

3R - 421

**ANNUAL
MONITORING
REPORT**

05/04/2009

3R 421

RECEIVED

BP AMERICA PRODUCTION CO.

2009 MAY - 4 AM 9 45

GROUNDWATER REMEDIATION REPORT

**GCU # 229E
(I) SECTION 21, T28N, R12W, NMPM
SAN JUAN COUNTY, NEW MEXICO**

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

APRIL 2009

**PREPARED BY:
BLAGG ENGINEERING, INC.
Consulting Petroleum / Reclamation Services
P.O. Box 87
Bloomfield, New Mexico 87413**

BP AMERICA PRODUCTION COMPANY
GCU # 229E - Blow Pit
NE/4 SE/4, Sec. 21, T28N, R12W

Monitor Well Installation Dates: 11/1/06 (MW #2), 1/18/07 (MW #1, MW #3), 8/30/07 (MW #4)

Monitor Well Sampling Dates: 4/14/08, 8/28/08

Site History:

A site blow pit closure was initiated in August 2002. Groundwater impacts were identified from sampling and testing of MW #2 in November 2006. After receipt of the laboratory results, NMOCD was notified with a letter dated March 2, 2007 of the groundwater impacts. Documentation of this work and subsequent groundwater monitoring data for the site have previously been submitted for New Mexico Oil Conservation Division (NMOCD) review. No further remedial action was suggested within the report. The reporting herein is for site monitoring in 2008 only.

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 for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by US EPA Method 8021B or 8260 was conducted.

Fluids generated during monitor well development and purging were managed by discarding into the separator below-grade tank (BGT) located on the same well pad (BP's GCU #316 well site). The BGT contents are then disposed through approved NMOCD operational procedures for removal of produced fluids.

Groundwater Quality & Flow Direction Information:

MW #4 has tested with benzene fluctuations below and above the New Mexico Water Quality Control Commission (NMWQCC) standards since its installation. Ethylbenzene and total xylenes in MW #4 has increased above the NMWQCC standards since the initial testing in September 2007. A historical summary of laboratory analytical BTEX results are included within the table on the following page. Field data sheets, laboratory reports, and laboratory quality assurance/quality control information are also included.

Groundwater contour maps of relative water table elevations have been measured to flow in the north direction (Figure 2 through 3).

Summary and/or Recommendations:

The well site is located in a very remote area of San Juan County near the Navajo Agricultural Product Industry (NAPI) area. The presence of total xylenes well above NMWQCC standards within MW #4 indicates possible long term monitoring is highly probable. It is recommended to continue monitoring of MW #4 on a bi-annual basis unless circumstances dictate otherwise as well as down gradient delineation from MW #4 by installation of at least one (1) groundwater monitor well. No additional remedial action is suggested until further review of future BTEX analyses.

BP AMERICA PROD. CO. GROUNDWATER LAB RESULTS

SUBMITTED BY BLAGG ENGINEERING, INC.

GCU # 229E - BLOW PIT
UNIT I, SEC. 21, T28N, R12W

REVISED DATE: September 17, 2008

FILENAME: (229E3Q08.WK4) NJV

SAMPLE DATE	WELL NAME or No.	D.T.W. (ft)	T.D. (ft)	TDS (mg/L)	COND. umhos	pH	PRODUCT (ft)	BTEX EPA METHOD 8021B (ppb)			
								Benzene	Toluene	Ethyl Benzene	Total Xylene
30-Jan-07	MW #1	34.11	42.00	730	1,200	7.13		ND	ND	ND	ND
14-Nov-06	MW #2	31.60	42.00	866	1,300	7.05		ND	25	110	1,800
30-Jan-07		31.63			1,200	6.96		ND	ND	7.9	200
25-Apr-07		31.76			1,200	6.92		ND	ND	1.0	140
23-Jul-07		31.78			1,200	6.87		ND	ND	4.1	130
15-Nov-07		31.73			1,500	6.97		ND	ND	5.1	170
30-Jan-07	MW #3	33.20	42.00	762	1,200	7.18		ND	ND	ND	ND
25-Apr-07		33.34			1,200	7.07		ND	ND	ND	ND
23-Jul-07		33.38			1,100	6.98		ND	ND	ND	ND
15-Nov-07		33.30			1,300	7.16		ND	ND	ND	ND
17-Sep-07	MW #4	23.58	36.88		1,300	7.06		1.2	ND	13	340
15-Nov-07		23.55			1,400	7.15		2.2	1.9	150	6,500
14-Apr-08		23.39			1,000	7.26		13.3	8.7	1,480	10,400
28-Aug-08		24.16			800	7.39		ND	ND	750	18,000
NMWQCC GROUNDWATER STANDARDS								10	750	750	620

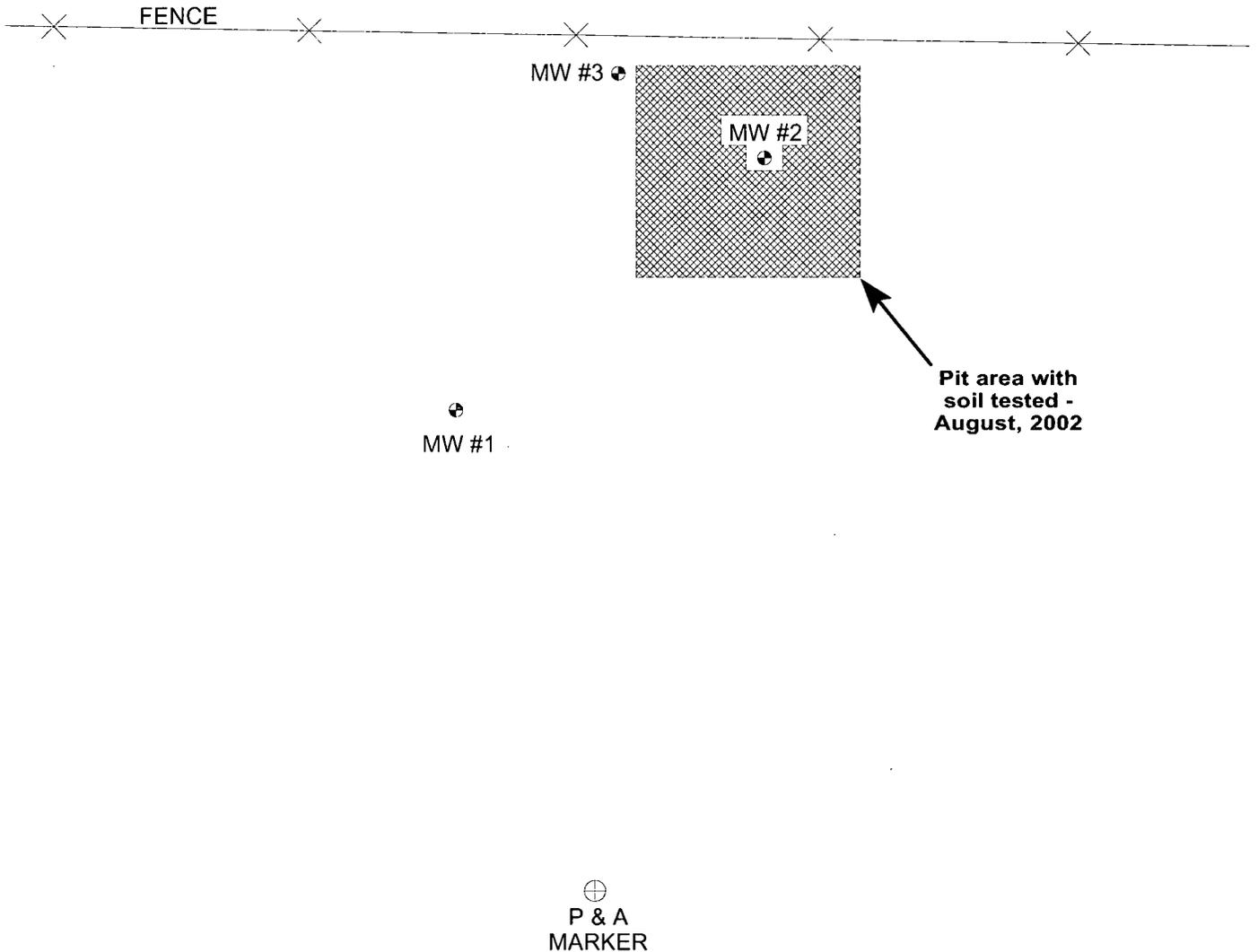
- NOTES :
- 1) RESULTS IN BOLD RED TYPE INDICATE EXCEEDING NMWQCC STANDARDS .
 - 2) RESULTS IN BOLD BLUE TYPE INDICATE BELOW NMWQCC STANDARDS AFTER PREVIOUS RESULTS IN BOLD RED TYPE EXCEEDED .
 - 3) ND INDICATES NOT DETECTED AT THE REPORTING LIMITS (less than regulatory standards of at least a magnitude of 10) .

FIGURE 1



Direction to Gallegos wash.

OPEN RANGE



1 INCH = 30 FT.



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

BP AMERICA PRODUCTION CO.
GCU #229E
NE/4 SE/4 SEC. 21, T28N, R12W
SAN JUAN COUNTY, NEW MEXICO

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

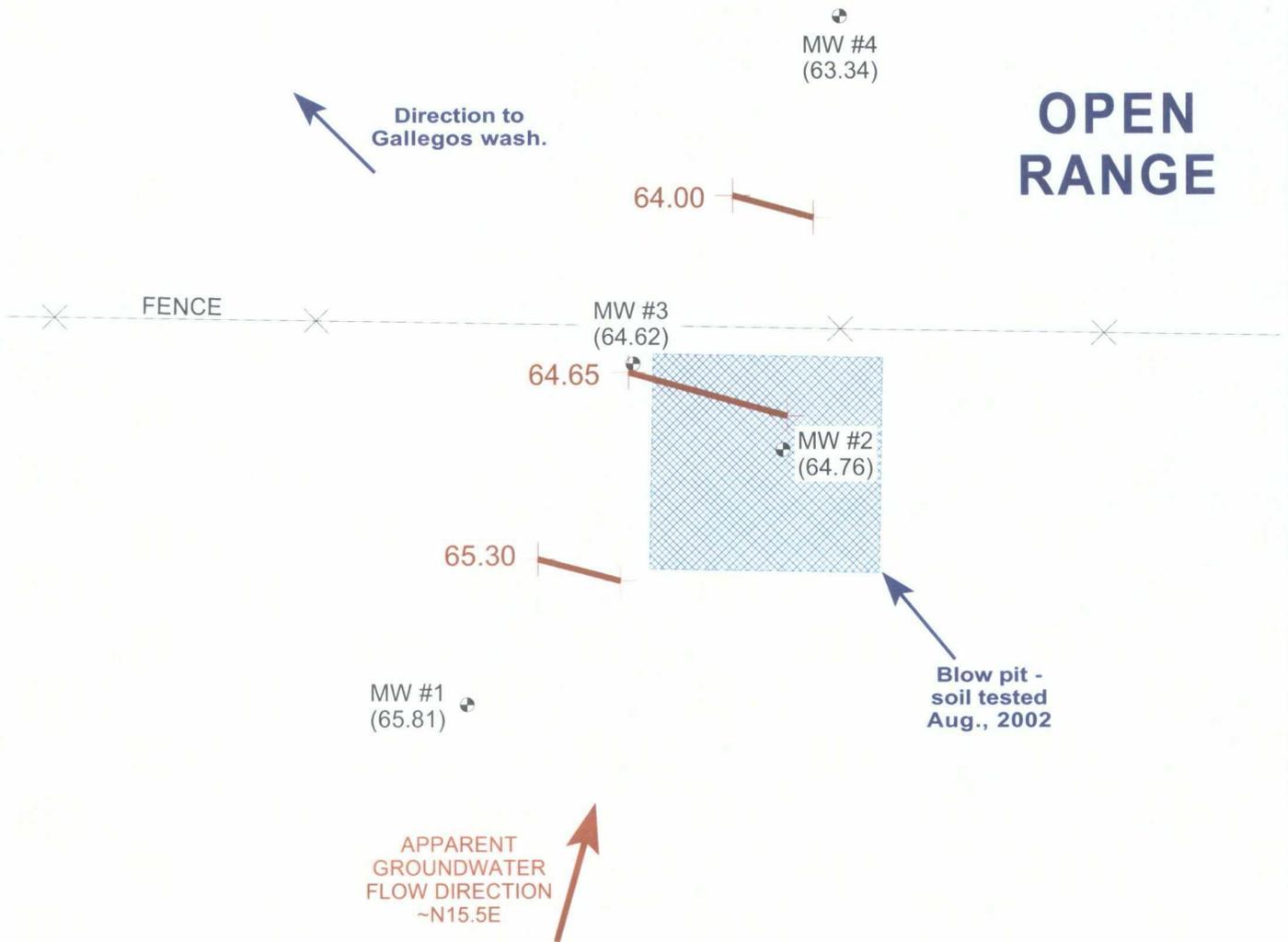
PROJECT: MW INSTALL.
DRAWN BY: NJV
FILENAME: GCU 229E-SM.SKF
DRAFTED: 01-30-07 NJV

**SITE
MAP**
01/07

FIGURE 2 (2nd 1/4, 2008)



OPEN RANGE



1 INCH = 30 FT.



	Top of Well Elevation
MW #1	(100.00)
MW #2	(96.43)
MW #3	(97.86)
MW #4	(86.73)
MW #1 (65.81)	Groundwater Elevation as of 4/14/08.

⊕
P & A
MARKER

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

BP AMERICA PRODUCTION CO.

GCU #229E

NE/4 SE/4 SEC. 21, T28N, R12W

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: 04-14-08-GW.SKF

REVISED: 04-14-08 NJV

GROUNDWATER

CONTOUR

MAP

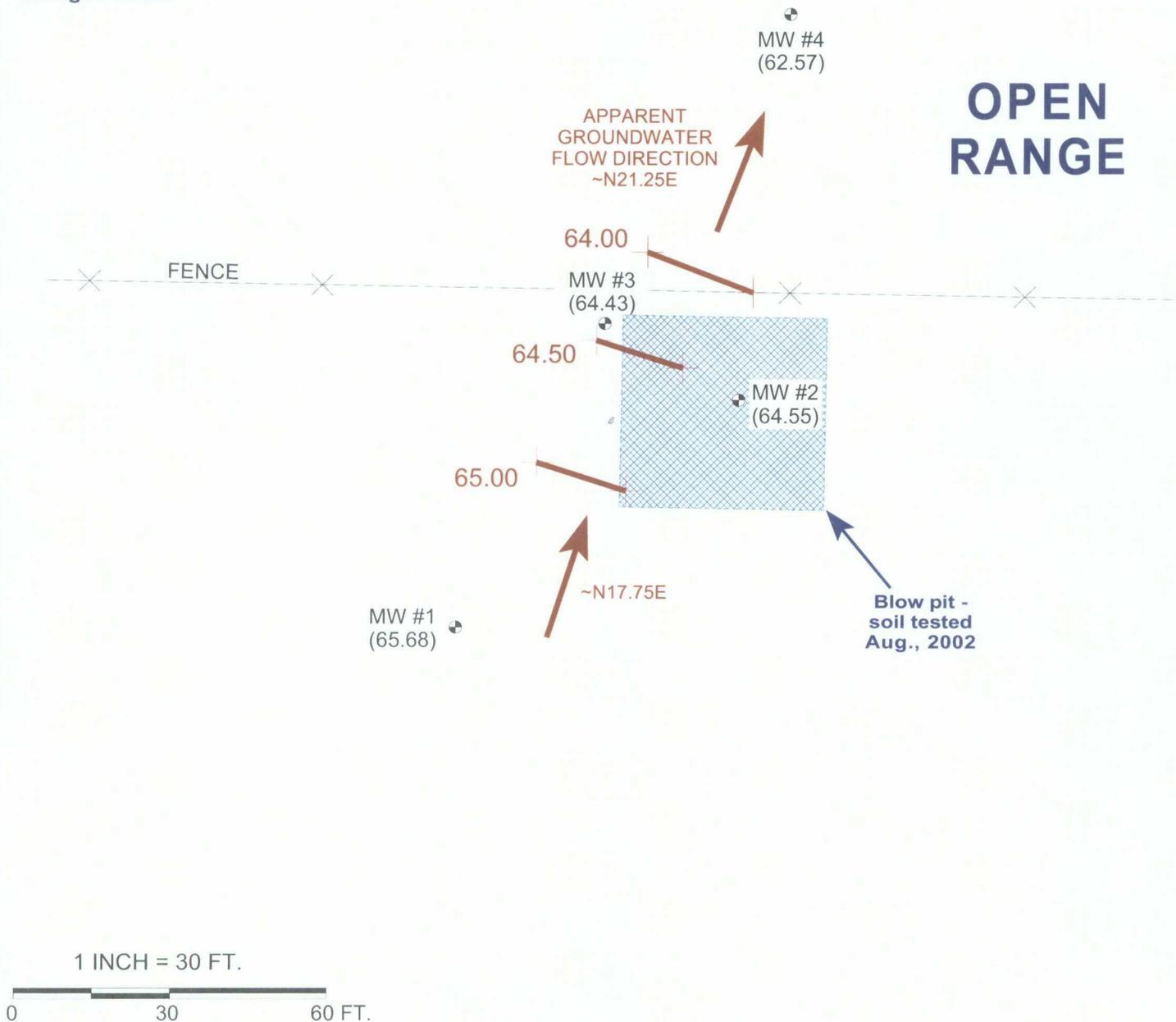
04/08

FIGURE 3 (3rd 1/4, 2008)



Direction to Gallegos wash.

OPEN RANGE



1 INCH = 30 FT.



	Top of Well Elevation
MW #1	(100.00)
MW #2	(96.43)
MW #3	(97.86)
MW #4	(86.73)
MW #1 (65.68)	Groundwater Elevation as of 8/28/08.

⊕
P & A
MARKER

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

BP AMERICA PRODUCTION CO.
GCU #229E
NE/4 SE/4 SEC. 21, T28N, R12W
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: 08-28-08-GW.SKF
REVISED: 08-28-08 NJV

**GROUNDWATER
CONTOUR
MAP**
08/08

BLAGG ENGINEERING, INC.

MONITOR WELL DEVELOPMENT & / OR SAMPLING DATA

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

CHAIN-OF-CUSTODY # : **156394**

GCU # 229E - BLOW PIT
UNIT I, SEC. 21, T28N, R12W

LABORATORY (S) USED : **PACE ANALYTICAL**

Date : **April 14, 2008**

SAMPLER : **N J V**

Filename : **04-14-08.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.)
MW - 1	100.00	65.81	34.19	42.00	-	-	-	-	-
MW - 2	96.43	64.76	31.67	42.00	-	-	-	-	-
MW - 3	97.86	64.62	33.24	42.00	-	-	-	-	-
MW - 4	86.73	63.34	23.39	36.88	1518	7.26	1,000	22.8	6.50

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	04/14/08	0800

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 # 4. MW # 4 contained possible free phase product during development / purging process with strong hydrocarbon odor. Collected BTEX sample from MW # 4 only.

Top of casing MW # 1 ~ 2.40 ft., MW # 2 ~ 2.60 ft., MW # 3 ~ 2.50 ft., MW # 4 ~ 2.25 ft. above grade.

ANALYTICAL RESULTS

Project: GCU #229E
Pace Project No.: 6038712

Sample: **MW #4** Lab ID: **6038712001** Collected: 04/14/08 15:18 Received: 04/16/08 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water		Analytical Method: EPA 8260						
Benzene	13.3J	ug/L	50.0	50		04/22/08 07:12	71-43-2	
Ethylbenzene	1480	ug/L	50.0	50		04/22/08 07:12	100-41-4	
Toluene	8.7J	ug/L	50.0	50		04/22/08 07:12	108-88-3	
Xylene (Total)	10400	ug/L	300	100		04/22/08 13:08	1330-20-7	
Dibromofluoromethane (S)	100	%	85-114	50		04/22/08 07:12	1868-53-7	
Toluene-d8 (S)	106	%	82-114	50		04/22/08 07:12	2037-26-5	
4-Bromofluorobenzene (S)	99	%	85-119	50		04/22/08 07:12	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	81-118	50		04/22/08 07:12	17060-07-0	
Preservation pH	1.0		1.0	50		04/22/08 07:12		



156394

Chain of Custody Record

Project Name: GCN # 229E
 BP BU/AR Region/Enfos Segment: SAN JUAN OC SOUTH
 State or Lead Regulatory Agency: NMCCO/BM/NEPA
 Requested Due Date (mm/dd/yy): 4/28/08

Page 1 of 1
 On-site Time: 2:28 Temp: 74°F
 Off-site Time: 3:40 Temp: 75°F
 Sky Conditions: SUNNY
 Meteorological Events:
 Wind Speed: 0-5 Direction: WEST

Lab Name: PACE ANALYTICAL
 Address: 9608 LOIRET BLVD - LENEWA, KS 66219
 Lab PM: MARY JANE WAPLS
 Tele/Fax: (913) 599-5665 FAX: (913) 599-1759
 BP/AR PM Contact: MIKE WHELAN, PG
 Address: 501 WESTLAKE PARK BLVD. Rm. 28.144B Houston TX 77079
 Tele/Fax: (281) 366-7485 FAX: (281) 366-7094
 Lab Bottle Order No: 15752

BP/AR Facility No.: WR 192508
 BP/AR Facility Address:
 Site Lat/Long:
 California Global ID No.:
 Enfos Project No.: 0018W
 Provision or RCOP (circle one)
 Phase/WBS:
 Sub Phase/Task:
 Cost Element: 01

Consultant/Contractor: BLASG /URS
 Address: 110 N. FOURTH ST. Bloomfield, NM 87413
 Consultant/Contractor Project No.: 41008752
 Consultant/Contractor PM: NELSON VELEZ
 Tele/Fax: (505) 632-1199 FAX: (505) 632-3903
 Report Type & QC Level: STANDARD
 E-mail EDD To: blagg-niv@yahoo.com
 Invoice to: Consultant or BP of Atlantic Richfield Co. (circle one)

Item No.	Sample Description	Time	Date	Matrix	Matrix		Laboratory No.	No. of Containers	Preservative				Requested Analysis				Sample Point Lat/Long and Comments
					Soil/Solid	Water/Liquid			Air	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	BTEX/TPH	BTEX/Oxy/TPH	
1	MW # 4	1518	4/14/08	Y				3									6038712
2																	3(DC-4H) 601
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler's Name: NELSON VELEZ
 Sampler's Company: BLASG ENGINEERING, INC.
 Shipment Date: APRIL 15, 2008
 Shipment Method: FED EX OVERNITE
 Shipment Tracking No: 4994348726
 Special Instructions: KEEP AT BTEX CONSTITUENTS ONLY. SAN JUAN COUNTY, NM

Relinquished By / Affiliation: Nelson Velez
 Date: 4/15/08 Time: 1540
 Accepted By / Affiliation: [Signature]
 Date: 4/16 Time: 830

Custody Seals In Place Yes X No Temp Blank Yes No X Cooler Temperature on Receipt 0.7 °F Trip Blank Yes X No

SAMPLE SUMMARY

Project: GCU #229E
Pace Project No.: 6038712

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6038712001	MW #4	Water	04/14/08 15:18	04/16/08 08:30

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



SAMPLE ANALYTE COUNT

Project: GCU #229E
Pace Project No.: 6038712

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6038712001	MW #4	EPA 8260	AJA	9

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



PROJECT NARRATIVE

Project: GCU #229E
Pace Project No.: 6038712

Method: EPA 8260
Description: 8260 MSV UST, Water
Client: BP-Blagg Engineering
Date: April 24, 2008

General Information:

1 sample was 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/14124

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.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



QUALITY CONTROL DATA

Project: GCU #229E
Pace Project No.: 6038712

QC Batch: MSV/14124 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 6038712001

METHOD BLANK: 315205
Associated Lab Samples: 6038712001

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)	%	102	81-118	
4-Bromofluorobenzene (S)	%	98	85-119	
Dibromofluoromethane (S)	%	100	85-114	
Toluene-d8 (S)	%	100	82-114	

LABORATORY CONTROL SAMPLE: 315206

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	10	9.4	94	87-117	
Ethylbenzene	ug/L	10	9.5	95	84-123	
Toluene	ug/L	10	9.5	95	81-124	
Xylene (Total)	ug/L	30	29.4	98	83-125	
1,2-Dichloroethane-d4 (S)	%			101	81-118	
4-Bromofluorobenzene (S)	%			98	85-119	
Dibromofluoromethane (S)	%			100	85-114	
Toluene-d8 (S)	%			100	82-114	

QUALIFIERS

Project: GCU #229E
Pace Project No.: 6038712

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/14124

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GCU #229E
Pace Project No.: 6038712

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6038712001	MW #4	EPA 8260	MSV/14124		

Sample Condition Upon Receipt



Client Name: BP BLAGE

Project # 6038712

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____

Tracking #: _____

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 0.7

Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Comments:

Optional Proj. Due Date: <u>4/28/08</u> Proj. Name: <u>6038712</u>
Date and Initials of person examining contents: <u>EW 4/16</u> <u>S: 1511 E: 1522</u>

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WT</u>		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
		Lot # of added preservative
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>031708</u>		<u>B</u>

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: mw 4/17/08

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

GCU # 229E - BLOW PIT
UNIT I, SEC. 21, T28N, R12W

LABORATORY (S) USED : HALL ENVIRONMENTAL

Date : August 28, 2008

SAMPLER : N J V

Filename : 08-28-08.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.)
MW - 1	100.00	65.68	34.32	42.00	-	-	-	-	-
MW - 2	96.43	64.55	31.88	42.00	-	-	-	-	-
MW - 3	97.86	64.43	33.43	42.00	-	-	-	-	-
MW - 4	86.73	62.57	24.16	36.88	1240	7.39	800	19.0	6.25

INSTRUMENT CALIBRATIONS =	4.01/7.00/10.00	2,800
DATE & TIME =	08/25/08	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".

Excellent recovery in MW # 4 . MW # 4 contained possible free phase product during development / purging process with strong hydrocarbon odor . Collected BTEX sample from MW # 4 only .

Top of casing MW # 1 ~ 2.40 ft. , MW # 2 ~ 2.60 ft. , MW # 3 ~ 2.50 ft. , MW # 4 ~ 2.25 ft. above grade .

on-site	11:44	temp	80
off-site	12:57	temp	84
sky cond.	Mostly sunny		
wind speed	0-5	direct.	southwest

Hall Environmental Analysis Laboratory, Inc.

Date: 15-Sep-08

CLIENT: Blagg Engineering
 Lab Order: 0808491
 Project: GCU #229E
 Lab ID: 0808491-01

Client Sample ID: MW #4
 Collection Date: 8/28/2008 12:40:00 PM
 Date Received: 8/29/2008
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: BDH
Benzene	ND	10		µg/L	10	9/11/2008 11:47:09 AM
Toluene	ND	10		µg/L	10	9/11/2008 11:47:09 AM
Ethylbenzene	750	100		µg/L	100	9/10/2008 2:50:41 PM
Xylenes, Total	18000	200		µg/L	100	9/10/2008 2:50:41 PM
Surr: 4-Bromofluorobenzene	97.5	80.4-119		%REC	100	9/10/2008 2:50:41 PM

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

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

QA/QC SUMMARY REPORT

Client: Blagg Engineering
Project: GCU #229E

Work Order: 0808491

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

Method: EPA Method 8260: Volatiles Short List

Sample ID: 5ml rb		MBLK				Batch ID: R30168	Analysis Date: 9/10/2008 9:10:32 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 lcs-b		LCS				Batch ID: R30168	Analysis Date: 9/10/2008 11:50:00 AM		
Benzene	20.84	µg/L	1.0	104	86.8	120			
Toluene	21.20	µg/L	1.0	106	64.1	127			
Sample ID: 100ng lcsd		LCSD				Batch ID: R30168	Analysis Date: 9/10/2008 11:45:58 PM		
Benzene	20.84	µg/L	1.0	104	86.8	120	0.00192	20	

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:

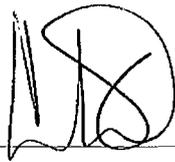
8/29/2008

Work Order Number 0808491

Received by: **AT**

Checklist completed by:

Signature



8/29/08
Date

Sample ID labels checked by:

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 _____
