3R-028

Ground Water Remediation Report

DATE:
Sept 2008

3R0028

COPY

BP AMERICA PRODUCTION CO.

GROUNDWATER REMEDIATION REPORT

JACQUEZ LS #3
(D) SECTION 30, T30N, R8W, NMPM
SAN JUAN COUNTY, NEW MEXICO

PREPARED FOR:
NEW MEXICO OIL CONSERVATION DIVISION
1220 ST. FRANCIS DRIVE
SANTA FE, NEW MEXICO 87504

SEPTEMBER 2008

PREPARED BY:
BLAGG ENGINEERING, INC.

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

BP AMERICA PRODUCTION COMPANY
Jacquez LS #3
Nw/4 Nw/4, Sec. 30, T30N, R8W

Pit Closure Date: **January 1996 (multiple pits)**

Monitor Well Installation Date: **August 2007**

Monitor Well Sampling Dates: **08/09/07, 11/20/07, 04/07/08, 06/10/08**

Site History:

Groundwater was encountered at a depth of approximately 10 feet below surface grade during excavation of impacted soils from multiple pits in January 1996 (documentation attached). The excavation perimeter was measured at approximately 175 X 100 X 10 feet depth. Approximately 6,500 cubic yards of soils were removed and transported to a private landowner property near BP's (formerly Amoco Production Company) Garcia GC B #1 well site (Unit J, Sec. 21, T29N, R10W). The groundwater within the excavation perimeter was pumped via water hauling trucks and disposed at an approved facility. Afterwards, the exposed groundwater was sampled and tested for benzene, toluene, ethylbenzene, and total xylenes (**BTEX**) per US EPA method 8020. The discovery of unconfirmed groundwater impact during the initial stage of the pit closure activity was transmitted via telecommunication to the New Mexico Oil Conservation Division's (**NMOCD**) district office in Aztec, New Mexico on January 3, 1996. Upon receipt of the first laboratory results received, NMOCD was notified with letter dated March 5, 1996 of the groundwater impact (attached). Resampling of the groundwater in two (2) additional events was conducted at later dates in January, 1996. The BTEX results of the groundwater sampling from the excavation and adjacent test holes in the suspected down gradient direction are as follows;

Sample ID	Date	Benzene (ppb)	Toluene (ppb)	Ethylbenzene (ppb)	Total Xylenes (ppb)
Pit Water	01/18/96	**13.0**	15.5	19.6	127.0
Pit Water	01/24/96	**16.4**	8.14	14.0	103.1
Pit Water	01/31/96	**12.9**	5.05	5.57	30.6
TH1 (gw)	01/18/96	ND	ND	ND	ND
TH2 (gw)	01/18/96	ND	ND	ND	ND
NMWQCC regulatory standards		**10**	**750**	**750**	**620**

Note: gw = groundwater, NMWQCC = New Mexico Water Quality Control Commission, ppb = parts per billion, ND = Not detectable at reported limits (less than regulatory standards by at least a magnitude of 10).

Groundwater Investigation and Soil Lithology:

Groundwater monitor wells were installed in August 2007 to test groundwater quality (see Figure 1). Boring logs for all three (3) monitor wells along with well completion information are contained within this report. There are no known receptors impacted by the previous discovery of impacted soil and/or groundwater.

Soil lithology at the site consists of primarily coarse grained sand with varying size gravel, non cohesive, and firm. Grayish black sand and gravel mix with no apparent hydrocarbon odor was observed from the drill cuttings at an estimated 11-20 feet below grade within the source area boring only (MW #2).

Groundwater Monitor Well Sampling Procedures:

Monitor wells were developed by hand-bailing, using new disposable bailers after installation. Prior to sample collections, the monitor wells were purged approximately three (3) well bore volumes with new disposable bailers. The groundwater samples were collected following US EPA: SW-846 protocol, were placed into laboratory supplied containers with appropriate preservative, and stored in an ice chest for express delivery to an analytical laboratory for testing under strict chain-of-custody procedures. Analytical testing included BTEX by US EPA Method 8021B or Method 8260B and general water quality parameters.

Fluids generated during monitor well development and purging were managed by discarding into a tank pit located near the well head on-site. The tank pit contents are then disposed through approved NMOCD operational procedures for removal of produced fluids.

Groundwater Quality & Flow Direction Information:

Quarterly groundwater monitor well sampling was initiated in August 2007. Summary of laboratory BTEX and general water chemistry analytical results are included in the table on the following pages. The data indicates all BTEX constituents tested at non-detectable levels for four (4) consecutive sampling events within the source and down gradient areas. All field data and laboratory reports for each quarterly sampling event are contained within this report.

Groundwater elevations have consistently been measured with a gradient towards the south-southeast direction (Figure 2 through Figure 5).

Summary and Recommendations:

Hydrocarbon impacted soil and groundwater at the site appear to have been remediated via excavation of impacted soils. All site wells tested at non-detectable levels for BTEX; therefore, meeting NMWQCC standards for groundwater. Permanent site closure is recommended. Following approval by the NMOCD, site monitor wells will be abandoned pursuant to the approved BP Ground Water Management Plan.

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

JACQUEZ LS # 3
UNIT D, SEC. 30, T30N, R8W

REVISED DATE: June 24, 2008

FILENAME: (JLS32Q08.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
09-Aug-07	MW #1	12.33	22.25	6,200	5,600	7.56		ND	ND	ND	ND
09-Aug-07	MW #2	10.69	21.35	3,400	4,600	7.28		ND	ND	ND	ND
20-Nov-07		10.23			4,500	8.71		ND	ND	ND	ND
07-Apr-08		8.44			4,400	8.67		ND	ND	ND	ND
10-Jun-08		8.25			4,300	8.66		ND	ND	ND	ND
09-Aug-07	MW #3	11.90	20.00	6,400	6,200	7.45		ND	ND	ND	ND
20-Nov-07		11.41			5,700	7.37		ND	ND	ND	ND
07-Apr-08		7.56			5,700	7.56		ND	ND	ND	ND
10-Jun-08		9.43			4,600	7.74		ND	ND	ND	ND
					NMWQCC GROUNDWATER STANDARDS			10	750	750	620

NOTES : 1) ND INDICATES NOT DETECTED AT THE REPORTING LIMITS (less than regulatory standards of at least a magnitude of 10).

GENERAL WATER QUALITY

BP AMERICA PRODUCTION COMPANY

JACQUEZ LS # 3

Sample Date : August 9 , 2007

PARAMETERS	MW # 1	MW # 2	MW # 3	NMWQCC STANDARDS	Units
LAB pH	7.81	7.58	7.68	**6 - 9**	s. u.
TOTAL DISSOLVED SOLIDS	11,000	5,700	9,600	**1,000**	mg / L
NITROGEN, NITRITE	ND	ND	ND	**10.0**	mg / L
NITROGEN , NITRATE	ND	ND	ND	**10.0**	mg / L
CHLORIDE	59	77	79	**250**	mg / L
FLUORIDE	1.5	1.8	2.2	**1.6**	mg / L
SULFATE	6,200	3,400	6,400	**600**	mg / L
IRON	0.058	0.19	0.094	**1.0**	mg / L

Notes :

1) NMWQCC - New Mexico Water Quality Control Commission .

2) s. u. - stanadard unit .

3) mg / L - milligrams per liter or otherwise known as parts per million (ppm) .

4) New Mexico Oil Conservation Division (NMOCD) recognizes the NMWQCC or background levels (statistical equivalence) as the standards for each site specific scenario .

REC

CLIENT: AMOCO

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

LOCATION NO: B0321
C.O.C. NO: —

FIELD REPORT: PIT CLOSURE VERIFICATION

LOCATION: JAQUEZ LS 3 PIT TYPE: MULTI
QUAD/UNIT: D SEC: 30 TWP: 30 N RNG: 8 W BM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: 1090' N. 1180' W. CONTRACTOR: PAUL

DATE STARTED: 1-18-96
DATE FINISHED: 1-31-96
ENVIRONMENTAL SPECIALIST: REC

EXCAVATION APPROX. 175 FT. x 100 FT. x 10 FT. DEEP. CUBIC YARDS: ~6500
DISPOSAL FACILITY: GARCIA GC #1 - CRUSHER REMEDIATION METHOD: CRUSH ROCK
LAND USE: RANGE LEASE: FEE FORMATION:

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY AROUND ~~FEET~~ THE ~~FROM~~ WELLHEAD.
DEPTH TO GROUNDWATER: 10' NEAREST WATER SOURCE: <1000' NEAREST SURFACE WATER: 250' TO SAN JUAN RIVER
NMOCD RANKING SCORE: 40 NMOCD TPH CLOSURE STD: 100 PPM

SOIL AND EXCAVATION DESCRIPTION: PIT DISPOSITION: ABANDONED

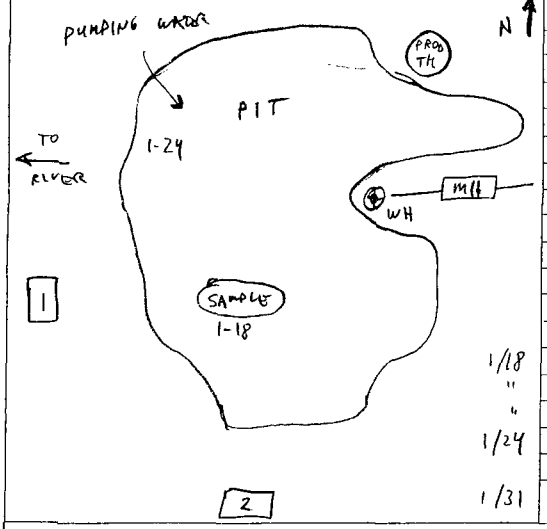
LARGE PIT EXCAVATION TO GROUNDWATER - SAND + COBBLE.
WATER SAMPLES COLLECTED FROM PIT + TWO TEST HOLES DOWN-GRADIENT
BUBBLING OBSERVED IN WATER NORTH OF WELL.
REMEDIATION SYSTEM INSTALLED AS PIT BACKFILLED TO REMEDIATE REMAINING CONTAMINATION IN GROUNDWATER AND AROUND WELLHEAD, METER HOUSE, AND PRODUCTION TANK.

FIELD 418.1 CALCULATIONS

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

SCALE
0 FT

PIT PERIMETER

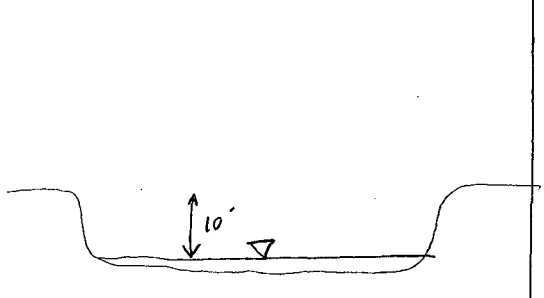


OVM RESULTS

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

	LAB	SAMPLES
1/18	PIT @ 10'	BTEX
"	TH-1	BTEX
"	TH-2	BTEX
1/24	PIT WATER	BTEX
1/31	PIT WATER	BTEX / CATION / ANION

PIT PROFILE



TRAVEL NOTES: CALLOUT: 1-18-96 ONSITE: 1-18-96 0800

FORM REVISED 7/95

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Jaquez LS 3	Report Date:	01/22/96
Sample ID:	Pit Water @ 10'	Date Sampled:	01/18/96
Lab ID:	2440	Date Received:	01/18/96
Sample Matrix:	Water	Date Analyzed:	01/18/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	13.0	5.00
Toluene	15.5	5.00
Ethylbenzene	19.6	5.00
m,p-Xylenes	95.3 } 127.0	10.0
o-Xylene	31.7 }	5.00
Total BTEX	**175**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	109	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Amoco/Jaquez LS 3	Report Date:	01/29/96
Sample ID:	Pit Water	Date Sampled:	01/24/96
Lab ID:	2499	Date Received:	01/25/96
Sample Matrix:	Water	Date Analyzed:	01/25/96
Preservative:	Cool, HgCl2		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	16.4	5.00
Toluene	8.14	5.00
Ethylbenzene	14.0	5.00
m,p-Xylenes	79.0 2 103.1	10.0
o-Xylene	24.1 3	5.00
Total BTEX	**142**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	102	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Jaquez LS 3	Report Date:	02/06/96
Sample ID:	Pit Water	Date Sampled:	01/31/96
Lab ID:	2555	Date Received:	02/01/96
Sample Matrix:	Water	Date Analyzed:	02/01/96
Preservative:	Cool, HgCl2		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	12.9	2.00
Toluene	5.05	2.00
Ethylbenzene	5.57	2.00
m,p-Xylenes	30.6	4.00
o-Xylene	ND	2.00
Total BTEX	**54**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	103	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

General Water Quality
Blagg Engineering, Inc.

Project ID:	Jaquez LS 3	Date Reported:	02/06/96
Sample ID:	Pit Water	Date Sampled:	01/31/96
Laboratory ID:	2555	Time Sampled:	14:15
Sample Matrix:	Water	Date Received:	02/01/96

Parameter		Analytical Result	Units
General	Lab pH	7.5	s.u.
	Lab Conductivity @ 25° C	8,260	µmhos/cm
	Total Dissolved Solids @ 180°C	6,710	mg/L
	Total Dissolved Solids (Calc)	5,660	mg/L
Anions	Total Alkalinity as $CaCO_3$	402	mg/L
	Bicarbonate Alkalinity as $CaCO_3$	402	mg/L
	Carbonate Alkalinity as $CaCO_3$	NA	mg/L
	Hydroxide Alkalinity as $CaCO_3$	NA	mg/L
	Chloride	65.0	mg/L
	Sulfate	3,520	mg/L
	Nitrate + Nitrite - N	NA	
	Nitrate - N	NA	
	Nitrite - N	NA	
Cations	Total Hardness as $CaCO_3$	813	mg/L
	Calcium	265	mg/L
	Magnesium	36.8	mg/L
	Potassium	< 5.0	mg/L
	Sodium	1,520	mg/L

Data Validation			Acceptance Level
	Cation/Anion Difference	0.50	+/- 5 %
	TDS (180):TDS (calculated)	1.2	1.0 - 1.2

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 Wastewater, 18th ed., 1992.

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Jaquez LS 3	Report Date:	01/22/96
Sample ID:	TH - 1	Date Sampled:	01/18/96
Lab ID:	2441	Date Received:	01/18/96
Sample Matrix:	Water	Date Analyzed:	01/18/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50
Total BTEX	**ND**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	96	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY

PURGEABLE AROMATICS

Blagg Engineering, Inc.

Project ID:	Jaquez LS 3	Report Date:	01/22/96
Sample ID:	TH - 2	Date Sampled:	01/18/96
Lab ID:	2442	Date Received:	01/18/96
Sample Matrix:	Water	Date Analyzed:	01/18/96
Preservative:	Cool, $HgCl_2$		
Condition:	Intact		

Target Analyte	Concentration (ug/L)	Detection Limit (ug/L)
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	1.00
o-Xylene	ND	0.50
Total BTEX	**ND**	

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Trifluorotoluene	100	88 - 110%

Reference: Method 602.2, Purgeable Aromatics; Federal Register, Vol. 49, No. 209, Oct. 1984.

Comments:

Analyst

Review

ANALYTICA
ENVIRONMENTAL LABORATORY
807 S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395

CHAIN OF CUSTODY

PROJECT MANAGER:
Analytica Lab I.D.:

Company: BLAGG ENGR,
Address: P.O. BOX 87

Phone: 632-1199
Fax:

Bill To: AMOCO
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs BTEX/MTBE (602 / 8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1 / 503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids: TDS / TSS / SS	Nutrients: NH4+ / NO2– / NO3– / TKN	Oil and Grease	Other (specify):	Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):	COMMENTS
PIT WATER @ 10'	1-18	0830	WATER					✓																						PRES. ●
TH-1	"	0835	"					✓																						$HgCl_2$ - COOL
TH-2	"	0840	"					✓																						" "
																														" "

Project Information	Sample Receipt
Proj. #: AMOCO	No. Containers:
Proj. Name: JAQUEZ LS 3	Custody Seals: Y / N / NA
P. O. No:	Received Intact:
Shipped Via: DEL'D	Received Cold:

Required Turnaround Time (Prior Authorization Required for Rush)

CALL WITH RESULTS

Sampled By:	Relinquished By:	Relinquished By:
Signature / Date: R. E. Oneil 1-18-96	Signature / Date: R. E. Oneil 1-18-96	Signature / Date:
Company / Time: BEI —	Company / Time: BEI 1045	Company / Time:
Received By:	**Received By:**	**Received By:**
Signature / Date:	Signature / Date:	Signature / Date: 1/18
Company / Time:	Company / Time:	Company / Time: Analytica 10:45

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Analytica
Pink: Client

ANALYTICA
ENVIRONMENTAL LABORATORY
807 S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395

CHAIN OF CUSTODY

Page 1 of 1

PROJECT MANAGER:
Analytica Lab I.D.:

Company: BLAGG ENGR.
Address: P.O. BOX 87

Phone: 632-1199
Fax:

Bill To: SAME
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HC's BTEX/MTBE (602 / 8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1 / 503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids: TDS / TSS / SS	Nutrients: NH4+ / NO2- / NO3- / TKN	Oil and Grease	Other (specify):	Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):	COMMENTS
PIT WATER	1-24-96	1340	WATER					✓																					PRES.
																													COOL - Hg Cl2

Project Information	Sample Receipt
Proj. #: AMOCO	No. Containers:
Proj. Name: JAQUEZ LS 3	Custody Seals: Y / N / NA
P. O. No:	Received Intact:
Shipped Via: DEL'D	Received Cold:

Required Turnaround Time (Prior Authorization Required for Rush)

CALL WITH RESULTS

Sampled By:	Relinquished By:	Relinquished By:
Signature / Date: P. E. Oriaff 1-24-96	Signature / Date: PEO 1-25-96	Signature / Date:
Company / Time: BEI —	Company / Time: BEI 0753	Company / Time:
Received By:	**Received By:**	**Received By:**
Signature / Date:	Signature / Date:	Signature / Date: Tonya Lamon 1/25
Company / Time:	Company / Time:	Company / Time: Analytica 7:55

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Analytica
Pink: Client

ANALYTICA ENVIRONMENTAL LABORATORY

807 S. CARLTON • FARMINGTON, NM 87401 • (505) 326-2395

CHAIN OF CUSTODY

PROJECT MANAGER:
Analytica Lab I.D.:

Company: BLAGG
Address:

Phone:
Fax:

Bill To: SAME AS ABOVE
Company:
Address:

Sample ID	Date	Time	Matrix	Lab ID	Petroleum Hydrocarbons (418.1)	Gasoline / Diesel (mod. 8015)	Gasoline (GRO)	Aromatic HCs BTEX/MTBE (602 / 8020)	Chlorinated Hydrocarbons (8010)	SDWA Volatiles (502.1 / 503.1)	Chlorinated Pesticides / PCBs (608 / 8080)	Herbicides (615 / 8150)	Volatiles GC/MS (624 / 8240 / 8260)	Base / Neutral / Acid GC/MS (625 / 8270)	Polynuclear Aromatic Hydrocarbons (8100)	TCLP Extraction	Other (specify):	Cation / Anion	Specific Cations (specify):	Specific Anions (specify):	BOD / Fecal / Total Coliform	Solids: TDS / TSS / SS	Nutrients: NH4+ / NO2– / NO3– / TKN	Oil and Grease	Other (specify):	Priority Pollutants	RCRA Metals (Total)	RCRA Metals TCLP (1311)	Other (specify):	Comments
																														BTEX SAMPLE PRESERVED - $HgCl_2$ & COOL A/C SAMPLE PRESERVED - COOL
PIT WATER	1-31-96	1415	WATER					✓										✓												SEPARATOR PIT

(ORGANIC ANALYSES: Petroleum Hydrocarbons through Other (specify); WATER ANALYSES: Cation / Anion through Other (specify); METALS: Priority Pollutants through Other (specify). "BTEX" and "8020" circled.)

Project Information	
Proj. #:	80321
Proj. Name	JACQUEZ CS 3
P. O. No:	
Shipped Via:	
Required Turnaround Time (Prior Authorization Required for Rush)	

Sample Receipt	
No. Containers:	3
Custody Seals:	Y / N / NA
Received Intact:	
Received Cold:	

Sampled By:	Relinquished By:	Relinquished By:
Signature: P. E. O'Neill Date: 1-31-96	Signature: Nelson Velez Date: 2-1-96	Signature: Date:
Company: BEI Time: 0830	Company: BLAGG Time: 0900	Company: Time:

Received By:	Received By:	Received By:
Signature: Nelson V Date: 2-1-96	Signature: Date:	Signature: [signature] Date: 2/1
Company: BLAGG Time: 0830	Company: Time:	Company: Analytica Time: 9:00

Please Fill Out Thoroughly.

Shaded areas for lab use only.

White/Yellow: Analytica
Pink: Client

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal	Time 1600	Date 1/3/96

Originating Party	Other Parties
Denny Foust - OCD Aztec	Bill Olson - OCD Envir. Bureau

Subject

Amoco - Jacquez LS #3

Discussion

Buddy Shaw (Amoco) called Denny to report ground water contamination discovered at pit closure of Jacquez LS #3 well site located in Unit D, Sec 30, T30N, R8W.

Conclusions or Agreements

Amoco will address under approved Ground Water Investigation + Remediation work plan

Distribution

Signed Bill Olson

BLAGG ENGINEERING, INC.
P.O. Box 87, Bloomfield, New Mexico 87413
Phone: (505)632-1199 Fax: (505)632-3903

March 5, 1996

Mr. Roger Anderson
Chief of Environmental Bureau
State of New Mexico Oil Conservation Division
2040 So. Pacheco
Santa Fe, New Mexico 87505

RE: Groundwater Impact
Amoco Production Company: Jaquez LS 3 Well site
Legal Description: Unit D, Sec. 30, T30N, R8W
San Juan County, New Mexico

Dear Mr. Anderson:

Initial groundwater sample analytical results at the above referenced well site during pit closure activity indicated contamination to be above the State of New Mexico Water Quality Control Commission's regulatory standards for Benzene. Sampling on the Multi pit(s) was conducted January 18, 1996. Listed below are summary analytical results for Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX):

Parameter	Multi Pit(s) (parts per billion)
Benzene	**13.0**
Toluene	15.5
Ethylbenzene	19.6
Total Xylenes	127.0

If you have any questions concerning this information, please do not hesitate to contact us at (505) 632-1199. Thank you for your cooperation.

Respectfully submitted,
Blagg Engineering, Inc.

Jeffrey C. Blagg, P.E.
President

cc: Denny Foust, Deputy Oil & Gas Inspector, NMOCD, Aztec, NM
Buddy Shaw, Environmental Coordinator, Amoco Production Company, Farmington, NM

NV/nv JAQUEZ3.LTR

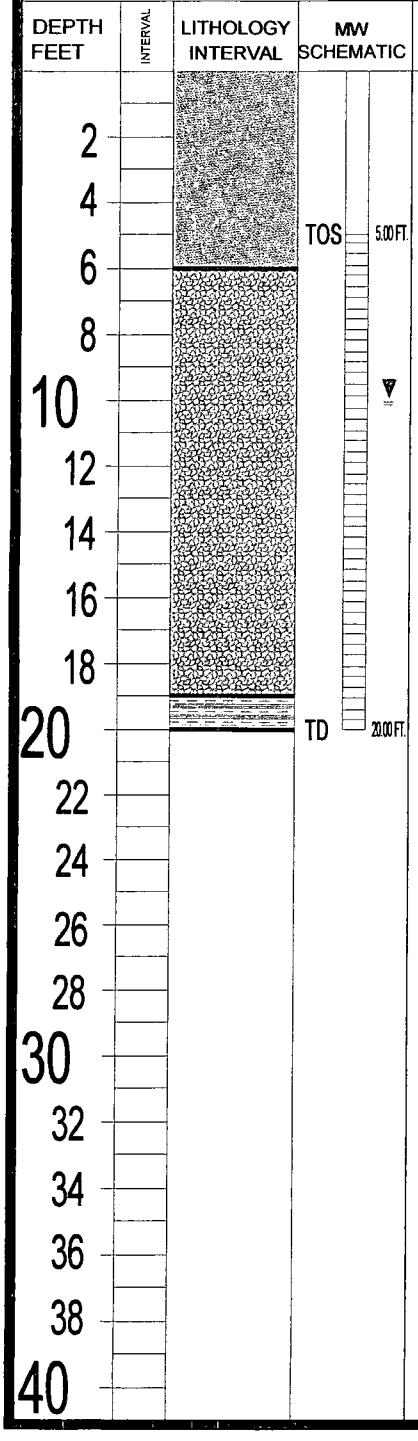
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #1

BORE / TEST HOLE REPORT

BORING #.....	BH - 1
MW #.....	1
PAGE #.....	1
DATE STARTED	8/1/07
DATE FINISHED	8/1/07
OPERATOR.....	DP
PREPARED BY	NJV

CLIENT: BP AMERICA PRODUCTION COMPANY
LOCATION NAME: JACQUEZ LS # 3 UNIT D, SEC. 30, T30N, R8W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75)
BORING LOCATION: 190 FT., N66.5E FROM WELL HEAD.



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.25 FT. ABOVE GROUND SURFACE.

MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (0.0 - 6.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 10.08 FT. FROM GROUND SURFACE MEASURED ON 8/9/07.

SAME AS ABOVE EXCEPT WITH VARYING SIZE GRAVEL AND BECOMING SATURATED (0.0 - 19.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN CLAY, MEDIUM PLASTIC, SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (19.0 - 20.0 FT. BELOW GRADE).

NOTE:
- SAND.
- SAND AND GRAVEL.
- CLAY.

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 2.25 ft. above grade to 5.00 ft. below grade, 0.010 slotted screen between 5.00 to 20.00 feet below grade, sand packed annular to 2.50 ft. below grade, bentonite chips between 0.00 to 2.50 feet below grade. Concreted well protector around above grade casing and secured with padlock.

DRAWING: JACQUEZ LS 3 MW1-BH1.SKF	DATE: 9/5/08	DWN BY: NJV

BLAGG ENGINEERING, INC.

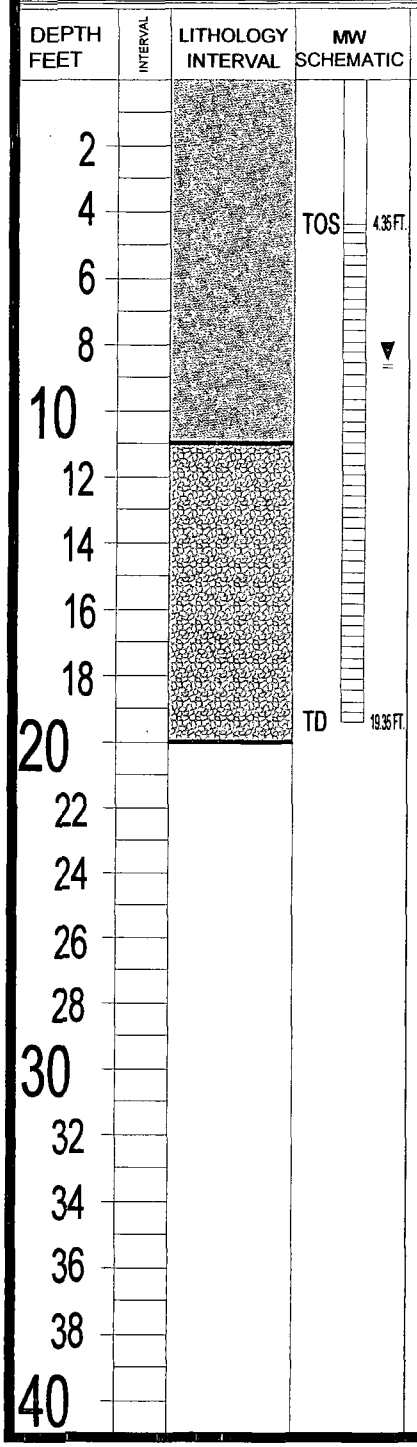
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #2

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION COMPANY
LOCATION NAME:	JACQUEZ LS # 3 UNIT D, SEC. 30, T30N, R8W
CONTRACTOR:	BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	36 FT., S86W FROM WELL HEAD.

BORING #.....	BH - 2
MW #.....	2
PAGE #.....	2
DATE STARTED	8/1/07
DATE FINISHED	8/1/07
OPERATOR.....	DP
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FT. ABOVE GROUND SURFACE.

MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST TO WET, FIRM, NO APPARENT HYDRO-CARBON ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (0.0 - 11.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 8.69 FT. FROM GROUND SURFACE MEASURED ON 9/8/07.

DARK YELLOWISH BROWN TO GRAYISH BLACK SAND AND GRAVEL, NON COHESIVE, WET TO SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (11.0 - 20.0 FT. BELOW GRADE).

NOTE: - SAND.

- SAND AND GRAVEL.

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 2.00 ft. above grade to 4.35 ft. below grade, 0.010 slotted screen between 4.35 to 19.35 feet below grade, sand packed annular to 3.00 ft. below grade, bentonite chips between 0.00 to 3.00 feet below grade. Concreted well protector around above grade casing and secured with padlock.

DRAWING: JACQUEZ LS 3 MW2-BH2.SKF	DATE: 9/5/08	DWN BY: NJV

BLAGG ENGINEERING, INC.

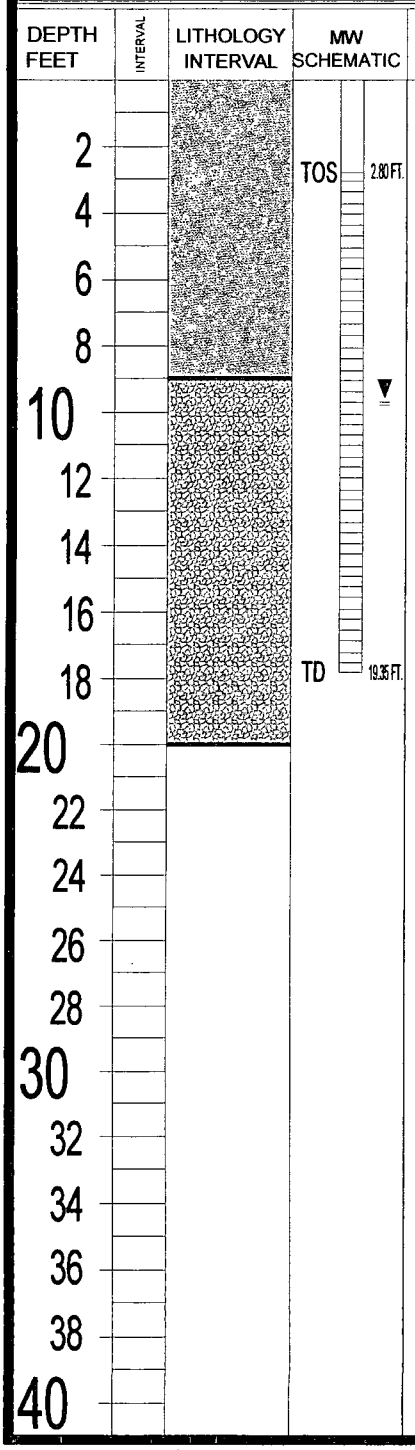
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW #3

BORE / TEST HOLE REPORT

CLIENT:	BP AMERICA PRODUCTION COMPANY
LOCATION NAME:	JACQUEZ LS # 3 UNIT D, SEC. 30, T30N, R8W
CONTRACTOR:	BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (CME 75)
BORING LOCATION:	114 FT., S39W FROM WELL HEAD.

BORING #.....	BH - 3
MW #.....	3
PAGE #.....	3
DATE STARTED	8/1/07
DATE FINISHED	8/1/07
OPERATOR.....	DP
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.20 FT. ABOVE GROUND SURFACE.

MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, NO APPARENT HYDRO-CARBON ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (0.0 - 9.0 FT. BELOW GRADE).

DEPTH TO WATER APPROX. 9.70 FT. FROM GROUND SURFACE MEASURED ON 9/8/07.

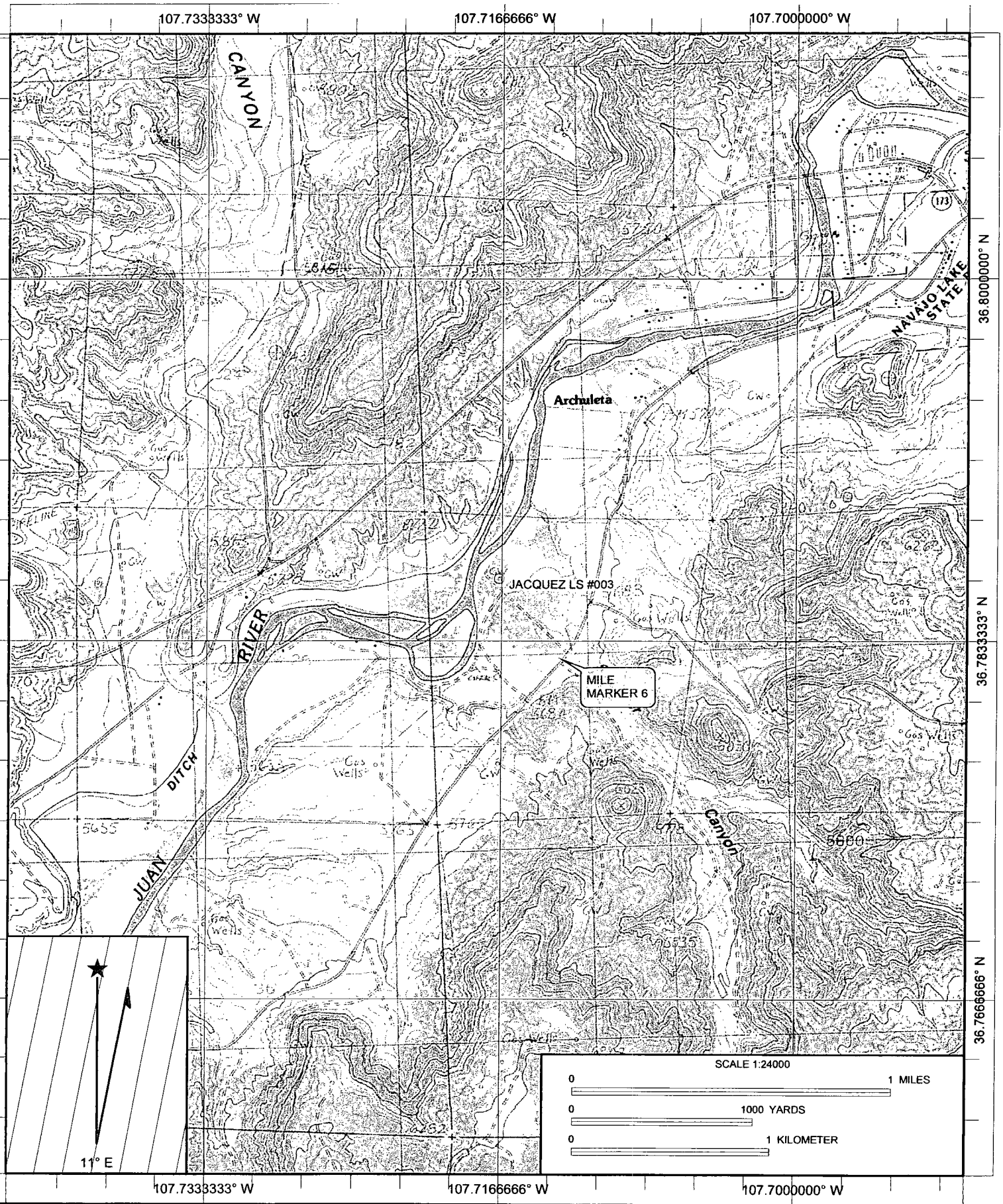
MODERATE YELLOWISH BROWN SAND AND GRAVEL, NON COHESIVE, MOIST TO SATURATED, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (9.0 - 20.0 FT. BELOW GRADE).

NOTE:
- SAND.
- SAND AND GRAVEL.

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 17.80 feet below grade, sand packed annular to 2.00 ft. below grade, bentonite chips between 0.00 to 2.00 feet below grade. Concreted well protector around above grade casing and secured with padlock.

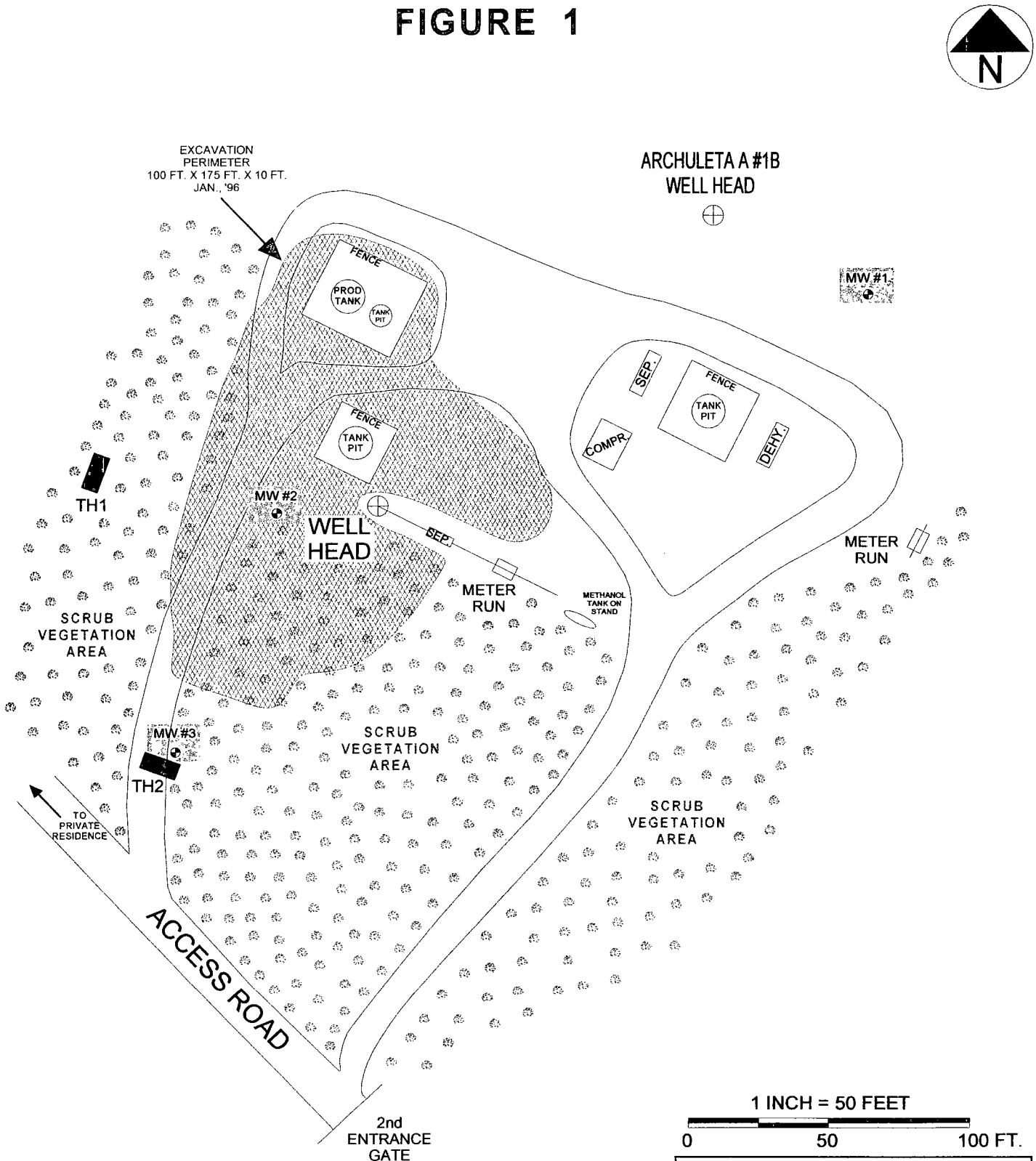
DRAWING: JACQUEZ LS 3 MW3-BH3.SKF	DATE: 9/5/08	DWN BY: NJV



Name: ARCHULETA
Date: 7/26/2007
Scale: 1 inch equals 2000 feet

Location: 036.7849296° N 107.7174544° W
Caption: JACQUEZ LS #3
UNIT C, SEC. 30, T30N, R8W

FIGURE 1



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

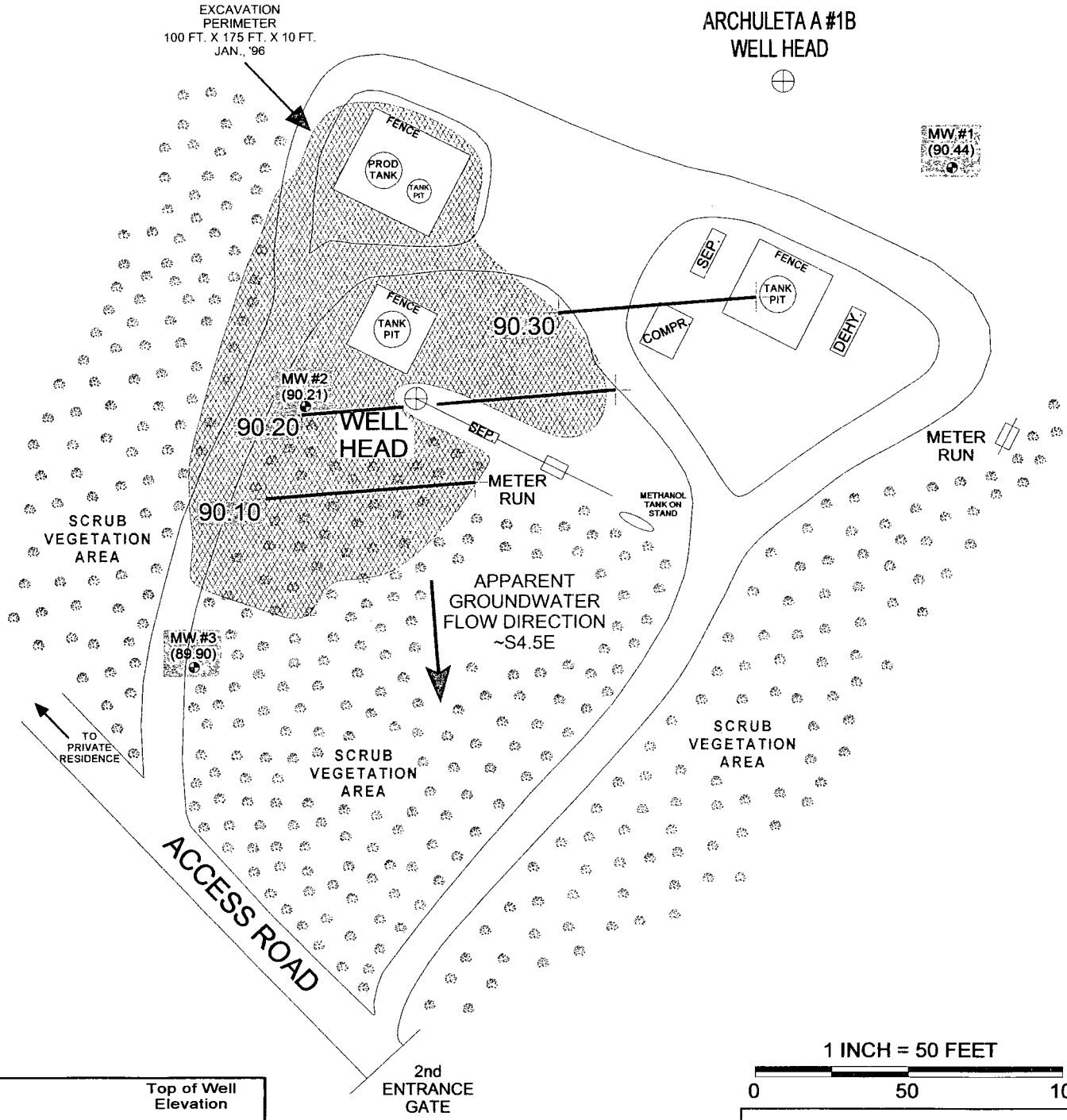
BP AMERICA PRODUCTION COMPANY
JACQUEZ LS #3
NW/4 NW/4 SEC. 30 T30N R8W
SAN JUAN COUNTY, NEW MEXICO

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: JACQUEZ LS 3-SM.SKF
REVISED: 08/02/07 NJV

SITE MAP
08/07

FIGURE 2
(3rd 1/4, 2007)



	Top of Well Elevation
MW #1	(102.77)
MW #2	(100.90)
MW #3	(101.80)
MW #1 (90.44)	Groundwater Elevation as of 8/9/07.

1 INCH = 50 FEET

0 50 100 FT.

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

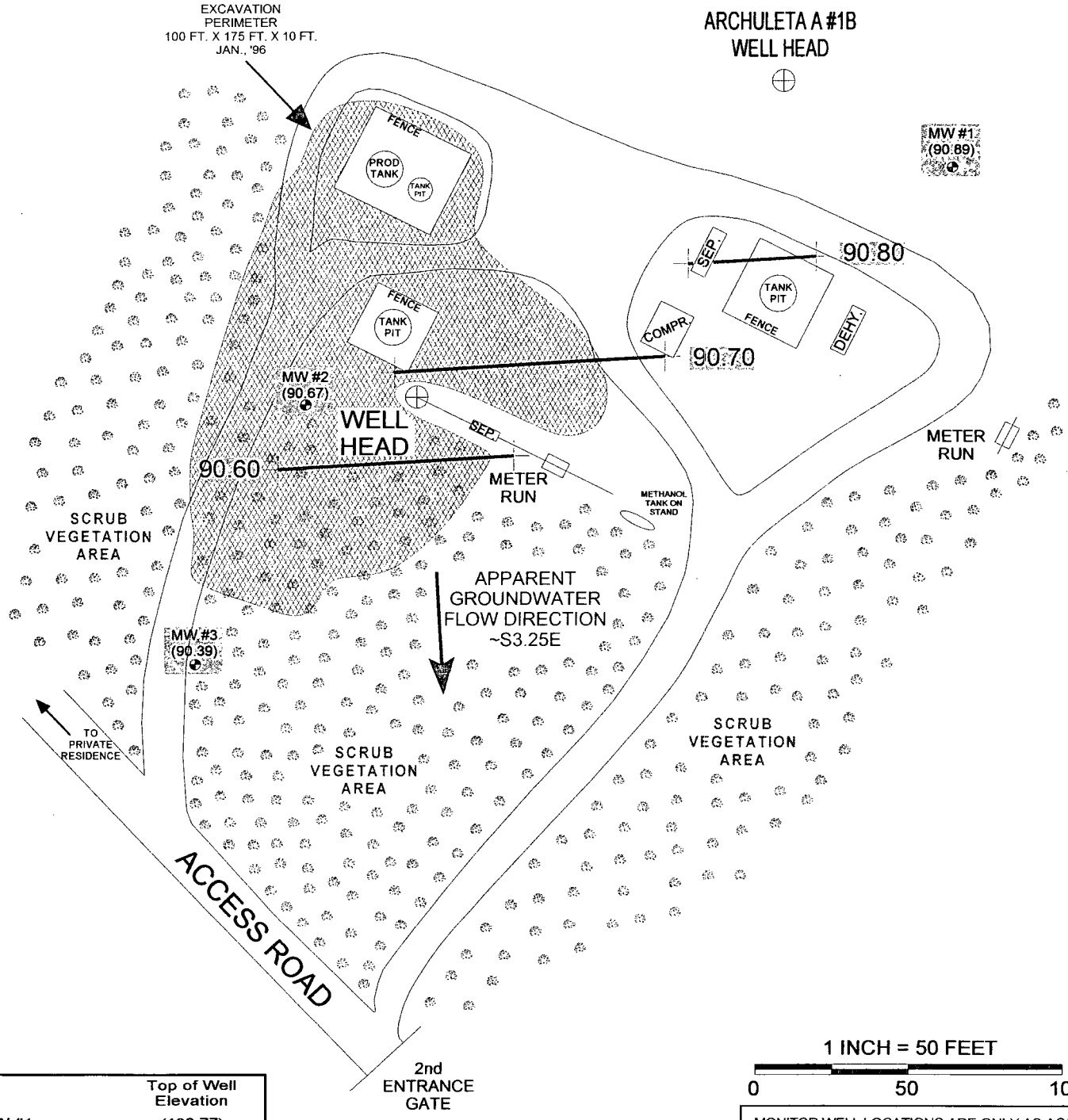
BP AMERICA PRODUCTION COMPANY
JACQUEZ LS # 3
NW/4 NW/4 SEC. 30, T30N, R8W
SAN JUAN COUNTY, NEW MEXICO

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: 08-09-07-GW.SKF
REVISED: 08/09/07 NJV

GROUNDWATER CONTOUR MAP
08/07

FIGURE 3
(4th 1/4, 2007)



	Top of Well Elevation
MW #1	(102.77)
MW #2	(100.90)
MW #3	(101.80)
MW #1 (90.89)	Groundwater Elevation as of 11/20/07.

1 INCH = 50 FEET

0 50 100 FT.

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

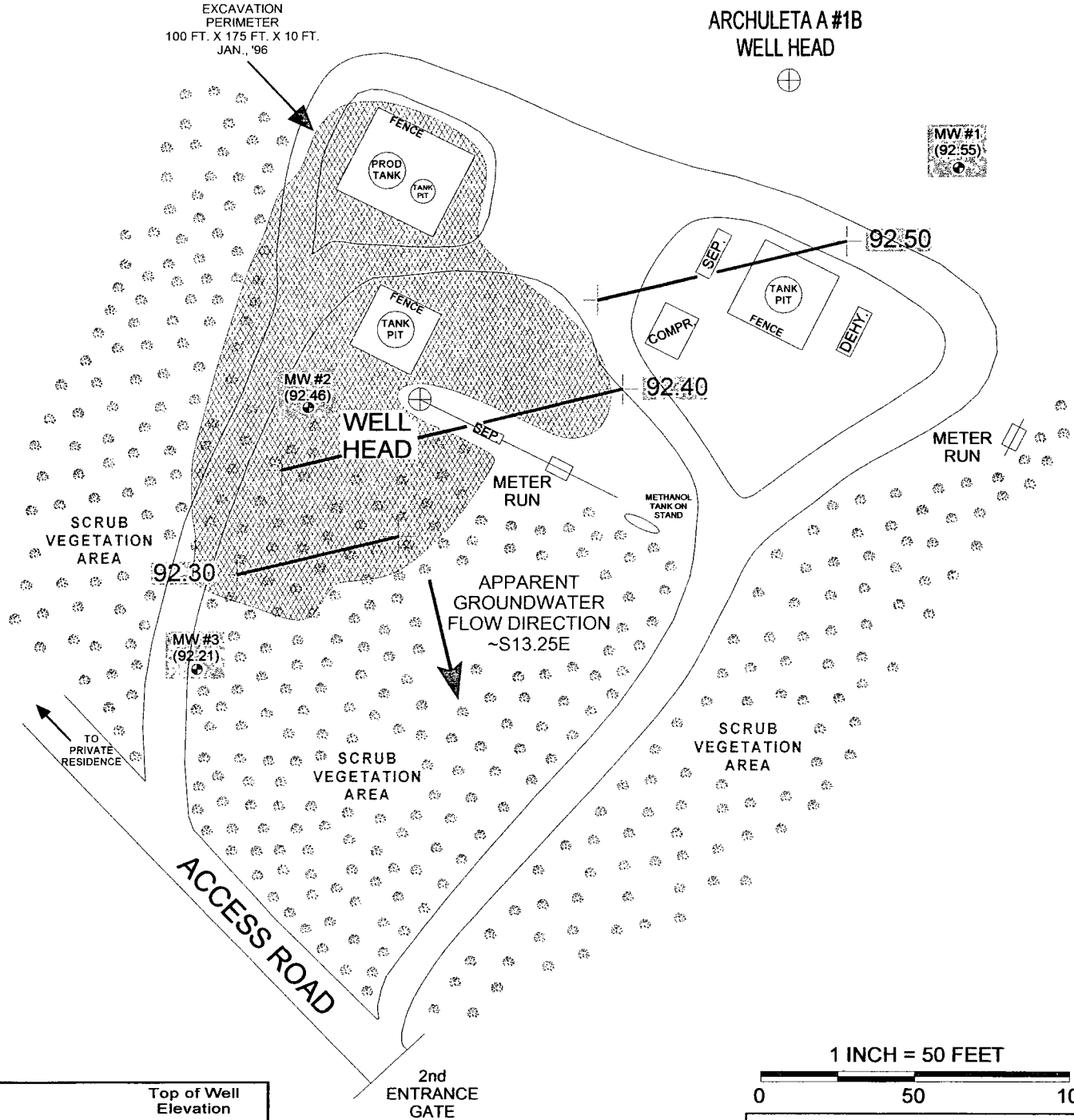
BP AMERICA PRODUCTION COMPANY
JACQUEZ LS # 3
NW/4 NW/4 SEC. 30, T30N, R8W
SAN JUAN COUNTY, NEW MEXICO

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: 11-20-07-GW.SKF
REVISED: 11/20/07 NJV

GROUNDWATER CONTOUR MAP
11/07

FIGURE 4
(2nd 1/4, 2008)



	Top of Well Elevation
MW #1	(102.77)
MW #2	(100.90)
MW #3	(101.80)
MW #1 (92.55)	Groundwater Elevation as of 4/07/08.

1 INCH = 50 FEET

0 50 100 FT.

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

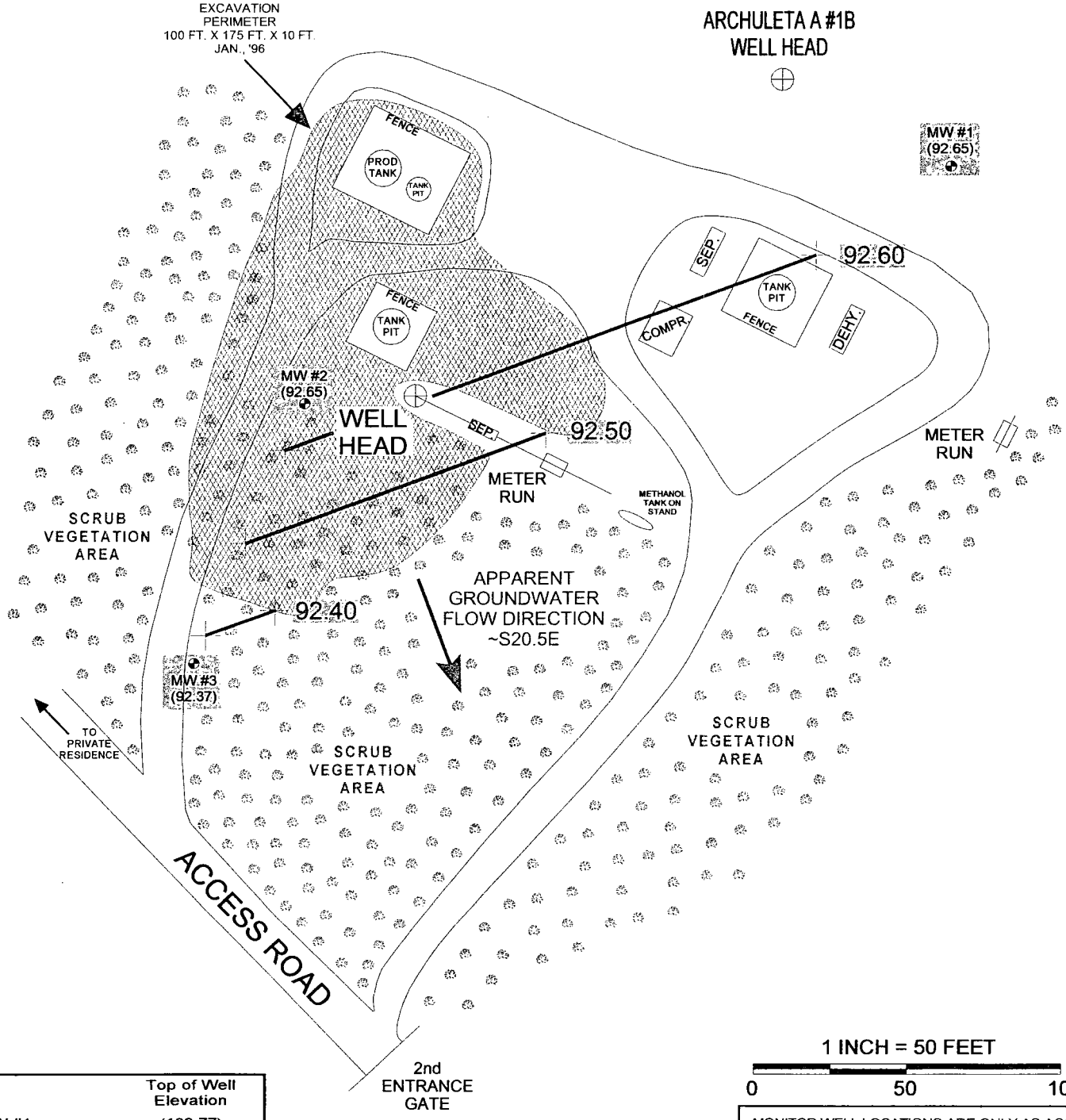
BP AMERICA PRODUCTION COMPANY
JACQUEZ LS #3
NW/4 NW/4 SEC. 30, T30N, R8W
SAN JUAN COUNTY, NEW MEXICO

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: 04-07-08-GW.SKF
REVISED: 4/08/08 NJV

GROUNDWATER CONTOUR MAP
04/08

FIGURE 5
(2nd 1/4, 2008)



	Top of Well Elevation
MW #1	(102.77)
MW #2	(100.90)
MW #3	(101.80)
MW #1 (92.65)	Groundwater Elevation as of 6/10/08.

1 INCH = 50 FEET

0 50 100 FT.

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

BP AMERICA PRODUCTION COMPANY
JACQUEZ LS #3
NW/4 NW/4 SEC. 30 T30N, R8W
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: 06-10-08-GW.SKF
REVISED: 6/30/08 NJV

GROUNDWATER CONTOUR MAP
06/08

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

JACQUEZ LS # 3
UNIT D, SEC. 30, T30N, R8W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : August 9, 2007

DEVELOPER : N J V

Filename : 08-09-07.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	102.77	90.44	12.33	22.25	0835	7.56	5,600	18.6	2.00
2	100.90	90.21	10.69	21.35	0855	7.28	4,600	19.5	5.25
3	101.80	89.90	11.90	20.00	0910	7.45	6,200	18.0	1.50
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	08/09/07	0730		

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:
2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

MW # 1 - fair recovery , abundant amount of sediment , murky gray in appearance .
MW # 2 - excellent recovery , abundant amount of sediment , murky gray in appearance .
MW # 3 - poor / fair recovery , abundant amount of sediment , murky gray in appearance .
Collected samples from all MW ' s for BTEX , anions , pH , TDS , & Fe .

Top of casings : MW # 1 ~ 2.25 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.20 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Aug-07*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #1
Lab Order:	0708154	**Collection Date:**	8/9/2007 8:35:00 AM
Project:	Jacquez LS #3	**Date Received:**	8/10/2007
Lab ID:	0708154-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	8/17/2007 1:09:29 AM
Toluene	ND	1.0		µg/L	1	8/17/2007 1:09:29 AM
Ethylbenzene	ND	1.0		µg/L	1	8/17/2007 1:09:29 AM
Xylenes, Total	ND	2.0		µg/L	1	8/17/2007 1:09:29 AM
Surr: 4-Bromofluorobenzene	83.3	70.2-105		%REC	1	8/17/2007 1:09:29 AM
EPA METHOD 300.0: ANIONS						Analyst: **KS**
Fluoride	1.5	0.50		mg/L	5	8/15/2007 10:03:53 PM
Chloride	59	0.50		mg/L	5	8/15/2007 10:03:53 PM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	8/10/2007 2:17:26 PM
Bromide	ND	0.50		mg/L	5	8/15/2007 10:03:53 PM
Nitrogen, Nitrate (As N)	ND	2.0		mg/L	20	8/10/2007 2:17:26 PM
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	8/10/2007 2:17:26 PM
Sulfate	6200	50		mg/L	100	8/13/2007 4:43:28 PM
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **TES**
Iron	0.058	0.020		mg/L	1	8/16/2007 12:24:18 PM
SM4500-H+B: PH						Analyst: **LMM**
pH	7.81	0.010		pH units	1	8/10/2007
SM 2540C: TDS						Analyst: **TAF**
Total Dissolved Solids	11000	100		mg/L	1	8/13/2007

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Aug-07*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #2
Lab Order:	0708154	**Collection Date:**	8/9/2007 8:55:00 AM
Project:	Jacquez LS #3	**Date Received:**	8/10/2007
Lab ID:	0708154-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	8/17/2007 1:39:20 AM
Toluene	ND	1.0		µg/L	1	8/17/2007 1:39:20 AM
Ethylbenzene	ND	1.0		µg/L	1	8/17/2007 1:39:20 AM
Xylenes, Total	ND	2.0		µg/L	1	8/17/2007 1:39:20 AM
Surr: 4-Bromofluorobenzene	85.6	70.2-105		%REC	1	8/17/2007 1:39:20 AM
EPA METHOD 300.0: ANIONS						Analyst: **KS**
Fluoride	1.8	0.50		mg/L	5	8/15/2007 10:21:17 PM
Chloride	77	0.50		mg/L	5	8/15/2007 10:21:17 PM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	8/10/2007 2:34:50 PM
Bromide	ND	0.50		mg/L	5	8/15/2007 10:21:17 PM
Nitrogen, Nitrate (As N)	ND	2.0		mg/L	20	8/10/2007 2:34:50 PM
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	8/10/2007 2:34:50 PM
Sulfate	3400	25		mg/L	50	8/13/2007 3:16:26 PM
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **TES**
Iron	0.19	0.020		mg/L	1	8/16/2007 12:29:48 PM
SM4500-H+B: PH						Analyst: **LMM**
pH	7.58	0.010		pH units	1	8/10/2007
SM 2540C: TDS						Analyst: **TAF**
Total Dissolved Solids	5700	100		mg/L	1	8/13/2007

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Aug-07*

CLIENT:	Blagg Engineering	**Client Sample ID:**	MW #3
Lab Order:	0708154	**Collection Date:**	8/9/2007 9:10:00 AM
Project:	Jacquez LS #3	**Date Received:**	8/10/2007
Lab ID:	0708154-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	8/17/2007 2:09:22 AM
Toluene	ND	1.0		µg/L	1	8/17/2007 2:09:22 AM
Ethylbenzene	ND	1.0		µg/L	1	8/17/2007 2:09:22 AM
Xylenes, Total	ND	2.0		µg/L	1	8/17/2007 2:09:22 AM
Surr: 4-Bromofluorobenzene	83.2	70.2-105		%REC	1	8/17/2007 2:09:22 AM
EPA METHOD 300.0: ANIONS						Analyst: **KS**
Fluoride	2.2	0.50		mg/L	5	8/15/2007 10:38:41 PM
Chloride	79	0.50		mg/L	5	8/15/2007 10:38:41 PM
Nitrogen, Nitrite (As N)	ND	2.0		mg/L	20	8/10/2007 2:52:14 PM
Bromide	ND	0.50		mg/L	5	8/15/2007 10:38:41 PM
Nitrogen, Nitrate (As N)	ND	2.0		mg/L	20	8/10/2007 2:52:14 PM
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	8/10/2007 2:52:14 PM
Sulfate	6400	50		mg/L	100	8/13/2007 5:35:42 PM
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **TES**
Iron	0.094	0.020		mg/L	1	8/16/2007 12:33:40 PM
SM4500-H+B: PH						Analyst: **LMM**
pH	7.68	0.010		pH units	1	8/10/2007
SM 2540C: TDS						Analyst: **TAF**
Total Dissolved Solids	9600	20		mg/L	1	8/13/2007

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

CHAIN-OF-CUSTODY RECORD

Client: BLAGG ENER. / BP AMERICA

Address: P.O. BOX 87
BLFD., NM 87413

Phone #: 632-1199

Fax #:

QA / QC Package: Std ☐ Level 4 ☐

Other:

Project Name: JACQUEZ LS # 3

Project #:

Project Manager: NV

Sampler: NV

Sample Temperature: 4°

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

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: Cool (~~HNO_3~~)	Preservative: HCl	HEAL No. 0708154	BTEX (~~+ MTBE + TMB's~~) (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4) Special + Br	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	pH	TDS	Fe (Ferrous)		Air Bubbles or Headspace (Y or N)
8/9/07	0835	WATER	MW # 1	2-40ml	✓	✓		1	✓																
"	"	"	"	1-500ml		✓		1									✓				✓	✓			
"	"	"	"	1-125ml		✓	✓	1															✓		
8/9/07	0855	WATER	MW # 2	2-40ml	✓	✓		2	✓																
"	"	"	"	1-500ml		✓		2									✓				✓	✓			
"	"	"	"	1-125ml		✓	✓	2															✓		
8/9/07	0910	WATER	MW # 3	2-40ml	✓	✓		3	✓																
"	"	"	"	1-500ml		✓		3									✓				✓	✓			
"	"	"	"	1-125ml		✓	✓	3															✓		

Date: 8/9/07 Time: 1730 Relinquished By: (Signature) [signature]
Received By: (Signature) [signature] 9:45 8/10/07

Date: Time: Relinquished By: (Signature)
Received By: (Signature)

Remarks: Anion Special

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Jacquez LS #3 **Work Order:** 0708154

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									
Sample ID: MBLK		*MBLK*			Batch ID: **R24730**		Analysis Date:	8/10/2007 10:48:32 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Bromide	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MBLK		*MBLK*			Batch ID: **R24742**		Analysis Date:	8/13/2007 2:06:47 PM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Bromide	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MBLK		*MBLK*			Batch ID: **R24775**		Analysis Date:	8/15/2007 11:02:22 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrogen, Nitrite (As N)	ND	mg/L	0.10						
Bromide	ND	mg/L	0.10						
Nitrogen, Nitrate (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS ST300-07030		*LCS*			Batch ID: **R24730**		Analysis Date:	8/10/2007 11:05:56 AM	
Fluoride	0.5243	mg/L	0.10	105	90	110			
Chloride	5.164	mg/L	0.10	103	90	110			
Nitrogen, Nitrite (As N)	1.042	mg/L	0.10	104	90	110			
Bromide	2.676	mg/L	0.10	107	90	110			
Nitrogen, Nitrate (As N)	2.605	mg/L	0.10	104	90	110			
Phosphorus, Orthophosphate (As P)	5.294	mg/L	0.50	106	90	110			
Sulfate	10.56	mg/L	0.50	106	90	110			
Sample ID: LCS ST300-07030		*LCS*			Batch ID: **R24742**		Analysis Date:	8/13/2007 2:24:11 PM	
Fluoride	0.5027	mg/L	0.10	101	90	110			
Chloride	5.058	mg/L	0.10	101	90	110			
Nitrogen, Nitrite (As N)	1.009	mg/L	0.10	101	90	110			
Bromide	2.632	mg/L	0.10	105	90	110			
Nitrogen, Nitrate (As N)	2.585	mg/L	0.10	103	90	110			
Phosphorus, Orthophosphate (As P)	5.354	mg/L	0.50	107	90	110			
Sulfate	10.29	mg/L	0.50	103	90	110			
Sample ID: LCS ST300-07030		*LCS*			Batch ID: **R24775**		Analysis Date:	8/15/2007 11:19:46 AM	
Fluoride	0.5047	mg/L	0.10	101	90	110			
Chloride	5.102	mg/L	0.10	102	90	110			
Nitrogen, Nitrite (As N)	0.9971	mg/L	0.10	99.7	90	110			

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Jacquez LS #3 **Work Order:** 0708154

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									
Sample ID: LCS ST300-07030		*LCS*			Batch ID: **R24775**		Analysis Date:	8/15/2007 11:19:46 AM	
Bromide	2.668	mg/L	0.10	107	90	110			
Nitrogen, Nitrate (As N)	2.587	mg/L	0.10	103	90	110			
Phosphorus, Orthophosphate (As P)	5.365	mg/L	0.50	107	90	110			
Sulfate	10.45	mg/L	0.50	104	90	110			
Method: SW8021									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R24795**		Analysis Date:	8/16/2007 9:09:22 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: **R24795**		Analysis Date:	8/16/2007 11:09:32 AM	
Benzene	20.13	µg/L	1.0	101	85.9	113			
Toluene	20.42	µg/L	1.0	102	86.4	113			
Ethylbenzene	20.40	µg/L	1.0	102	83.5	118			
Xylenes, Total	61.37	µg/L	2.0	102	83.4	122			
Sample ID: 100NG BTEX LCSD		*LCSD*			Batch ID: **R24795**		Analysis Date:	8/17/2007 3:39:25 AM	
Benzene	18.68	µg/L	1.0	93.4	85.9	113	7.47	27	
Toluene	18.45	µg/L	1.0	92.2	86.4	113	10.1	19	
Ethylbenzene	18.87	µg/L	1.0	94.4	83.5	118	7.78	10	
Xylenes, Total	56.44	µg/L	2.0	94.1	83.4	122	8.37	13	
Method: SW6010A									
Sample ID: MB		*MBLK*			Batch ID: **R24784**		Analysis Date:	8/16/2007 9:52:32 AM	
Iron	ND	mg/L	0.020						
Sample ID: LCS		*LCS*			Batch ID: **R24784**		Analysis Date:	8/16/2007 9:55:50 AM	
Iron	0.4844	mg/L	0.020	92.9	80	120			
Method: E160.1									
Sample ID: MB-13588		*MBLK*			Batch ID: **13588**		Analysis Date:	8/13/2007	
Total Dissolved Solids	ND	mg/L	20						
Sample ID: LCS-13588		*LCS*			Batch ID: **13588**		Analysis Date:	8/13/2007	
Total Dissolved Solids	1015	mg/L	20	102	80	120			

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: 8/10/2007

Work Order Number 0708154

Received by ARS

Checklist completed by  8/10/07
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 - Preservation labels on bottle and cap match?	Yes	☑	No	☐	N/A	☐	
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: 1C, 2C, 3C filtered into 125 ml HNO_3 plastic

Corrective Action

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO. **CHAIN-OF-CUSTODY # :** N / A

JACQUEZ LS # 3
UNIT D, SEC. 30, T30N, R8W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : November 20, 2007 **SAMPLER :** N J V

Filename : 11-20-07.WK4 **PROJECT MANAGER :** N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	102.77	90.89	11.88	22.25	-	-	-	-	-
2	100.90	90.67	10.23	21.35	1205	8.71	4,500	17.4	5.50
3	101.80	90.39	11.41	20.00	1120	7.37	5,700	16.9	2.00
					INSTRUMENT CALIBRATIONS =	7.00	2,800		
					DATE & TIME =	11/20/07	1100		

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:
2.00 " well diameter = 0.49 gallons per foot of water.

Comments or note well diameter if not standard 2 ".

MW # 2 - excellent recovery , gray in appearance , MW # 3 - poor / fair recovery , murky gray in appearance , purged to total depth , then allowed recovery , collected BTEX samples from MW # 2 & # 3 only .

Top of casings : MW # 1 ~ 2.25 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.20 ft. above grade .

Hall Environmental Analysis Laboratory, Inc.

Date: *30-Nov-07*

CLIENT: Blagg Engineering
Project: Jacquez LS #3

Lab Order: 0711366

Lab ID: 0711366-01 **Collection Date:** 11/20/2007 12:05:00 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	11/29/2007 12:46:49 AM
Toluene	ND	1.0		µg/L	1	11/29/2007 12:46:49 AM
Ethylbenzene	ND	1.0		µg/L	1	11/29/2007 12:46:49 AM
Xylenes, Total	ND	2.0		µg/L	1	11/29/2007 12:46:49 AM
Surr: 4-Bromofluorobenzene	80.1	70.2-105		%REC	1	11/29/2007 12:46:49 AM

Lab ID: 0711366-02 **Collection Date:** 11/20/2007 11:20:00 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	11/29/2007 3:16:44 AM
Toluene	ND	1.0		µg/L	1	11/29/2007 3:16:44 AM
Ethylbenzene	ND	1.0		µg/L	1	11/29/2007 3:16:44 AM
Xylenes, Total	ND	2.0		µg/L	1	11/29/2007 3:16:44 AM
Surr: 4-Bromofluorobenzene	78.5	70.2-105		%REC	1	11/29/2007 3:16:44 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

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

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www.hallenvironmental.com

Client: BLAGG ENGR. / BP AMERICA

Address: P.O. BOX 87
BLTO. NM 87413

Phone #: 632-1199

Fax #:

Project Name: JACQUEZ LS #3

Project #:

Project Manager: NV

Sampler: NV

Sample Temperature: 2°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No.
11/20/07	1205	WATER	MW #2	2-40ml	✓		0711366 -1
11/20/07	1120	WATER	MW #3	2-40ml	✓		-2

BTEX + ~~MTBE + TMB's~~ (8021B)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
✓																
✓																

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
11/20/07	1600		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
			11/21/07 1410

Remarks:

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: Jacquez LS #3 **Work Order:** 0711366

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8021B: Volatiles									
Sample ID: 5ML RB		*MBLK*			Batch ID:	**R26267**	Analysis Date:	11/28/2007 8:42:41 AM	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	2.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R26267**	Analysis Date:	11/29/2007 2:16:42 AM	
Benzene	20.23	µg/L	1.0	101	85.9	113			
Toluene	19.91	µg/L	1.0	99.6	86.4	113			
Ethylbenzene	19.97	µg/L	1.0	99.8	83.5	118			
Xylenes, Total	59.65	µg/L	2.0	99.4	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 Received: **11/21/2007**

Work Order Number **0711366** Received by: AT

Checklist completed by: _____ 11/21/07 Sample ID labels checked by _____
Signature Date Initials

Matrix _____ Carrier name UPS

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 - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	2°	*<6° C 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 # : 156390

JACQUEZ LS # 3
UNIT D, SEC. 30, T30N, R8W

LABORATORY (S) USED : PACE ANALYTICAL

Date : April 7, 2008

SAMPLER : N J V

Filename : 04-07-08.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	102.77	92.55	10.22	22.25	-	-	-	-	-
2	100.90	92.46	8.44	21.35	1335	8.67	4,400	15.4	6.50
3	101.80	92.21	9.59	20.00	1225	7.56	5,700	16.8	5.25
					INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800		
					DATE & TIME =	04/07/08	1020		

NOTES : Volume of water purged from well prior to sampling; V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:
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 , both murky brown in appearance , collected samples for BTEX per US EPA Method 8260 from MW # 2 & # 3 only .

Top of casings : MW # 1 ~ 2.25 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.20 ft. above grade .

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: JACQUEZ LS #3
Pace Project No.: 6038268

Sample: MW #2 **Lab ID: 6038268001** Collected: 04/07/08 13:35 Received: 04/08/08 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		04/15/08 01:21	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		04/15/08 01:21	100-41-4	
Toluene	ND	ug/L	1.0	1		04/15/08 01:21	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		04/15/08 01:21	1330-20-7	
Dibromofluoromethane (S)	98	%	85-114	1		04/15/08 01:21	1868-53-7	
Toluene-d8 (S)	101	%	82-114	1		04/15/08 01:21	2037-26-5	
4-Bromofluorobenzene (S)	102	%	85-119	1		04/15/08 01:21	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	81-118	1		04/15/08 01:21	17060-07-0	
Preservation pH	**1.0**		1.0	1		04/15/08 01:21		

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ANALYTICAL RESULTS

Project: JACQUEZ LS #3
Pace Project No.: 6038268

Sample: MW #3 **Lab ID: 6038268002** Collected: 04/07/08 12:55 Received: 04/08/08 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		04/12/08 07:05	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		04/12/08 07:05	100-41-4	
Toluene	ND	ug/L	1.0	1		04/12/08 07:05	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		04/12/08 07:05	1330-20-7	
Dibromofluoromethane (S)	99	%	85-114	1		04/12/08 07:05	1868-53-7	
Toluene-d8 (S)	98	%	82-114	1		04/12/08 07:05	2037-26-5	
4-Bromofluorobenzene (S)	88	%	85-119	1		04/12/08 07:05	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	81-118	1		04/12/08 07:05	17060-07-0	
Preservation pH	***1.0***		*1.0*	*1*		*04/12/08 07:05*		

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
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Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: JACQUEZ LS #3
Pace Project No.: 6038268

Sample: TRIP BLANK **Lab ID: 6038268003** Collected: 04/07/08 00:00 Received: 04/08/08 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		04/12/08 07:21	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		04/12/08 07:21	100-41-4	
Toluene	ND	ug/L	1.0	1		04/12/08 07:21	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		04/12/08 07:21	1330-20-7	
Dibromofluoromethane (S)	99	%	85-114	1		04/12/08 07:21	1868-53-7	
Toluene-d8 (S)	97	%	82-114	1		04/12/08 07:21	2037-26-5	
4-Bromofluorobenzene (S)	92	%	85-119	1		04/12/08 07:21	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	81-118	1		04/12/08 07:21	17060-07-0	
Preservation pH	**1.0**		1.0	1		04/12/08 07:21		

bp

156390

Chain of Custody Record

Page 1 of 1

Project Name: JACQUEZ LS #3
BP BU/AR Region/Enfos Segment: SAN JUAN OC SOUTH
State or Lead Regulatory Agency: NMOCD
Requested Due Date (mm/dd/yy): 4/21/08

On-site Time:	12:24	Temp:	56°F
Off-site Time:	1:45	Temp:	60°F
Sky Conditions:	PARTLY SUNNY		
Meteorological Events:			
Wind Speed:	5-10 MPH	Direction:	WEST

Lab Name: PACE ANALYTICAL	BP/AR Facility No.: WR192507	Consultant/Contractor: BLAGG/URS
Address: 9608 LOIRET BLVD. LENEXA, KS 66219	BP/AR Facility Address:	Address: 110 N. FORTH ST. BLOOMFIELD, NM 87413
Lab PM: MARY JANE WALLS	Site Lat/Long:	
Tele/Fax: (913) 599-5665 FAX: (913) 599-1759	California Global ID No.:	Consultant/Contractor Project No.: 41008813
BP/AR PM Contact: MIKE WHELAN, PG	Enfos Project No.: 00193	Consultant/Contractor PM: NELSON VELEZ
Address: 501 WESTLAKE PARK BLVD. RM 28.144B HOUSTON, TX 77079	Provision or RCOP (circle one)	Tele/Fax: (505) 632-1199 FAX: (505) 632-3903
Tele/Fax: (281) 366-7485 FAX: (281) 366-7094	Phase/WBS:	Report Type & QC Level: STANDARD
	Sub Phase/Task:	E-mail EDD To: blagg-niv@yahoo.com
	Cost Element: 01	Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)

Lab Bottle Order No: 60388268

Item No.	Sample Description	Time	Date	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Air	Laboratory No.	No. of Containers	Preservative: Unpreserved	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: HCl	Preservative: Methanol	Requested Analysis: BTEX 8021	Requested Analysis: BTEX/TPH	Requested Analysis: BTEX/Oxy/TPH	Requested Analysis: EPA 8260	Requested Analysis: EPA 8270	Requested Analysis: 3 oxygenates	Sample Point Lat/Long and Comments
1	MW #2	1335	4/7/08		✓			3				✓					✓		3 oxygenates	001
2	MW #3	1255	4/7/08		✓			3				✓					✓		↓	002
3																			3 oxygenates	003
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Sampler's Name: NELSON VELEZ	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company: BLAGG ENGINEERING, INC.	Nelson Velez - BLAGG ENGR.	4/7/08	1530		4/8/08	8:45
Shipment Date: APRIL 7, 2008						
Shipment Method: FED EX OVERNITE						
Shipment Tracking No:						

Special Instructions: REPORT BTEX CONSTITUENTS ONLY. SAN JUAN COUNTY, NM.

Custody Seals In Place Yes X No ___ Temp Blank Yes X No ___ Cooler Temperature on Receipt 3.6 °F/C Trip Blank Yes X No ___

LABORATORY

BP COC Rev.4 10/1/04

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SAMPLE SUMMARY

Project: JACQUEZ LS #3
Pace Project No.: 6038268

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6038268001	**MW #2**	Water	04/07/08 13:35	04/08/08 08:45
6038268002	**MW #3**	Water	04/07/08 12:55	04/08/08 08:45
6038268003	**TRIP BLANK**	Water	04/07/08 00:00	04/08/08 08:45

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SAMPLE ANALYTE COUNT

Project: JACQUEZ LS #3
Pace Project No.: 6038268

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6038268001	**MW #2**	EPA 8260	JKL	9
6038268002	**MW #3**	EPA 8260	JKL	9
6038268003	**TRIP BLANK**	EPA 8260	JKL	9

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PROJECT NARRATIVE

Project: JACQUEZ LS #3
Pace Project No.: 6038268

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: BP-Blagg Engineering
Date: April 15, 2008

General Information:
3 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/13967

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: MSV/13987

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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QUALITY CONTROL DATA

Project: JACQUEZ LS #3
Pace Project No.: 6038268

QC Batch: MSV/13967
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 6038268002, 6038268003

METHOD BLANK: 311355
Associated Lab Samples: 6038268002, 6038268003

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Benzene	ug/L	ND	1.0	
Ethylbenzene	ug/L	ND	1.0	
Toluene	ug/L	ND	1.0	
Xylene (Total)	ug/L	ND	3.0	
1,2-Dichloroethane-d4 (S)	%	108	81-118	
4-Bromofluorobenzene (S)	%	93	85-119	
Dibromofluoromethane (S)	%	99	85-114	
Toluene-d8 (S)	%	101	82-114	

LABORATORY CONTROL SAMPLE: 311356

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	10	9.2	92	87-117	
Ethylbenzene	ug/L	10	8.9	89	84-123	
Toluene	ug/L	10	8.7	87	81-124	
Xylene (Total)	ug/L	30	26.7	89	83-125	
1,2-Dichloroethane-d4 (S)	%			106	81-118	
4-Bromofluorobenzene (S)	%			91	85-119	
Dibromofluoromethane (S)	%			101	85-114	
Toluene-d8 (S)	%			101	82-114	

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QUALITY CONTROL DATA

Project: JACQUEZ LS #3
Pace Project No.: 6038268

QC Batch: MSV/13987
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 6038268001

METHOD BLANK: 311996
Associated Lab Samples: 6038268001

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Benzene	ug/L	ND	1.0	
Ethylbenzene	ug/L	ND	1.0	
Toluene	ug/L	ND	1.0	
Xylene (Total)	ug/L	ND	3.0	
1,2-Dichloroethane-d4 (S)	%	101	81-118	
4-Bromofluorobenzene (S)	%	95	85-119	
Dibromofluoromethane (S)	%	99	85-114	
Toluene-d8 (S)	%	100	82-114	

LABORATORY CONTROL SAMPLE: 311997

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	10	9.2	92	87-117	
Ethylbenzene	ug/L	10	9.2	92	84-123	
Toluene	ug/L	10	9.4	94	81-124	
Xylene (Total)	ug/L	30	26.8	89	83-125	
1,2-Dichloroethane-d4 (S)	%			103	81-118	
4-Bromofluorobenzene (S)	%			103	85-119	
Dibromofluoromethane (S)	%			100	85-114	
Toluene-d8 (S)	%			104	82-114	

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QUALIFIERS

Project: JACQUEZ LS #3
Pace Project No.: 6038268

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/13967

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/13987

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JACQUEZ LS #3
Pace Project No.: 6038268

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6038268002	**MW #3**	EPA 8260	MSV/13967		
6038268003	**TRIP BLANK**	EPA 8260	MSV/13967		
6038268001	**MW #2**	EPA 8260	MSV/13987		

Sample Condition Upon Receipt

Pace Analytical

Client Name: Sevens Project # C038268

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 4994348715

Optional
Proj. Due Date: 4/18/08
Proj. Name:
Request LS #3

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used T-168 / T-169 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 3.6 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: BW 4/8/08 KRO KRO

Temp should be above freezing to 6°C Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☑N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: LT				
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes	☐No		Initial when completed: GR — Lot # of added preservative:
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15.
Trip Blank Present:	☑Yes	☐No	☐N/A	16. 3 TB Sent w/ multiple projects
Trip Blank Custody Seals Present	☐Yes	☑No	☐N/A	
Pace Trip Blank Lot # (if purchased): 038708-3				GR

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MW 4/9/08 Date: _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

CLIENT : BP AMERICA PROD. CO.

CHAIN-OF-CUSTODY # : N / A

JACQUEZ LS # 3
UNIT D, SEC. 30, T30N, R8W

LABORATORY (S) USED : PACE ANALYTICAL

Date : June 10, 2008

SAMPLER : N J V

Filename : 06-10-08.WK4

PROJECT MANAGER : N J V

WELL #	WELL ELEV. (ft)	WATER ELEV. (ft)	DEPTH TO WATER (ft)	TOTAL DEPTH (ft)	SAMPLING TIME	pH	CONDUCT (umhos)	TEMP. (celcius)	VOLUME PURGED (gal.)
1	102.77	92.65	10.12	22.25	-	-	-	-	-
2	100.90	92.65	8.25	21.35	0835	8.66	4,300	14.0	6.50
3	101.80	92.37	9.43	20.00	0755	7.74	4,600	13.5	5.25
					INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800		
					DATE & TIME =	06/09/08	0700		

NOTES : Volume of water purged from well prior to sampling: V = pi X r2 X h X 7.48 gal./ft3) X 3 (wellbores).
(i.e. 2" MW r = (1/12) ft. h = 1 ft.) (i.e. 4" MW r = (2/12) ft. h = 1 ft.)
Ideally a minimum of three (3) wellbore volumes:
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 , both murky brown in appearance , collected samples for BTEX per US EPA Method 8260 from MW # 2 & # 3 only .

Top of casings : MW # 1 ~ 2.25 ft. , MW # 2 ~ 2.00 ft. , MW # 3 ~ 2.20 ft. above grade .

on-site	7:11	temp	50
off-site	8:50	temp	65
sky cond.	sunny		
wind speed	0-10	direct.	North

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ANALYTICAL RESULTS

Project: JACQUEZ LS 3
Pace Project No.: 6041668

Sample: MW #2 **Lab ID: 6041668001** Collected: 06/10/08 08:35 Received: 06/11/08 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		06/14/08 04:18	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/14/08 04:18	100-41-4	
Toluene	ND	ug/L	1.0	1		06/14/08 04:18	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/14/08 04:18	1330-20-7	
Dibromofluoromethane (S)	97	%	85-114	1		06/14/08 04:18	1868-53-7	
Toluene-d8 (S)	101	%	82-114	1		06/14/08 04:18	2037-26-5	
4-Bromofluorobenzene (S)	110	%	85-119	1		06/14/08 04:18	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	81-118	1		06/14/08 04:18	17060-07-0	
Preservation pH	**1.0**		1.0	1		06/14/08 04:18		

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ANALYTICAL RESULTS

Project: JACQUEZ LS 3
Pace Project No.: 6041668

Sample: MW #3 **Lab ID: 6041668002** Collected: 06/10/08 07:55 Received: 06/11/08 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		06/14/08 04:32	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/14/08 04:32	100-41-4	
Toluene	ND	ug/L	1.0	1		06/14/08 04:32	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/14/08 04:32	1330-20-7	
Dibromofluoromethane (S)	98	%	85-114	1		06/14/08 04:32	1868-53-7	
Toluene-d8 (S)	100	%	82-114	1		06/14/08 04:32	2037-26-5	
4-Bromofluorobenzene (S)	109	%	85-119	1		06/14/08 04:32	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	81-118	1		06/14/08 04:32	17060-07-0	
Preservation pH	**1.0**		1.0	1		06/14/08 04:32		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: JACQUEZ LS 3
Pace Project No.: 6041668

Sample: TRIP BLANK **Lab ID: 6041668003** Collected: 06/10/08 00:00 Received: 06/11/08 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		06/14/08 04:47	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/14/08 04:47	100-41-4	
Toluene	ND	ug/L	1.0	1		06/14/08 04:47	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/14/08 04:47	1330-20-7	
Dibromofluoromethane (S)	98	%	85-114	1		06/14/08 04:47	1868-53-7	
Toluene-d8 (S)	99	%	82-114	1		06/14/08 04:47	2037-26-5	
4-Bromofluorobenzene (S)	111	%	85-119	1		06/14/08 04:47	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	81-118	1		06/14/08 04:47	17060-07-0	
Preservation pH	**1.0**		1.0	1		06/14/08 04:47		

REPORT OF LABORATORY ANALYSIS

Page 1 of 1

Atlantic Richfield Company

A BP affiliated company

Chain of Custody Record

Project Name: JACQUEZ LS 3
BP BU/AR Region/Enfos Segment: SJOC SOUTH
State or Lead Regulatory Agency: NMOCD
Requested Due Date (mm/dd/yy): 6/23/08

On-site Time:	7:11	Temp:	50°F
Off-site Time:	8:50	Temp:	65°F
Sky Conditions:	SUNNY		
Meteorological Events:			
Wind Speed:	0-10	Direction:	NORTH

Lab Name: Pace Analytical Services, Inc.	BP/AR Facility No.:	Consultant/Contractor: Blagg/URS
Address: 9609 Loiret Blvd	BP/AR Facility Address:	Address: 110 N. Forth St.
Lenexa, KS 66219	Site Lat/Long:	Bloomfield, NM 87413
Lab PM: MJ Walls	California Global ID No.:	Consultant/Contractor Project No.:
Tele/Fax: 913-563-1401	Enfos Project No.: 00193-0001	Consultant/Contractor PM: Nelson Velez
BP/AR EMB: Mike Whelan	Provision or OOC (circle one)	Tele: (505) 632-1199 Fax: (505) 632-3903
Address: 501 Westlake Park Blvd.	Phase/WBS:	Report Type & QC Level: STD
Rm28, 144B Houston, TX 77079	Sub Phase/Task:	E-Mail EDD To: blagg-njve@yahoo.com
Tele: (281) 366-7485 Fax: (281) 366-7094	Cost Element:	Invoice to: Consultant or BP or Atlantic Richfield Co (circle one)

Lab Bottle Order No: 17710

Item No.	Sample Description	Time	Date	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Air	Laboratory No.	No. of Containers	Preservative: Unpreserved	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: HCl	Preservative: Methanol	Requested Analysis: BTEX (8260)	Sample Point Lat/Long and Comments
															Ceo-11668
1	MW #2	0835	6/10/08		✓			3				✓		✓	3(DEAH) 001
2	MW #3	0755	6/10/08		✓			3				✓		✓	↓ 002
3															3(DEAH) 003
4															
5															
6															
7															
8															
9															
10															

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: NELSON VELEZ						
Sampler's Company: BLAGG ENG. INC.						
Shipment Date: JUNE 10, 2008						
Shipment Method: FED. EX.						
Shipment Tracking No: 499434868		6/10/08	1540		6/11	910

Special Instructions: REPORT BTEX CONSTITUENTS ONLY. SAN JUAN COUNTY, NM

Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: 5.2 °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

BP COC Rev. 5 10/11/2006

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SAMPLE SUMMARY

Project: JACQUEZ LS 3
Pace Project No.: 6041668

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6041668001	**MW #2**	Water	06/10/08 08:35	06/11/08 09:10
6041668002	**MW #3**	Water	06/10/08 07:55	06/11/08 09:10
6041668003	**TRIP BLANK**	Water	06/10/08 00:00	06/11/08 09:10

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SAMPLE ANALYTE COUNT

Project: JACQUEZ LS 3
Pace Project No.: 6041668

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6041668001	**MW #2**	EPA 8260	JTK	9
6041668002	**MW #3**	EPA 8260	JTK	9
6041668003	**TRIP BLANK**	EPA 8260	JTK	9

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PROJECT NARRATIVE

Project: JACQUEZ LS 3
Pace Project No.: 6041668

Method: **EPA 8260**
Description: 8260 MSV UST, Water
Client: BP-Blagg Engineering
Date: June 23, 2008

General Information:
3 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/15178

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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(913)599-5665

QUALITY CONTROL DATA

Project: JACQUEZ LS 3
Pace Project No.: 6041668

QC Batch: MSV/15178 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 6041668001, 6041668002, 6041668003

METHOD BLANK: 340016
Associated Lab Samples: 6041668001, 6041668002, 6041668003

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Benzene	ug/L	ND	1.0	
Ethylbenzene	ug/L	ND	1.0	
Toluene	ug/L	ND	1.0	
Xylene (Total)	ug/L	ND	3.0	
1,2-Dichloroethane-d4 (S)	%	98	81-118	
4-Bromofluorobenzene (S)	%	108	85-119	
Dibromofluoromethane (S)	%	94	85-114	
Toluene-d8 (S)	%	100	82-114	

LABORATORY CONTROL SAMPLE: 340017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	10	11.3	113	87-117	
Ethylbenzene	ug/L	10	11.0	110	84-123	
Toluene	ug/L	10	10.8	108	81-124	
Xylene (Total)	ug/L	30	33.6	112	83-125	
1,2-Dichloroethane-d4 (S)	%			94	81-118	
4-Bromofluorobenzene (S)	%			105	85-119	
Dibromofluoromethane (S)	%			96	85-114	
Toluene-d8 (S)	%			100	82-114	

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QUALIFIERS

Project: JACQUEZ LS 3
Pace Project No.: 6041668

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

BATCH QUALIFIERS

Batch: MSV/15178

[1] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: JACQUEZ LS 3
Pace Project No.: 6041668

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6041668001	**MW #2**	EPA 8260	MSV/15178		
6041668002	**MW #3**	EPA 8260	MSV/15178		
6041668003	**TRIP BLANK**	EPA 8260	MSV/15178		

Sample Condition Upon Receipt

Pace Analytical

Client Name: BP BLAZE

Project # 60411663

Optional
Proj. Due Date:
Proj. Name: 6/23

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 8643 6005 2346

Custody Seal on Cooler/Box Present: ☑ yes ☐ no Seals intact: ☑ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used T-169 / T-179 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 5.2 Biological Tissue is Frozen: Yes No

Date and initials of person examining contents: BW 6/11
S: 1010 E: 1015

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☑Yes	☐No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☑No	☐N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT				
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A	
exceptions: (VOA), coliform, TOC, O&G, WI-DRO (water)	☑Yes	☐No		Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	15.
Trip Blank Present:	☑Yes	☐No	☐N/A	16.
Trip Blank Custody Seals Present	☑Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if purchased): 051208				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MW 6/12/08 **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)