3R - 071

2006 AGWMR

04/15/2007

3R071

BURLINGTON RESOURCES
San Juan Division

April 15, 2007

Hand Delivered

RECEIVED

APR 17 2007

Oil Conservation Division
Environmental Bureau

Glen Von Gonten
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: 2006 Annual Groundwater Investigation and Remediation Reports
San Juan Basin, New Mexico

Dear Mr. Von Gonten:

As required in Burlington Resources approved Groundwater Investigation and Remediation Plan dated August, 1998, enclosed are the 2005 annual reports for Burlington's groundwater impact sites in the San Juan Basin. Separate reports are enclosed for the following locations:

Hampton #4M
✔ Johnson Federal #4 Metering Station
Flora Vista
Howell K-1

If you have questions or additional information is needed, please contact me at (505) 326-9537.

Sincerely,

Gregg Wurtz
Sr. Environmental Representative

Attachments - Groundwater Investigation and Remediation Reports

cc: Brandon Powell - NMOCD Aztec
WFS - Mark Harvey (Hampton #4M)
EPFS - Scott Pope (Johnson Fed. #4)
Facility and Correspondence Files

3401 East 30th Street, 87402-8807, P.O. Box 4289, Farmington, New Mexico 87499-4289, Telephone 505-326-9700, Fax 505-326-9833

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APR 17 2007

Oil Conservation Division
Environmental Bureau

BURLINGTON RESOURCES 2006 ANNUAL GROUND WATER REPORT

Johnston Federal #4 Metering Facility

SITE DETAILS

Location: Unit Letter M, Section 27, Township 31N, Range 9W; San Juan County, New Mexico
Land Type: Federal

PREVIOUS ACTIVITIES

El Paso Field Services (EPFS) excavated approximately 60 cubic yards from a pit at this location in 1994, and installed a monitoring well in 1995. Since then, EPFS has installed four additional monitoring wells on the site. It should be noted that in past reports, EPFS incorrectly showed the location of the monitoring wells at the Johnson Federal #4 producing location. The producing location is in a different section from where the metering facility and groundwater impact are located.

Burlington Resources conducted initial site assessments of two Burlington pits in August 1998. The separator pit tested clean and was closed. The tank drain pit had levels above standards, and excavation of approximately 3055 cubic yards of impacted soil to a depth of 30 feet occurred in December 1998. Prior to backfilling, the excavation was sprayed with 20 barrels of Oxy-1. Clean overburden and soils from a nearby wash were used to backfill the excavation.

GROUND WATER MONITORING

To determine impact to ground water, a ground water monitoring well was installed on May 13, 1999 (Figure 1). Ground water was reached at approximately 43 feet below the ground surface. Well logs and completion diagrams are shown in Attachment 1. The well was developed and sampled for the first time on May 25, 1999. Initial results indicated high concentrations of benzene, toluene, ethylbenzene and total xylenes (BTEX) in the ground water. A quarterly sampling schedule was initiated to monitor natural degradation of BTEX concentrations.

Prior to sampling at monitoring wells, depth to ground water and total depth of wells is measured with a Keck oil/water interface probe. Presence of any free-phase crude oil is also investigated using the interface probe. The interface probe is decontaminated with Alconox™ soap and rinsed with de-ionized water prior to each measurement. The volume of water in the wells is calculated, and a minimum of three casing volumes of water is purged from each well using a disposable bailer or a permanent decontaminated PVC bailer. As water is removed, pH, electric conductivity and temperature are monitored. Wells are purged until these properties stabilize, indicating that the purge water is representative of aquifer conditions. Stabilization is defined as three consecutive stable readings for each water property (±0.4 units for pH, ±10 percent for electric conductivity and ±2° C for temperature). All purge water is disposed into tanks on site. Data is recorded on the attached *Well Development and Sampling Logs* (Attachment 2). Once each monitoring well is properly purged, groundwater samples are collected by filling at least two 40-milliliter (ml) glass vials. The pre-cleaned and pre-preserved (with hydrochloric acid or mercuric chloride) vials are filled and capped with no air inside to prevent

degradation of the sample. Samples are labeled with the date and time of collection, well designation, project name, collector's name and parameters to be analyzed. They are immediately sealed and packed on ice. The samples are shipped to ACZ Laboratory in Steamboat Springs, Colorado in a sealed cooler via FedEx before designated holding times expire. Proper chain-of-custody (COC) procedures are followed with logs documenting the date and time sampled, sample number, type of sample, sampler's name, preservative used, analyses required and sampler's signatures.

ACZ analyzes the samples for BTEX by USEPA Method 8021. Laboratory reports are included as Attachment 3. Results of quarterly sampling are shown in Table 1. BTEX concentrations exceeded New Mexico Water Quality Control Commission (NMWQCC) standards from 1999 through 2002. The 2000 fourth quarter sample results were significantly different. This sample was re-analyzed at the laboratory and the same result was produced. The remaining data collected in 2001, 2002, 2003 and 2004 are similar to the historic data collected; therefore the fourth quarter 2000 data is considered an anomaly and not valid. Beginning in 2003 and continuing through most of 2006, trace amounts of free phase hydrocarbon have been measured in MW-1. Product thickness in the monitoring well is measured at each visit. The measurements are listed in Table 1 and shown graphically in Figure 2. Ground water samples are not collected when free phase hydrocarbons are present or cannot be removed.

In 2005, BR initiated efforts to recover free phase hydrocarbons from the monitoring well casing. Product recovery continued through 2006. Given the limited amount of free phase product observed in the well, a passive recovery process is utilized. Oil absorbent socks are installed in the well and replaced every quarter. Figure 2 shows that product levels have decreased since the installation of absorbent socks within MW-1.

In January and March of 2006, field technicians were able to obtain a sample from MW-1 after removing the used socks and manually bailing the small amount of free phase product remaining in the well.

CONCLUSIONS

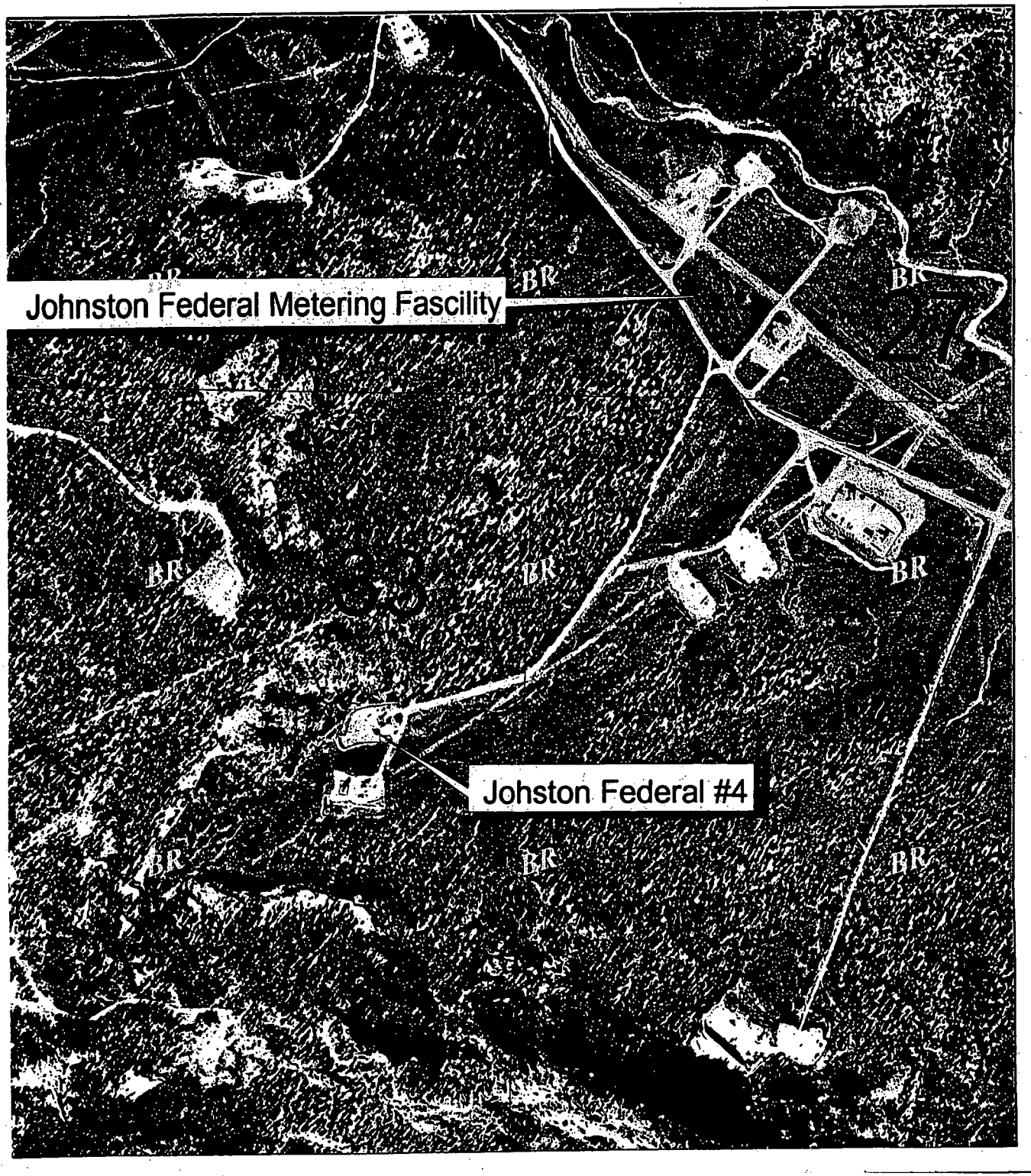
Free phase hydrocarbon has been detected in the monitoring well since the first quarter of 2003 (except for the second quarter of 2004). In 2005, BR initiated passive product recovery within the well using oil-absorbent socks. The amount of product thickness measured in the well is decreasing over time. When sampled, the analytical results from ground water collected from MW-1 show levels of BTEX well above NMWQCC Standards.

RECOMMENDATIONS

- Burlington Resources proposes to continue quarterly visits to the site to monitor free phase product thickness within the well and perform product recovery. When free phase product is not measured, samples will be collected and analyzed for BTEX.
- Burlington Resources will resume quarterly ground water sampling for BTEX concentrations when free phase product is not detected within the well.

Attachments: Figure 1 - Site Map
Figure 2 - Graphical Presentation of Product Thickness Observed in MW-1 Over Time
Table 1 - Ground Water Sampling Results Summary
Attachment 1 – Letter to NMOCD, including Drilling Log and Wellbore Diagrams
Attachment 2 – Well Development and Sampling Logs
Attachment 3 - Laboratory Reports

Figure 1: Site Map of Johnston Federal #4



Town Outlines
San Juan Federal Units
Counties
Sections
Townships

N

BURLINGTON RESOURCES PLAT

300 0 300 600 Feet

BURLINGTON RESOURCES

< San Juan >

Johnston Federal # 4
Sec 33 -3 1N - 9W
Monitoring Well Location

Transverse Mercator
UTM - 1927 ; Zone 13

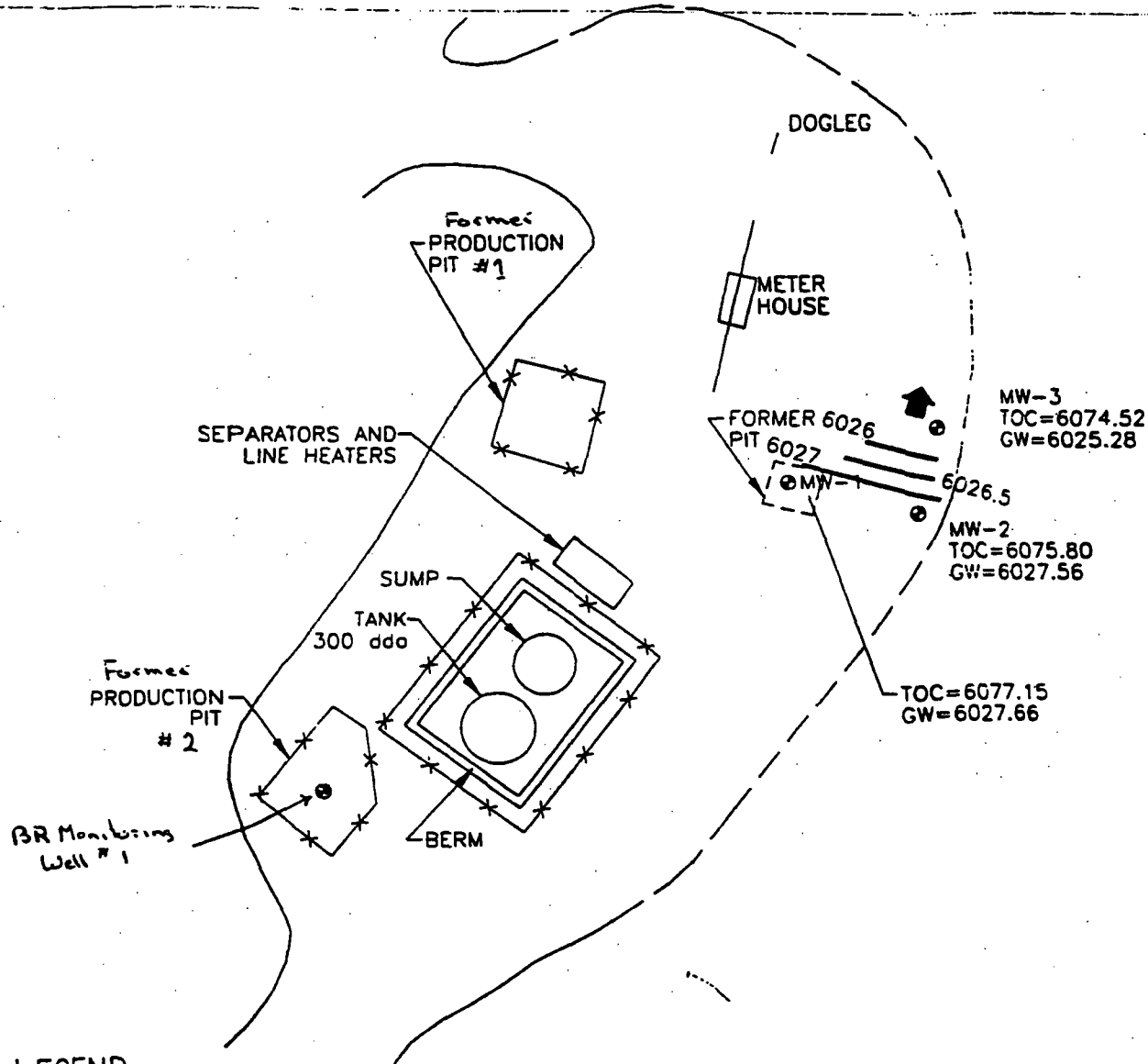
1:9654

Prepared By: Gregg Wurtz Date: 04/09/2003

File No: <Please enter file number> Revised: <Revision date>

File Name: s:\public\gw\plat\trash map.apr

Figure 1



LEGEND

⊕ MW-1	APPROXIMATE MONITORING WELL LOCATION AND NUMBER
TOC	TOP OF CASING ELEVATION
GW	GROUNDWATER POTENTIOMETRIC SURFACE
	GROUNDWATER GRADIENT
25.0	GROUNDWATER POTENTIOMETRIC SURFACE

0 40
FEET

175208P-003

PHILIP SERVICES CORP

TITLE:
JOHNSTON FEDERAL NO. 4
METER 70194
2/23/99
(BR Mod. Rec'd 3/22/00)

DWN: TMM	DES.: CC	PROJECT NO.: EPFS GW PI	
CHKD: CC	APPD:		
DATE: 3/22/99	REV.: 0	FIGURE	

Figure 2: Graphical Presentation of Product Thickness in MW-1 over Time

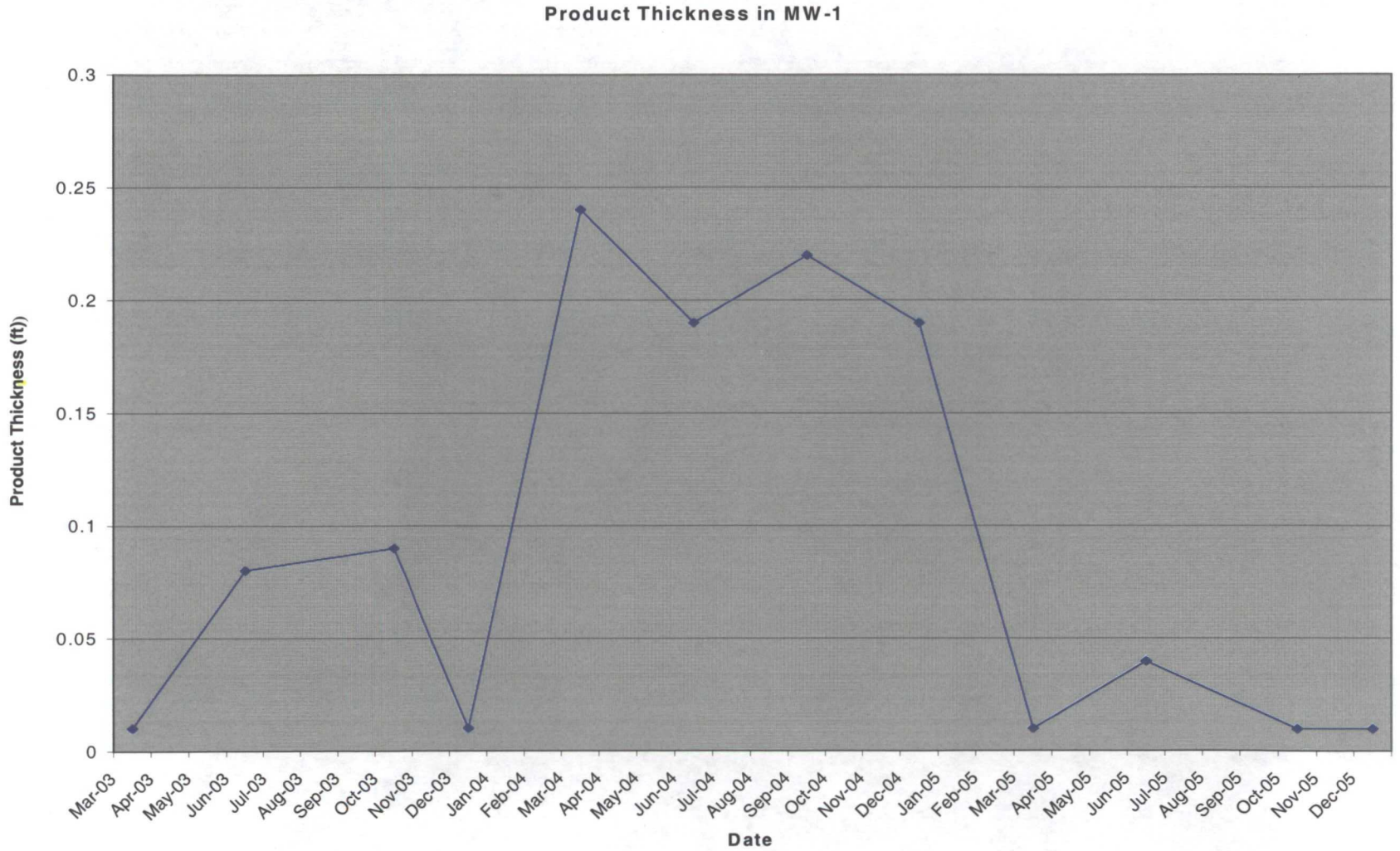

Product Thickness in MW-1
Product Thickness (ft))
0.3
0.25
0.2
0.15
0.1
0.05
0
Mar-03
Apr-03
May-03
Jun-03
Jul-03
Aug-03
Sep-03
Oct-03
Nov-03
Dec-03
Jan-04
Feb-04
Mar-04
Apr-04
May-04
Jun-04
Jul-04
Aug-04
Sep-04
Oct-04
Nov-04
Dec-04
Jan-05
Feb-05
Mar-05
Apr-05
May-05
Jun-05
Jul-05
Aug-05
Sep-05
Oct-05
Nov-05
Dec-05
Date

Table 1: Ground Water Sampling Results

Ground Water Analytical Results
Johnston Federal #4
MW-1

Sample Date	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	BTEX (ppb)	DTW (ft)	Product Thickness (ft)
NMWQCC Standards	*10*	*750*	*750*	*620*	*50*		-
5/25/1999	**8700**	**2900**	**2800**	**2900**	**43400**		-
9/1/1999	Free Phase Product Detected - No Sample Collected					47.02	0.005
12/1/1999	**4700**	**1300**	**900**	**10000**	**16900**	46.96	-
1/18/2000	**3600**	**820**	**840**	**7500**	**12760**	44.05	-
5/17/2000	**6900**	**1100**	**1500**	**17000**	**26500**	46.90	-
9/8/2000	**4600**	620	**930**	**10000**	**16150**	46.91	-
12/20/2000	<0.2	0.5	34	61	**95.5**	46.88	-
3/27/2001	**5430**	641	**991**	**9830**	**16892**		-
6/27/2001	**5870**	**900**	**990**	**10400**	**18160**	47.05	-
9/17/2001	**5910**	**750**	**980**	**10700**	**18340**	46.93	-
12/19/2001	**7200**	650	**1020**	**11300**	**20170**	46.97	-
3/25/2002	**5520**	**830**	**1190**	**10500**	**18040**	46.99	-
6/26/2002	**516**	66.2	78.7	**863**	**1523.9**	47.01	-
9/24/2002	**5310**	**8000**	**880**	**13960**	**28150**	46.98	-
12/30/2002	**7660**	**10200**	**760**	**14140**	**32760**	47.4	-
3/27/2003	Free Phase Product Detected - No Sample Collected						0.01
6/27/2003	Free Phase Product Detected - No Sample Collected						0.08
10/10/2003	Free Phase Product Detected - No Sample Collected						0.09
12/10/2003	Free Phase Product Detected - No Sample Collected						0.01
3/16/2004	Free Phase Product Detected - No Sample Collected					47.28	0.24
6/22/2004	**6160**	**8100**	470	**15840**	**30570**	47.06	0.19
9/30/2004	Free Phase Product Detected - No Sample Collected					47.24	0.22
12/13/2004	Free Phase Product Detected - No Sample Collected					47.14	0.19
3/23/2005	Free Phase Product Detected - No Sample Collected					46.91	0.01
6/22/2005	Free Phase Product Detected - No Sample Collected					46.93	0.04
10/28/2005	Free Phase Product Detected - No Sample Collected					46.87	0.01
12/14/2005	Free Phase Product Detected - No Sample Collected					46.72	0.01
3/20/2006	**3170**	**3740**	**1060**	**30130**	**38100**	46.75	0.01
6/21/2006	**4900**	**3280**	**448**	**2390**	**10910**	46.84	0.01
10/20/2006	Free Phase Product Detected - No Sample Collected					46.89	0.09
12/13/2006	**5300**	**7220**	**870**	**15450**	**28840**	46.92	0.01

Notes:
DTW is Depth to Water measured from top of well casing

Attachment 1: Drilling Log and Wellbore Diagrams

1980, Hobbs, NM
ice II
ver DD, Artesia, NM 88211
ice III
Brazos Rd, Aztec, NM 87410

Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

(Revised 3/9/94)

PIT REMEDIATION AND CLOSURE REPORT

rator: Buchanan Resources Telephone: (505) 326-9700

ress: 3535 E. 30th Farmington NM 87402

ility or: Johnston Federal #4 (Metering Location) Pit #1
l Name

ation: Unit or Qtr/Qtr Sec H Sec 27 T 31N R 9W County San Juan

Type: Separator X Dehydrator ___ Other ___

d Type: BLM X, State ___, Fee ___, Other ___

Location: Pit dimensions: length 19', width 12', depth 4'
tach diagram)

Reference: wellhead ___, other Dogleg

Footage from reference: 81.5'

Direction from reference: 55 Degrees ___ East North ___ of X West South X

ith To Ground Water: rtical distance from taminants to seasonal h water elevation of und water)	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 Points)	20
lhead Protection Area: ss than 200 feet from a private estic water source, or; less than 0 feet from all other water sources)	Yes (20 points) No (0 points)	0
itance To Surface Water: rizontal distance to perennial es, ponds, rivers, streams, creeks, igation canals and ditches)	Less than 200 feet (20 points) 200 feet to 1000 feet (10 points) Greater than 1000 feet (0 points)	0
	RANKING SCORE (TOTAL POINTS):	20

PHILIP SERVICES CORP.

PRODUCTION PIT ASSESSMENT FORM

WELL NAME: JOHNSTON FEDERAL WELL NUMBER: 4 ~~DP NO.:~~ NDE NAME: B154

OPERATOR NAME: BURLINGTON RESOURCES PIL DISTRICT:

COORDINATES: TOWNSHIP 31N RANGE 9W SECTION 27 LETTER H

PIT TYPE: DEHYDRATOR ☐ SEPARATOR ☐ BLOW PIT ☐ OTHER: UNKNOWN

CATHODIC PROTECTION WELL: ☐ YES ☒ NO

SITE ASSESSMENT DATE: 8/10/98 MOI FOREMAN NO. AREA:

NMOCD ZONE: (from NMOCD Maps): Inside ☒ Outside ☐

LAND TYPE: BLM ☒(1) STATE ☐(2) FEE ☐(3) INDIAN:

DEPTH TO GROUNDWATER:

LESS THAN 50 FT	(1)☒	(20 POINTS)
50 FT TO 99 FT	(2)☐	(10 POINTS)
GREATER THAN 100 FT	(3)☐	(0 POINTS)

WELLHEAD PROTECTION AREA: Is it less than 1,000 feet from wells, springs, or other sources of fresh water extraction?, or; is it less than 200 ft from a private domestic water source (or 1,000' on Navajo surface)?

YES☐ (20 POINTS) NO☒ (0 POINTS)

HORIZONTAL DISTANCE TO SURFACE WATER BODY:

LESS THAN 200 FT	(1)☐	(20 POINTS)
200 FT TO 1,000 FT	(2)☐	(10 POINTS)
GREATER THAN 1,000 FT	(3)☒	(0 POINTS)

NAME OF SURFACE WATER BODY _____

SURFACE WATER BODY: PERENNIAL RIVERS, STREAMS, CREEKS, IRRIGATION CANALS, DITCHES, LAKES, PONDS

DISTANCE TO NEAREST EPHEMERAL STREAM (1)☐<100 FEET (NAVAJO PITS ONLY)
(2)☐>100 FEET

TOTAL HAZARD RANKING SCORE: 20 POINTS

SITE ASSESSMENT

FARMINGTON LABORATORY
607 S. CARLTON
FARMINGTON, NM 87499-1289
(505) 326-2588

Certificate of Analysis No. 9803038-02

Philip Environmental Services
4000 Monroe Road
Farmington, NM 87401
Attn: Cory Chance

Date: 08/17/98

Project:	BR Misc.	Project No:	19074
Site:	Johnston Fed. #4, Pit #1	Matrix:	Soil
Sampled By:	Holly Bradbury	Date Sampled:	08/10/98
Sample ID:	BR8B1541AV	Date Received:	08/11/98

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Gasoline Range Organics	1.2	0.1 (P)	mg/kg
Surrogate	**% Recovery**		
1,4,Difluorobenzene	147		
4-Bromofluorobenzene	310MI		
Method 8015B*** for Gasoline			
Analyzed by: AA			
Date: 08/12/98			
Total Petroleum Hydrocarbons-Diesel	ND	10 (P)	mg/kg
Surrogate	**% Recovery**		
n-Pentacosane	118		
Method 8015B*** for Diesel			
Analyzed by: RR			
Date: 08/14/98			

ND-Not Detected MI-Matrix Interference (P)-Practical Quantitation Limit

Notes:
*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th Ed
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

Billy G. Rich, Lab Director

Pit Remediation and Closure Reports (Pit #2)

trict I
ox 1980, Hobbs, NM
trict II
rawer DD, Artesia, NM 88211
trict III
0 Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

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

(Revised 3/9/94)

PIT REMEDIATION AND CLOSURE REPORT

perator: Burlington Resources Telephone: (505) 326-9700

ddress: 3535 E. 30th Farmington NM 87402

acility Or: Johnston Federal #4 (Metering Location) Pit #2
ell Name

ocation: Unit or Qtr/Qtr Sec H Sec 27 T 31N R 9W County San Juan

it Type: Separator ___ Dehydrator ___ Other Tank Drain

and Type: BLM X, State ___, Fee ___, Other ___

it Location: (Attach diagram)
Pit dimensions: length 21, width 20, depth 3
Reference: wellhead ___, other Dogleg
Footage from reference: 173'
Direction from reference: 45 Degrees ___ East North ___ of X West South X

epth To Ground Water: (Vertical distance from ontaminants to seasonal igh water elevation of round water)	Less than 50 feet 50 feet to 99 feet Greater than 100 feet	(20 points) (10 points) (0 Points) 20
ellhead Protection Area: (Less than 200 feet from a private omestic water source, or; less than 000 feet from all other water sources)	Yes No	(20 points) (0 points) 0
istance To Surface Water: (Horizontal distance to perennial akes, ponds, rivers, streams, creeks, rrigation canals and ditches)	Less than 200 feet 200 feet to 1000 feet Greater than 1000 feet	(20 points) (10 points) (0 points) 0
	RANKING SCORE (TOTAL POINTS):	20

PHILIP SERVICES CORP.

PRODUCTION PIT ASSESSMENT FORM

WELL NAME: JOHNSTON FEDERAL WELL NUMBER: 4 ~~OP NO.~~ NMOE NAME: BISY

OPERATOR NAME: BURLINGTON RESOURCES PIL DISTRICT:

COORDINATES: TOWNSHIP 31N RANGE 9W SECTION 27 LETTER H

PIT TYPE: DEHYDRATOR ☐ SEPARATOR ☐ BLOW PIT ☐ OTHER:

CATHODIC PROTECTION WELL: ☐ YES ☒ NO UNKNOWN

SITE ASSESSMENT DATE: 8/10/98 MOI FOREMAN NO. AREA:

NMOCD ZONE: (from NMOCD Maps): Inside ☒ Outside ☐

LAND TYPE: BLM ☒(1) STATE ☐(2) FEE ☐(3) INDIAN:

DEPTH TO GROUNDWATER:

LESS THAN 50 FT	(1)☒	(20 POINTS)
50 FT TO 99 FT	(2)☐	(10 POINTS)
GREATER THAN 100 FT	(3)☐	(0 POINTS)

WELLHEAD PROTECTION AREA: Is it less than 1,000 feet from wells, springs, or other sources of fresh water extraction?, or; is it less than 200 ft from a private domestic water source (or 1,000' on Navajo surface)?

YES☐ (20 POINTS) NO☒ (0 POINTS)

HORIZONTAL DISTANCE TO SURFACE WATER BODY:

LESS THAN 200 FT	(1)☐	(20 POINTS)
200 FT TO 1,000 FT	(2)☐	(10 POINTS)
GREATER THAN 1,000 FT	(3)☒	(0 POINTS)

NAME OF SURFACE WATER BODY _____

SURFACE WATER BODY: PERENNIAL RIVERS, STREAMS, CREEKS, IRRIGATION CANALS, DITCHES, LAKES, PONDS

DISTANCE TO NEAREST EPHEMERAL STREAM (1)☐<100 FEET (NAVAJO PITS ONLY)
(2)☐>100 FEET

TOTAL HAZARD RANKING SCORE: 20 POINTS

FARMINGTON LABORATORY
807 S. CARLTON
FARMINGTON, NM 87499-1289
(505) 326-2588

Certificate of Analysis No. 9803038-03a

Philip Environmental Services
4000 Monroe Road
Farmington, NM 87401
Attn: Cory Chance

Date: 08/17/98

Project:	BR Misc.	Project No:	19074
Site:	Johnston Fed #4, Pit #2	Matrix:	Soil
Sampled By:	Holly Bradbury	Date Sampled:	08/10/98
Sample ID:	BR8B1541BV	Date Received:	08/11/98

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Benzene	81000	5000 (P)	µg/Kg
Toluene	41000	5000 (P)	µg/Kg
Ethylbenzene	85000	5000 (P)	µg/Kg
Total Xylene	780000	5000 (P)	µg/Kg
Total Volatile Aromatic Hydrocarbons	987000		µg/Kg

Surrogate	% Recovery
1,4,Difluorobenzene	120
4-Bromofluorobenzene	193MI

Method 8020A***
Analyzed by: AA
Date: 08/13/98

ND-Not Detected MI-Matrix Interference (P)-Practical Quantitation Limit

Notes:
*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th Ed
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

Billy G. Rich, Lab Director

FARMINGTON LABORATORY
807 S. CARLTON
FARMINGTON, NM 87499-1289
(505) 326-2588

Certificate of Analysis No. 9803038-03b

Philip Environmental Services
4000 Monroe Road
Farmington, NM 87401
Attn: Cory Chance

Date: 08/17/98

Project:	BR Misc.	Project No:	19074
Site:	Johnston Fed #4, Pit #2	Matrix:	Soil
Sampled By:	Holly Bradbury	Date Sampled:	08/10/98
Sample ID:	BR8B1541BV	Date Received:	08/11/98

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Gasoline Range Organics	17000	1000 (P)	mg/kg
Surrogate	**% Recovery**		
1,4,Difluorobenzene	123		
4-Bromofluorobenzene	367MI		
Method 8015B*** for Gasoline			
Analyzed by: AA			
Date: 08/13/98			
Total Petroleum Hydrocarbons-Diesel	2700	200 (P)	mg/kg
Surrogate	**% Recovery**		
n-Pentacosane	D		
Method 8015B*** for Diesel			
Analyzed by: RR			
Date: 08/14/98			

MI_Matrix Interference (P)-Practical Quantitation Limit D-Diluted, limits not applicable.

Notes:
*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th Ed
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

Comments: Sample contains petroleum hydrocarbons from C10 - C24 that do no resemble a diesel pattern. (C10 - C24) RR

Billy G. Rich, Lab Director

PHILIP SERVICES CORP

PRODUCTION PIT REMEDIATION FORM

WELL NAME: Johnston Fed #4 WELL NO.: _____ DP NO.: _____

OPERATOR NAME: Burlington Resources P/L DISTRICT: _____

COORDINATES: LETTER: H SECTION: 27 TOWNSHIP: 31N RANGE: 9W

PIT TYPE: DEHYDRATOR: _____ LOCATION DRIP: _____ LINE DRIP: _____ OTHER: X
TANK DRAIN PIT

FOREMAN NO.: GARY OSBORNE AREA: Aztec

INITIAL REMEDIATION ACTIVITIES

DATE: 12-17-98 TIME: _____

GROUND WATER ENCOUNTERED? ☐Y / ☒N

INSIDE NMOCD ZONE

FINAL EXCAVATION DIMENSIONS: LENGTH: 58 WIDTH: 45 DEPTH: 30

APPROX. CUBIC YARDS: 4,762 FINAL PID READING: 1967 ppm

REMEDIATION METHOD: ONSITE LANDFARM ___

OFFSITE LANDFARM X LOCATION: Johnston FD 22R #4

OTHER _____

LANDFARM DIMENSIONS: LENGTH: _____ WIDTH: _____

OUTSIDE NMOCD ZONE

FINAL SAMPLE DEPTH: _____ FINAL PID READING: _____

EXCAVATION SAMPLING INFORMATION

IF PID READINGS ARE LESS THAN 100 PPM, SAMPLE TAKEN DURING EXCAVATION)

SAMPLE DATE: _____ SAMPLE NOS _____ _____

SAMPLE ANALYSIS: TPH METHOD 8015 MODIFIED

IF PID READINGS ARE GREATER THAN 100 PPM, NO SAMPLE WILL BE TAKEN DURING EXCAVATION. THE EXCAVATION WILL BE SAMPLED PRIOR TO BACKFILLING (SEE ADDITIONAL SAMPLING SECTION).

REMARKS: Contaminated Soil 3,055 cu. yd
Clean Soil 1,647 cu. yd.

SIGNATURE: Pat Thompson DATE: 12/17/98

807 S. CARLTON AVE.
FARMINGTON, NEW MEXICO 87401
PHONE (505) 326-2388
FAX (505) 326-2875

Certificate of Analysis No. 9812150-01a

Phillip Environmental Services
4000 Monroe Road
Farmington, NM 87401
Attn: Robert Thompson

Project:	BR Pits	Date:	01/06/99
Site:	Farmington	Project No:	20440
Sampled By:	R. Thompson	Matrix:	Soil
Sample ID:	12281416 - Bottom	Date Sampled:	12/28/98
		Date Received:	12/30/98

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Benzene	ND	500 (P)	µg/Kg
Toluene	20000	500 (P)	µg/Kg
Ethylbenzene	8100	500 (P)	µg/Kg
Total Xylene	120000	500 (P)	µg/Kg
Total Volatile Aromatic Hydrocarbons	148100		µg/Kg

Surrogate	% Recovery
1,4,Difluorobenzene	100
4-Bromofluorobenzene	160MI

Method 8020A***
Analyzed by: AA
Date: 01/05/99

ND-Not Detected MI-Matrix Interference (P)-Practical Quantitation Limit

Notes:
*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th Ed
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

Billy G. Rich, Lab Director

507 S. CARLTON AVE.
FARMINGTON, NEW MEXICO 87401
PHONE (505) 326-2388
FAX (505) 326-2875

Certificate of Analysis No. 9812150-01b

Philip Environmental Services
4000 Monroe Road
Farmington, NM 87401
Attn: Robert Thompson

Date: 01/06/99
Project No: 20440
Matrix: Soil
Date Sampled: 12/28/98
Date Received: 12/30/98

Project: BR Pits
Site: Farmington
Sampled By: R. Thompson
Sample ID: 12281416 - BOTTOM

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Gasoline Range Organics	2100	50 (P)	mg/kg
Surrogate	**% Recovery**		
1,4,Difluorobenzene	80		
4-Bromofluorobenzene	613MI		
Method 8015B*** for Gasoline			
Analyzed by: AA			
Date: 01/05/99			
Total Petroleum Hydrocarbons-Diesel	430	250 (P)	mg/kg
Surrogate	**% Recovery**		
n-Pentacosane	96		
Method 8015B*** for Diesel			
Analyzed by: RR			
Date: 01/04/99			

MI-Matrix Interference (P)-Practical Quantitation Limit ND-Not Detected

Notes:
*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th Ed
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

Billy G. Rich, Lab Director

807 S. CARLTON AVE.
FARMINGTON, NEW MEXICO 87401
PHONE (505) 326-2566
FAX (505) 326-2875

® Certificate of Analysis No. 9812150-02a

Philip Environmental Services
4000 Monroe Road
Farmington, NM 87401
Attn: Robert Thompson

Date: 01/06/99
Project No: 20440
Matrix: Soil
Date Sampled: 12/28/98
Date Received: 12/30/98

Project: BR Pits
Site: Farmington
Sampled By: R. Thompson
Sample ID: 12281410 - WALLS

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Benzene	ND	500 (P)	µg/Kg
Toluene	6100	500 (P)	µg/Kg
Ethylbenzene	3400	500 (P)	µg/Kg
Total Xylene	75000	500 (P)	µg/Kg
Total Volatile Aromatic Hydrocarbons	84500		µg/Kg

Surrogate	% Recovery
1,4,Difluorobenzene	100
4-Bromofluorobenzene	167MI

Method 8020A***
Analyzed by: AA
Date: 01/05/99

ND-Not Detected MI-Matrix Interference (P)-Practical Quantitation Limit

Notes:
*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th Ed
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

Billy G. Rich, Lab Director

307 S. CARLTON AVE.
FARMINGTON, NEW MEXICO 87401
PHONE (505) 326-2568
FAX (505) 326-2875

Certificate of Analysis No. 9812150-02b

Philip Environmental Services
4000 Monroe Road
Farmington, NM 87401
Attn: Robert Thompson

Date: 01/06/99

Project:	BR Pits	Project No:	20440
Site:	Farmington	Matrix:	Soil
Sampled By:	R. Thompson	Date Sampled:	12/28/98
Sample ID:	12281410 - WALLS	Date Received:	12/30/98

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Gasoline Range Organics	1600	50 (P)	mg/kg
Surrogate	**% Recovery**		
1,4-Difluorobenzene	87		
4-Bromofluorobenzene	667MI		
Method 8015B*** for Gasoline			
Analyzed by: AA			
Date: 01/05/99			
Total Petroleum Hydrocarbons-Diesel	250	50 (P)	mg/kg
Surrogate	**% Recovery**		
n-Pentacosane	92		
Method 8015B*** for Diesel			
Analyzed by: RR			
Date: 01/04/99			

MI-Matrix Interference (P)-Practical Quantitation Limit D-Diluted, limits not applicable

Notes:
*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th Ed
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

Billy G. Rich, Lab Director

PHILIP ENVIRONMENTAL

210 West Sand Bank Road
P.O. Box 230
Columbia, IL 62236-0230

(618) 281-7173 Phone
(618) 281-5120 FAX

COC Serial No. G 3232

Project Name BE PITS

Project Number 20440 Phase . Task 1000 . 77

Samplers Paul Archuleta

Lab Name SPL

Location Farmington

Sample Number	Date	Time	Matrix	Analysis Type: X	X				Comments
12281416	12-28-98	1416	Soil	TPH	BTEX				PID reading 1467 ppm
12281410	12-28-98	1410	Soil	TPH	BTEX				PID reading 2026 ppm

V... 12/30/98

Relinquished by:

Received By:

Signature	Date	Time	Signature	Date	Time
[signature]	12/30/98	1333hrs	[signature]	12/30/98	1333

Carrier:

Airbill No.

Shipping and Lab Notes:

PE-211 (4/95)

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # 2
Well # MW-B2
Page 1 of 2

Project Name Burlington
Project Number 21057 Phase 1000.96
Project Location Johnson Fed #4

Elevation
Borehole Location
GWL Depth 43'
Logged By P. Cheney
Drilled By K. Padilla
Date/Time Started 5/13/99 0920
Date/Time Completed 5/13/99 1200

Well Logged By P. Cheney
Personnel On-Site P. Cheney, K. Padilla, A. Padilla
Contractors On-Site
Client Personnel On-Site Ed Hasely

Drilling Method 4 1/4" ID HSA
Air Monitoring Method PID

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ	BH	S	Drilling Conditions & Blow Counts
0			Pit has been excavated and backfilled to 30' (ed Hasely) First sample will be from 30'-32' Backfill is a yellowish brown, medium to coarse grained sand						
5									
10									
15									
20									
25									
30		45/48"	gray to dark gray clay, approx 5-10% sand, soft, low plasticity, strong HC odor		32'	0.1	9.1	1064	BC = 5 S/HS = 1133
35	35								
	37		dark gray, fine grained clayey sand, strong HC odor			0.2	11.5	560	BC = 12 S/HS = 1103
40									

Comments:

Geologist Signature

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # 7
Well # MW-B7
Page 2 of 2

Project Name Burlington
Project Number 21057 Phase 1000.09
Project Location Johnston Fed #4

Elevation
Borehole Location
GWL Depth
Logged By P. Cheney
Drilled By K. Padilla
Date/Time Started 5/13/99 0920
Date/Time Completed 5/13/99 1200

Well Logged By P Cheney
Personnel On-Site P. Cheney, K. Padilla, D. Padilla
Contractors On-Site
Client Personnel On-Site Ed Vasely

Drilling Method 4¼" Id HSA
Air Monitoring Method PID

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ	BH	S	Drilling Completion & Time Comments
40	40		light gray, fine to medium grained clayey sand, firm			11.6	5.0	1015	BC = 7 S/HS = 2.91
	42	▽							
45	45		gray, very coarse grained sand w/ 5% sm. gravel. Strong odor, approx 2" of yellowish brown consolidated sand at 47'			6.2		946	BC = 36 S/HS = 2.52
	47								
50	50		gray, fine to medium grained sand, 2-5% black mineral grains, well consolidated			0.3		77	BC = 50 (7") S/HS = 1.41
	52								
55			TD = 50' set screen 35-50						
20									
25									
30									
35									
40									

Comments: Materials: 1 silt trap, 1-10' screen, 1-5' screen, 4-10' risers, 1-5' riser, 7 sacks silica sand

Geologist Signature

ORING WELL INSTALLATION RECORD

...ironmental Services Corp.
...ce Road
New Mexico 87401
...262 FAX (505) 326-2388

Borehole # 1
Well # MW-B1
Page 1 of 1

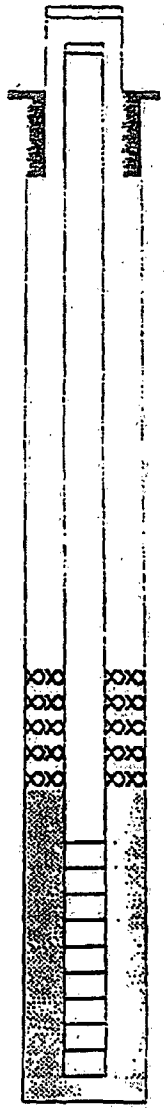
Project Name Burlington Drilling
Project Number 21057 Phase 1000.05
Project Location Johnston Federal #4

On-Site Geologist P Cheney
Personnel On-Site K Padilla, D Padilla
Contractors On-Site
Client Personnel On-Site Ed Hasely

...ation
...pth 43'
...By K Padilla
D Padilla
...e Started 5/13/99 1300
...e Completed 6/14/99 1300

s in Reference to Ground Surface

	Material	Depth
...f Protective Casing		
...m of Protective Casing		
...f Permanent Borehole		
...m of Permanent Borehole		
...of Concrete		
...m of Concrete		
...of Grout		
...m of Grout		
...of Well Riser		
...om of Well Riser		
...of Well Screen		
...om of Well Screen		
...of Peltonite Seal		
...om of Peltonite Seal		
...of Gravel Pack		
...tom of Gravel Pack		
...of Natural Cave-In		
...tom of Natural Cave-In		
...of Groundwater		
...al Depth of Borehole		



Top of Protective Casing	+3'
Top of Riser	+2'
Ground Surface	0
Top of Seal	31
Top of Gravel Pack	33
Top of Screen	35
Bottom of Screen	50'
Bottom of Borehole	52'

...ments:

Geologist Signature Cecil J. For Paul Cheney

Attachment 2: Ground Water Monitoring Well Development and Sampling Logs

WELL DEVELOPMENT AND SAMPLING LOG

Project No 30003.0 Project Name BR Groundwater Sampling Client: Burlington

Location: Johnson Federal 4 Well No: MW-1 Development **Sampling**

Project Manager MJN Date 032106 Start Time 1452 Weather clear 50s

Depth to Water 46.74 Depth to Product na Product Thickness: na Measuring Point TOC

Water Column Height 3.16 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer X Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		Gal/**oz** to be removed
	Gallons	Ounces	
3.16 x .16	0.51		1.51

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal)	Comments/ Flow rate
1501	**6.89**	**2750**	**60.3**				**.25**	**clear, HC odor**
	6.88	**2750**	**59.0**				**.5**	**grey, HC odor, sheen**
	6.89	**2800**	**58.8**				**.75**	**grey, HC odor, sheen**
	6.90	**2850**	**58.2**				**1**	**grey, HC odor, sheen**
	6.92	**2850**	**58.0**				**1.25**	**grey, HC odor, sheen**
	6.91	**2840**	**57.5**				**1.5**	**grey, HC odor, sheen**
1510	**6.95**	**2850**	**57.1**				**1.75**	**grey, HC odor, sheen**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
1510	**6.95**	**2850**	**57.1**					**1.75**	**grey, HC odor, sheen**

COMMENTS

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**

DO Monitor _____ Other _____

Conductivity Meter **X** _____

Water Disposal onsite Sample ID Johnson Federal 4 MW-1 Sample Time 1512

Analysis: **BTEX**

MS/MSD_____ BD_____ BD Name/Time_____ TB_____

WELL DEVELOPMENT AND SAMPLING LOG

Project No 30003.0 Project Name BR Groundwater Sampling Client: Burlington

Location: Johnson Federal 4 Well No: MW-1 Development **Sampling**

Project Manager MJN Date 062106 Start Time 1434 Weather clear

Depth to Water 46.84 Depth to Product na Product Thickness: na Measuring Point TOC

Water Column Height 5.06 Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer X Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		Gal/**oz** to be removed
	Gallons	Ounces	
5.06 x .16	0.81		2.43

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal)	Comments/ Flow rate
1434	**7.09**	**1530**	**68.5**				**.25**	**clear, HC odor**
	7.09	**1450**	**66.0**				**.75**	**clear, HC odor**
	7.10	**1430**	**65.3**				**1**	**clear, HC odor**
	7.10	**1410**	**64.8**				**1.5**	**clear, HC odor**
	7.10	**1400**	**64.5**				**2**	**grey, HC odor, sheen**
	7.12	**1410**	**64.3**				**2.25**	**grey, HC odor, sheen**
1449	**7.12**	**1420**	**64.6**				**2.5**	**grey, HC odor, sheen**

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
1449	**7.12**	**1420**	**64.6**				**2.5**	**grey, HC odor, sheen**

COMMENTS

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**

DO Monitor _____ Other _____

Conductivity Meter **X** _____

Water Disposal onsite Sample ID Johnson Federal 4 MW-1 Sample Time 1451

Analysis: **BTEX**

MS/MSD_____ BD_____ BD Name/Time_____ TB_____

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

WATER LEVEL DATA

Project Name	**XTO Ground Water**	**Well Name**	**Johnston Federal 4**
Project Manager	**MJN**		
Client Company	**MWH**	**Date**	**10/20/06**

Location	Well	Date	Depth to Product (ft)	Depth to Water (ft)	Total Depth (ft)	Comments
Johnston Federal #4	MW-1	10/22/06	46.80	46.89	0.09	Bailed off 4 oz of product

Comments
Did not install sock, will let well sit.

Signature: Martin Nee Date: 10/20/06

WELL DEVELOPMENT AND SAMPLING LOG

Project No_____ Project Name Burlington Ground Water Sampling Client: Burlington
Location: Johnston Federal 4 Well No: MW-1 Development **Sampling**
Project Manager MJN Date 12/13/06 Start Time 0845 Weather clear 19
Depth to Water 46.92 Depth to Product 46.82 Product Thickness: 0.10 Measuring Point TOC
Water Column Height 6' Well Dia. 2"

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer X Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal **X** stabilization of Indicator Parameters **X** Other or bail dry

Gal/ft x ft of water	Water Volume in Well		Gal/**oz** to be removed
	Gallons	Ounces	
6 x .16	0.96 x 3	122.9 x 3	368.6

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (oz)	Comments/ Flow rate
0900	**5.96**	**3420**	**53.1**				**32**	**clear, product bubbles, sheen, strong odor**
	5.92	**4390**	**52.5**				**64**	
	5.90	**3980**	**52.0**				**96**	
	5.92	**3880**	**51.1**				**128**	
	5.98	**4000**	**51.2**				**256**	
	5.99	**4010**	**51.0**				**320**	

Final: Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
0936	**5.98**	**4050**	**51.1**					**384 oz**	**still appears to have some product**

COMMENTS: could not eliminate air bubbles from voas. Rinsed preservative, but still contains bubbles, probably from presence of product. Added a sock to well before leaving.

INSTRUMENTATION: pH Meter **X** _____ Temperature Meter **x**
DO Monitor _____ Other _____
Conductivity Meter **X** _____

Water Disposal onsite Sample ID Johnston Federal 4 MW-1 Sample Time 0938
BTEX VOCs Diesel
MS/MSD_____ BD_____ BD Name/Time_____ TB 12122006TB01

Attachment 3: Laboratory Analytical Results

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

March 31, 2006

Report to:
Gregg Wurtz
Burlington Resources, Inc.
3401 E. 30th St. P.O. Box 4289
Farmington, NM 87499

Bill to:
Gregg Wurtz
Burlington Resources, Inc.
P.O. Box 4289
Farmington, NM 87499

cc: Martin Nee

Project ID: JOHNSON FEDERAL
ACZ Project ID: L55782

Gregg Wurtz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 23, 2006. This project has been assigned to ACZ's project number, L55782. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L55782. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after April 30, 2006. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

31/Mar/06

Sue Webber, Project Manager, has reviewed and approved this report in its entirety.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Organic Analytical Results

Burlington Resources, Inc.
Project ID: JOHNSON FEDERAL
Sample ID: JOHNSON FEDERAL MW-1

ACZ Sample ID: ***L55782-01***
Date Sampled: *03/20/06 15:12*
Date Received: *03/23/06*
Sample Matrix: *Ground Water*

Benzene, Toluene, Ethylbenzene & Xylene

Analysis Method: **M8021B GC/PID**
Extract Method: **Method**

Workgroup: ***WG204013***
Analyst: *km*
Extract Date: *03/27/06 19:27*
Analysis Date: ***03/27/06 19:27***

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	000071-43-2	3170		100	*	ug/L	30	100
Ethylbenzene	000100-41-4	1060		100		ug/L	20	100
m p Xylene	01330 20 7	23700		100		ug/L	40	200
o Xylene	00095-47- 6	6430		100		ug/L	20	100
Toluene	000108-88-3	3740		100		ug/L	20	100

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Bromofluorobenzene	000460-00-4	81.2		100	*	%	83	117

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Organic Reference

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
LCL	Lower Control Limit
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
UCL	Upper Control Limit
Sample	Value of the Sample of interest

QC Sample Types

SURR	Surrogate	*LFM*	Laboratory Fortified Matrix
INTS	Internal Standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
LCSS	Laboratory Control Sample - Soil	*MS/MSD*	Matrix Spike/Matrix Spike Duplicate
LCSW	Laboratory Control Sample - Water	*PBS*	Prep Blank - Soil
LFB	Laboratory Fortified Blank	*PBW*	Prep Blank - Water

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.

ACZ Qualifiers (Qual)

B	Analyte detected in daily blank
H	Analysis exceeded method hold time.
J	Analyte concentration detected at a value between MDL and PQL
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality contreol sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.
P	Analyte concentration differs from second detector by more than 40%.
E	Analyte concentration is estimated due to result exceeding calibration range.
M	Analyte concentration is estimated due to matrix interferences.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/4-90/020. Methods for the Determination of Organic Compounds in Drinking Water (I), July 1990.
(3)	EPA 600/R-92/129. Methods for the Determination of Organic Compounds in Drinking Water (II), July 1990.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December, 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Organic analyses are reported on an "as received" basis.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Organic Extended Qualifier Report

Burlington Resources, Inc.

ACZ Project ID: ***L55782***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L55782-01	WG204013	Benzene	M8021B GC/PID	V8	Calibration verification recovery was below the method control limit for this analyte, however the average % difference or % drift for all the analytes met method criteria.
		Bromofluorobenzene	M8021B GC/PID	S5	Surrogate recovery was below laboratory acceptance limits, but within method acceptance limits.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Certification Qualifiers

Burlington Resources, Inc.

ACZ Project ID: ***L55782***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Burlington Resources, Inc.
JOHNSON FEDERAL

ACZ Project ID: L55782
Date Received: 3/23/2006
Received By:
Date Printed: 3/23/2006

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?	X		
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?	X		
13) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id		Temp (°C)	Rad (µR/hr)
293		8.5	14

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Burlington Resources, Inc.
JOHNSON FEDERAL

ACZ Project ID: L55782
Date Received: 3/23/2006
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L55782-01	JOHNSON FEDERAL MW-1									X		☐

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

L55782

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Gregg Wurtz
Company: Burlington
E-mail:
Address: PO 4289
Farmington NM 87499
Telephone: 505 320 9537

Copy of Report to:

Name: MNee
Company: Lodestar Services
E-mail: MJN@lodestarservices.com
Telephone: 505 334-2791

Invoice to:

Name: Gregg Wurtz
Company: As Above
E-mail:
Address:
Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: Johnson Federal
Shipping Co.: Fed Ex
Tracking #: 847982592640
Reporting State for compliance testing: NM
Sampler: MNee

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	BTEX							
Johnson Federal mw 4	3200 1512	GW	2	2							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME	PAGE
[signature]	3200 1512	[signature]	3-23-10 10:00	Of

FRMQA021.06.03.05

White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

July 12, 2006

Report to:
Gregg Wurtz
Burlington Resources, Inc.
3401 E. 30th St. P.O. Box 4289
Farmington, NM 87499

Bill to:
Gregg Wurtz
Burlington Resources, Inc.
P.O. Box 4289
Farmington, NM 87499

cc: Martin Nee

Project ID: JOHNSTON FEDERAL #4
ACZ Project ID: L57332

Gregg Wurtz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 23, 2006. This project has been assigned to ACZ's project number, L57332. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L57332. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 12, 2006. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

12/Jul/06

Sue Webber, Project Manager, has reviewed and approved this report in its entirety.

Burlington Resources, Inc.
Project ID: JOHNSTON FEDERAL #4
Sample ID: JOHNSTON FEDERAL MW

ACZ Sample ID: ***L57332-01***
Date Sampled: *06/21/06 14:51*
Date Received: *06/23/06*
Sample Matrix: *Ground Water*

Benzene, Toluene, Ethylbenzene & Xylene

Analysis Method: **M8021B GC/PID**
Extract Method:

Workgroup: ***WG209185***
Analyst: *ccp*
Extract Date:
Analysis Date: ***07/07/06 18:52***

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Ethylbenzene	100-41-4	448	H	25	*	ug/L	5	30
o Xylene	95-47- 6	2390	H	25	*	ug/L	5	30
Toluene	108-88-3	3280	H	25	*	ug/L	5	30

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	106.2	25		%	83	117

Workgroup: ***WG209258***
Analyst: *ccp*
Extract Date:
Analysis Date: ***07/10/06 15:37***

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2	4900	H	50	*	ug/L	20	50
m p Xylene	1330 20 7	8520	H	50	*	ug/L	20	100

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	97.3	50	*	%	83	117

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Organic Reference

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
LCL	Lower Control Limit
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
UCL	Upper Control Limit
Sample	Value of the Sample of interest

QC Sample Types

SURR	Surrogate	*LFM*	Laboratory Fortified Matrix
INTS	Internal Standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
LCSS	Laboratory Control Sample - Soil	*MS/MSD*	Matrix Spike/Matrix Spike Duplicate
LCSW	Laboratory Control Sample - Water	*PBS*	Prep Blank - Soil
LFB	Laboratory Fortified Blank	*PBW*	Prep Blank - Water

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.

ACZ Qualifiers (Qual)

B	Analyte detected in daily blank
H	Analysis exceeded method hold time.
J	Analyte concentration detected at a value between MDL and PQL
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality contreol sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.
P	Analyte concentration differs from second detector by more than 40%.
E	Analyte concentration is estimated due to result exceeding calibration range.
M	Analyte concentration is estimated due to matrix interferences.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/4-90/020. Methods for the Determination of Organic Compounds in Drinking Water (I), July 1990.
(3)	EPA 600/R-92/129. Methods for the Determination of Organic Compounds in Drinking Water (II), July 1990.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December, 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Organic analyses are reported on an "as received" basis.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Organic Extended Qualifier Report

Burlington Resources, Inc.

ACZ Project ID: ***L57332***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L57332-01	WG209185	Ethylbenzene	M8021B GC/PID	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
		o Xylene	M8021B GC/PID	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
		Toluene	M8021B GC/PID	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
	WG209258	*All Compounds*	M8021B GC/PID	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
		Benzene	M8021B GC/PID	V8	Calibration verification recovery was below the method control limit for this analyte, however the average % difference or % drift for all the analytes met method criteria.
		m p Xylene	M8021B GC/PID	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Certification Qualifiers

Burlington Resources, Inc.

ACZ Project ID: ***L57332***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Burlington Resources, Inc.
JOHNSTON FEDERAL #4

ACZ Project ID: L57332
Date Received: 6/23/2006
Received By:
Date Printed: 6/23/2006

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?	X		
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?	X		
13) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id		Temp (°C)	Rad (µR/hr)
1410		0.5	17

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Burlington Resources, Inc.
JOHNSTON FEDERAL #4

ACZ Project ID: L57332
Date Received: 6/23/2006
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L57332-01	JOHNSTON FEDERAL MW1									X		☐

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

L57332

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Gregg Wurtz	Address: P.O. Box 4289
Company: Burlington	Farmington, N.M. 87499
E-mail:	Telephone: 505-326-9537

Copy of Report to:

Name: M Nee	E-mail: MJN@lodestarservices.com
Company:	Telephone: 505-334-2791

Invoice to:

Name: Gregg Wurtz	Address:
Company: AS Above	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:

Project/PO #: Johnston Federal #4

Reporting state for compliance testing: N.M.

Sampler's Name:

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	BTEX							
Johnston Federal MW-1	62106 1451	WG	2	2							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

FedEx 847982594263

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
	62206 1600		6230810:20

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

January 05, 2007

Report to:
Gregg Wurtz
Burlington Resources, Inc.
3401 E. 30th St. P.O. Box 4289
Farmington, NM 87499

Bill to:
Gregg Wurtz
Burlington Resources, Inc.
P.O. Box 4289
Farmington, NM 87499

cc: Martin Nee

Project ID: JOHNSTON FEDERAL 4
ACZ Project ID: L60375

Gregg Wurtz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 14, 2006. This project has been assigned to ACZ's project number, L60375. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60375. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after February 05, 2007. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

05/Jan/07

Sue Webber, Project Manager, has reviewed and approved this report in its entirety.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Organic Analytical Results

Burlington Resources, Inc.
Project ID: JOHNSTON FEDERAL 4
Sample ID: JOHNSTON FEDERAL 4 M

ACZ Sample ID: ***L60375-01***
Date Sampled: *12/13/06 9:38*
Date Received: *12/14/06*
Sample Matrix: *Ground Water*

Benzene, Toluene, Ethylbenzene & Xylene

Analysis Method: **M8021B GC/PID**
Extract Method:

Workgroup: ***WG218508***
Analyst: *ccp*
Extract Date:
Analysis Date: ***12/22/06 18:10***

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2	5300		50	*	ug/L	20	50
Ethylbenzene	100-41-4	870		50	*	ug/L	10	50
m p Xylene	1330 20 7	12300		50	*	ug/L	20	100
o Xylene	95-47- 6	3150		50	*	ug/L	10	50
Toluene	108-88-3	7220		50	*	ug/L	10	50

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	119.4	50	*	%	70	130

** Please refer to Qualifier Reports for detail.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
LCL	Lower Control Limit
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
UCL	Upper Control Limit
Sample	Value of the Sample of interest

QC Sample Types

SURR	Surrogate	*LFM*	Laboratory Fortified Matrix
INTS	Internal Standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
LCSS	Laboratory Control Sample - Soil	*MS/MSD*	Matrix Spike/Matrix Spike Duplicate
LCSW	Laboratory Control Sample - Water	*PBS*	Prep Blank - Soil
LFB	Laboratory Fortified Blank	*PBW*	Prep Blank - Water

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.

ACZ Qualifiers (Qual)

B	Analyte detected in daily blank
H	Analysis exceeded method hold time.
J	Analyte concentration detected at a value between MDL and PQL
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality contreol sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.
P	Analyte concentration differs from second detector by more than 40%.
E	Analyte concentration is estimated due to result exceeding calibration range.
M	Analyte concentration is estimated due to matrix interferences.

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/4-90/020. Methods for the Determination of Organic Compounds in Drinking Water (I), July 1990.
(3)	EPA 600/R-92/129. Methods for the Determination of Organic Compounds in Drinking Water (II), July 1990.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December, 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Organic analyses are reported on an "as received" basis.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Organic Extended Qualifier Report

Burlington Resources, Inc.

ACZ Project ID: ***L60375***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60375-01	WG218508	*All Compounds*	M8021B GC/PID	Q3	Sample received with improper chemical preservation.
			M8021B GC/PID	SA	Surrogate recovery was outside acceptance limits due to matrix interference.
		Benzene	M8021B GC/PID	V8	Calibration verification recovery was below the method control limit for this analyte, however the average % difference or % drift for all the analytes met method criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Certification Qualifiers

Burlington Resources, Inc.

ACZ Project ID: ***L60375***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Burlington Resources, Inc.
JOHNSTON FEDERAL 4

ACZ Project ID: L60375
Date Received: 12/14/2006
Received By:
Date Printed: 12/14/2006

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?			X
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?	X		
13) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id		Temp (°C)	Rad (µR/hr)
1244		5.9	22

Client must contact ACZ Project Manager if analysis should not proceed for samples received outside of thermal preservation acceptance criteria.

Notes

ACZ Laboratories, Inc.

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

Burlington Resources, Inc.
JOHNSTON FEDERAL 4

ACZ Project ID: L60375
Date Received: 12/14/2006
Received By:

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L60375-01	JOHNSTON FEDERAL 4 M									X		☐

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc. L60375 **CHAIN of CUSTODY**

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

Name: Gregg Wurtz	Address: Box 4289
Company: Burlington Conoco Phillips	Farmington NM 87499
E-mail: gwurtz@br-inc.com	Telephone: 505 326 9537

Copy of Report to:

Name: M Nee	E-mail: mjn@lodestarservices.com
Company: Lodestar Services	Telephone: 505 334 2791

Invoice to:

Name: G Wurtz	Address:
Company: as above	
E-mail:	Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES ✓ / NO
If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

Quote #:
Project/PO #: Johnston Federal 4
Reporting state for compliance testing:
Sampler's Name: ALA
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	8021B BTEX							
Johnston Federal 4MW-1	121306 0938	GW	3	✓							

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

* voas contain air bubbles - could not eliminate b/c of product
No preservative
FedEx 847982594300

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Ashley L Ager	121306 1530	VVS	12.14.06 11:06

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.