSTALLED																																																							
FIELD 418.1 CALCULATIONS																																																								
SCALE  0 FT	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>SAMP. TIME</th> <th>SAMPLE I.D.</th> <th>LAB No:</th> <th>WEIGHT (g)</th> <th>mL. FREON</th> <th>DILUTION</th> <th>READING</th> <th>CALC. ppm</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		SAMP. TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm																																														
SAMP. TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm																																																	
PIT PERIMETER 	OVM RESULTS <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>SAMPLE ID</th> <th>FIELD HEADSPACE P10 (ppm)</th> <th></th> </tr> </thead> <tbody> <tr><td>1 @ 3'</td><td>0.0</td><td>0850</td></tr> <tr><td>2 @ 3'</td><td>418</td><td>0853</td></tr> <tr><td>3 @ 3'</td><td>793</td><td>0855</td></tr> <tr><td>4 @ 3'</td><td>417</td><td>0856</td></tr> <tr><td>5 @ 3'</td><td>24</td><td>0859</td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> LAB SAMPLES <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>SAMPLE ID</th> <th>ANALYSIS</th> <th>TIME</th> </tr> </thead> <tbody> <tr><td>② @ 3'</td><td>TPH & BTEX</td><td>0853</td></tr> <tr><td>③ @ 3'</td><td>" "</td><td>0855</td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		SAMPLE ID	FIELD HEADSPACE P10 (ppm)		1 @ 3'	0.0	0850	2 @ 3'	418	0853	3 @ 3'	793	0855	4 @ 3'	417	0856	5 @ 3'	24	0859																SAMPLE ID	ANALYSIS	TIME	② @ 3'	TPH & BTEX	0853	③ @ 3'	" "	0855												
SAMPLE ID	FIELD HEADSPACE P10 (ppm)																																																							
1 @ 3'	0.0	0850																																																						
2 @ 3'	418	0853																																																						
3 @ 3'	793	0855																																																						
4 @ 3'	417	0856																																																						
5 @ 3'	24	0859																																																						
SAMPLE ID	ANALYSIS	TIME																																																						
② @ 3'	TPH & BTEX	0853																																																						
③ @ 3'	" "	0855																																																						
PIT PROFILE 																																																								
P.D. = PIT DEPRESSION; B.G. = BELOW GRADE T.H. = TEST HOLE TRAVEL NOTES: CALLOUT: <u>11/15/01 - AFTER.</u> ONSITE: <u>11/16/01 - BEFORE.</u>																																																								

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

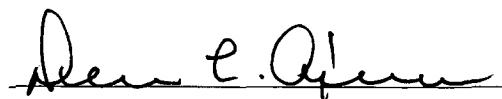
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	2 @ 3'	Date Reported:	11-19-01
Laboratory Number:	21532	Date Sampled:	11-16-01
Chain of Custody No:	8792	Date Received:	11-16-01
Sample Matrix:	Soil	Date Extracted:	11-16-01
Preservative:	Cool	Date Analyzed:	11-19-01
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

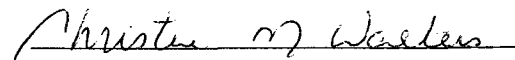
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	472	0.2
Diesel Range (C10 - C28)	174	0.1
Total Petroleum Hydrocarbons	646	0.2

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: Lopez GC #1 Abandoned Dehydrator Pit Grab Sample.


Analyst


Review

ENVIROTECH LABS

PRactical SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	2 @ 3'	Date Reported:	11-19-01
Laboratory Number:	21532	Date Sampled:	11-16-01
Chain of Custody:	8792	Date Received:	11-16-01
Sample Matrix:	Soil	Date Analyzed:	11-19-01
Preservative:	Cool	Date Extracted:	11-16-01
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	99.8	1.8
Toluene	922	1.7
Ethylbenzene	73.5	1.5
p,m-Xylene	3,710	2.2
o-Xylene	571	1.0
Total BTEX	5,380	

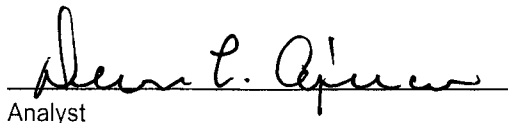
ND - Parameter not detected at the stated detection limit.

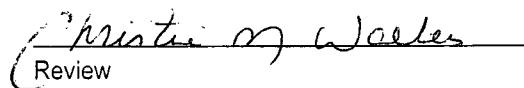
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98 %
	1,4-difluorobenzene	98 %
	Bromochlorobenzene	98 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Lopez GC #1 Abandoned Dehydrator Pit Grab Sample.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

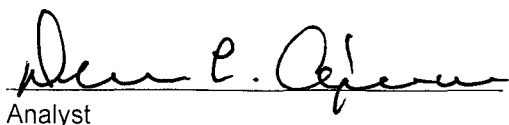
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	3 @ 3'	Date Reported:	11-19-01
Laboratory Number:	21533	Date Sampled:	11-16-01
Chain of Custody No:	8792	Date Received:	11-16-01
Sample Matrix:	Soil	Date Extracted:	11-16-01
Preservative:	Cool	Date Analyzed:	11-19-01
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

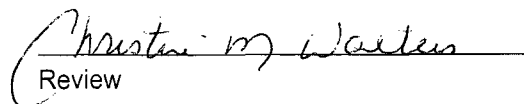
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	582	0.2
Diesel Range (C10 - C28)	191	0.1
Total Petroleum Hydrocarbons	773	0.2

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: **Lopez GC #1 Abandoned Dehydrator Pit Grab Sample.**


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	3 @ 3'	Date Reported:	11-19-01
Laboratory Number:	21533	Date Sampled:	11-16-01
Chain of Custody:	8792	Date Received:	11-16-01
Sample Matrix:	Soil	Date Analyzed:	11-19-01
Preservative:	Cool	Date Extracted:	11-16-01
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	3.3	1.8
Toluene	1,570	1.7
Ethylbenzene	1,610	1.5
p,m-Xylene	3,710	2.2
o-Xylene	571	1.0
Total BTEX	7,460	

ND - Parameter not detected at the stated detection limit.

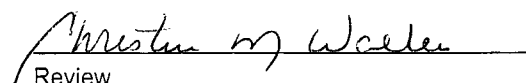
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98 %
	1,4-difluorobenzene	98 %
	Bromochlorobenzene	98 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Lopez GC #1 Abandoned Dehydrator Pit Grab Sample.


Analyst


Review

08792

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	11-19-TPH QA/QC	Date Reported:	11-19-01
Laboratory Number:	21527	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-19-01
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	08-22-01	1.2571E-002	1.2559E-002	0.10%	0 - 15%
Diesel Range C10 - C28	08-22-01	8.3733E-003	8.3565E-003	0.20%	0 - 15%

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

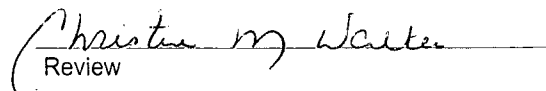
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

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: QA/QC for samples 21527 - 21533.


Analyst


Review

ENVIROTECH LABS

PRactical SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	11-19-BTEX QA/QC	Date Reported:	11-19-01
Laboratory Number:	21527	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-19-01
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff.	Blank Conc	Detect. Limit
		Accept. Range 0 - 15%			
Benzene	1.7143E-001	1.7195E-001	0.3%	ND	0.2
Toluene	9.4693E-002	9.4883E-002	0.2%	ND	0.2
Ethylbenzene	1.2284E-001	1.2321E-001	0.3%	ND	0.2
p,m-Xylene	1.0810E-001	1.0843E-001	0.3%	ND	0.2
o-Xylene	9.2106E-002	9.2290E-002	0.2%	ND	0.1

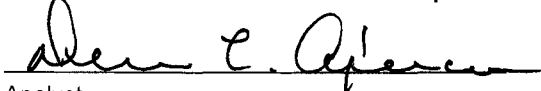
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	99.8	99.6	0.2%	0 - 30%	1.8
Toluene	922	915	0.7%	0 - 30%	1.7
Ethylbenzene	73.5	73.1	0.5%	0 - 30%	1.5
p,m-Xylene	3,710	3,690	0.5%	0 - 30%	2.2
o-Xylene	571	571	0.0%	0 - 30%	1.0

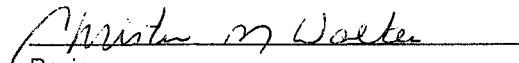
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	99.8	50.0	149	99.7%	39 - 150
Toluene	922	50.0	967	99.5%	46 - 148
Ethylbenzene	73.5	50.0	123	99.7%	32 - 160
p,m-Xylene	3,710	100	3,790	99.5%	46 - 148
o-Xylene	571	50.0	618	99.5%	46 - 148

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for samples 21532 - 21533.


Analyst


Review