# 3R - 071 2006 AGWMR

04/15/2007



April 15, 2007

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

APR 17 2007

Oil Conservation Division Environmental Bureau

**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,

cc:

Tregg Wint Gregg Wurtz

Sr. Environmental Representative

Attachments - Groundwater Investigation and Remediation Reports

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

# RECEIVED

## APR 17 2007

## BURLINGTON RESOURCES 2006 ANNUAL GROUND WATER REPORTSION Environmental Bureau

#### **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  $Alconox^{TM}$  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.

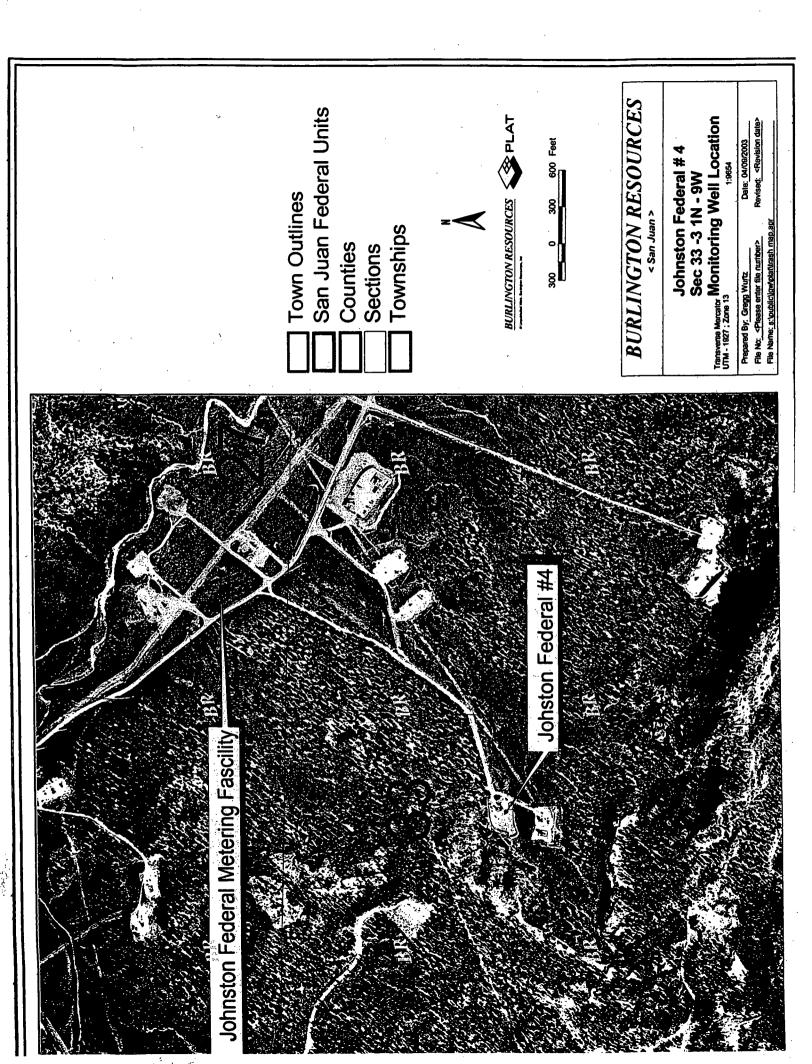
Attachments: Figure 1 - Site Map

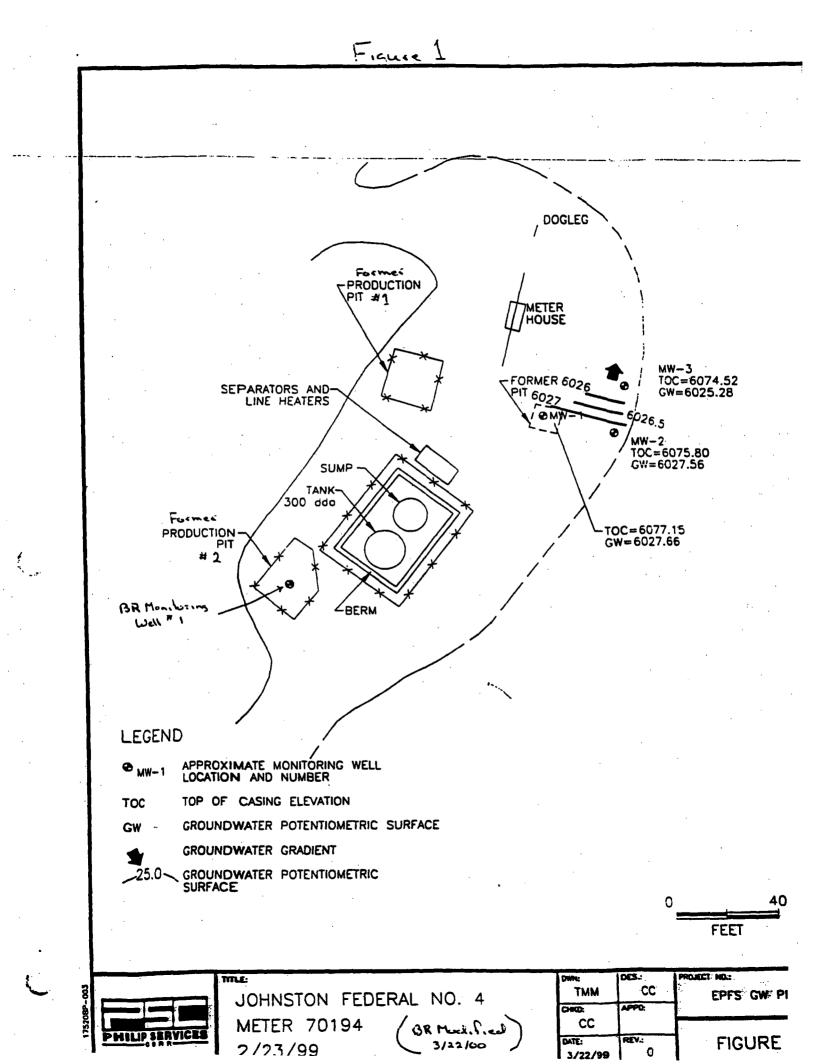
Figure 2 - Graphical Presentation of Product Thickness Observed in MW-1 Over Time Table 1 - Ground Water Sampling Results Summary

Attachment 1 – Letter to NMOCD, including Drilling Log and Wellbore Diagrams Attachment 2 – Well Development and Sampling Logs

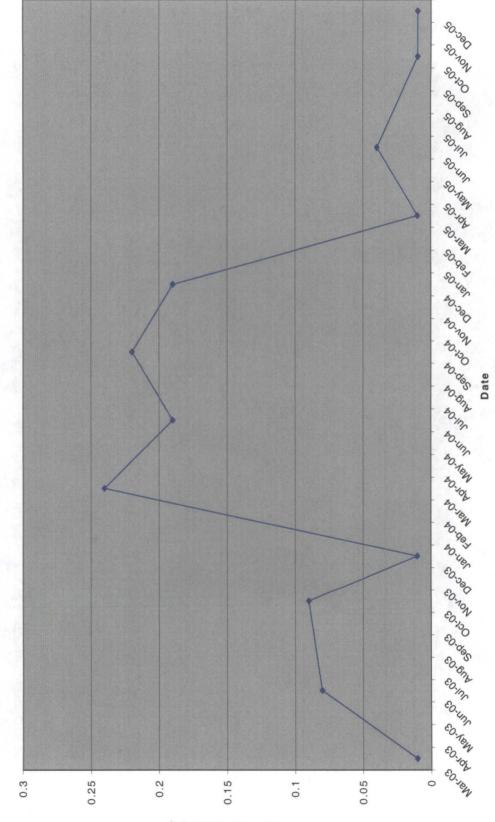
Attachment 3 - Laboratory Reports

# **Figure 1: Site Map of Johnston Federal #4**





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



Product Thickness in MW-1

Product Thickness (ft))

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# Table 1: Ground Water Sampling Results

			nston Fee	lytical R deral #4			
			MW-	1			
Sample Date	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	BTEX (ppb)	DTW (ft)	Product Thicknes (ft)
MWQCC Standards	10	750	750	620	50		-
5/25/1999	8700	2900	2800	2900	43400		-
9/1/1999	Free	Phase Produce	ct Detected - 1	No Sample Co	ollected	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				No Sample Co			0.01
6/27/2003				No Sample Co			0.08
10/10/2003				No Sample Co			0.09
12/10/2003	<u>.</u>			No Sample Co			0.01
3/16/2004		Phase Produce	ct Detected - I	No Sample Co	ollected	47.28	0.24
6/22/2004	6160	8100	470	15840	30570	47.06	0.19
9/30/2004				No Sample Co		47.24	0.22
12/13/2004				No Sample Co		47.14	0.19
3/23/2005				No Sample Co		46.91	0.01
6/22/2005				No Sample Co		46.93	0.04
10/28/2005				No Sample Co		46.87	0.01
12/14/2005				No Sample Co		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	· · · · · · · · · · · · · · · · · · ·			No Sample Co	*	46.89	0.09
12/13/2006	5300	7220	870	15450	28840	46.92	0.01

DTW is Depth to Water measured from top of well casing

# Attachment 1: Drilling Log and Wellbore Diagrams

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1980, Hobbs, NM 1CE II Ver DD, Arcens, NM 88211 1CE III

Brazes Rd. Azer. NM 87410

## OIL CONSERVATION DIVISION P.O. Box 2088

Appropriate District oppice AND 1 COPY TO SANTA FE OPPICE

Santa Fe, New Mex1co 87504-2088

(Revised 1/9/94)

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## PIT REMEDIATION AND CLOSURE REPORT

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	35 E. 30 <sup>44</sup> Farmington			
ility Or: 1 Name	Johnston Fectural #4	(Metering L	ecotion)	Pit Wg
ation: Unit	or Qtr/Qtr Sec <u>H</u> sec	27 T 31N R 9	w county Se	in thein
Type: Sepa	ator X Dehydrator Ot	her		
id Type: BL	<u>X_</u> , State, Fee,	Other		
: Location: tach diagram)	Pit dimensions: length Reference: wellhead Footage from reference: Direction from reference	other	Juglec  rees East	· · · · · · · · · · · · · · · · · · ·
ith To Groun rtical distance taminants to a h water elevat und water;	essonal	50 feat to	0 feet ( 99 feet (	20 points)
estic water so	ction Area: et from a private urce, or; less than l other water sources)	÷.,		20 points) (0 points) <u>O</u>
Itance To Su rizontal dista ee, conda, riv igation canala	nce to perennial ers, streams, creeks,	Greater tha	5 1000 feet ( an 1000 feet	
		RANKING SC	ORE (TOTAL PO	DINTS E

PRODU	iction Pit Assessm	ent Form
ELL NAME: JUNNSTON FEDERAL	WELL NUMBER: H	DP NO .: NDLENAME BISY
PERATOR NAME: BURLINGION RESO	vres	PIL DISTRICT:
DORDINATES: TOWNSHIP 31N RAN	GE $\mathcal{W}$ SECTION $27$	LETTER H
T TYPE: DEHYDRATOR SEPARA		OTHER: UNKNOWN
TE ASSESSMENT DATE: 8/10/98 MC	DI FOREMAN NO.	AREA:
MOCD ZONE: (from NMOCD Maps): Inside 😡	Outside 🖸	
AND TYPE: BLM Q(1) STATE (2)		
EPTH TO GROUNDWATER:	LESS THAN 50 FT (1) 50 FT TO 99 FT (2) GREATER THAN 100 FT (3)	(20 POINTS) (10 POINTS) (0 POINTS)
VELLHEAD PROTECTION AREA: Is it less than 1,00 or; is it less than 200 ft from a private domestic water so	ource (or 1,000' on Navajo surface)	<b>)</b> ?
		(S)
HORIZONTAL DISTANCE TO SURFACE WATER BO	DY: LESS THAN 200 FT 200 FT TO 1,000 FT GREATER THAN 1,000 FT IE OF SURFACE WATER BODY	(1) (20 POINTS) (2) (10 POINTS) (3) (0 POINTS)
SURFACE WATER BODY: PERENNIAL RIVERS, STREAMS		ITCHES, LAKES, PONDS
DISTANCE TO NEAREST EPHEMERAL STREAM	(1) <100 FEET (NAVAJO PITS C (2) >100 FEET	NLY)
	G SCORE: ZD PC	

MALLI ASSESSE

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

Gertificate of Analysis No. 9803038-02

Philip Environmental Services 4000 Monroe Road 1 Farmington, NM 87401 Date: 08/17/98 Attn: Cory Chance Project No: 19074 BR Misc. Johnston Fed. #4, Pit #1 Matrix: Soil Sampled By: Holly Bradbury Date Sampled: 08/10/98 Date Received: BR8B1541AV 08/11/98 Sample ID: **Analytical Data** DETECTION RESULTS LIMIT UNITS PARAMETER Gasoline Range Organics 1.2 0.1 (P) mg/kg % Recovery Surrogate 147 1.4.Difluorobenzene 4-Bromofluorobenzene 310MI Method 80158\*\*\* for Gasoline Analyzed by: AA Date: 08/12/98 Total Petroleum Hydrocarbons-Diesel ND 10 (P) ma/ka Surrogate % Recovery

118

ND-Not Detected

n-Pentacosane

Analyzed by: RR

Method 80158\*\*\* for Diesel

Date: 08/14/98

**MI-Matrix Interference** 

(P)-Practical Quantitation Limit

Notes:

Project:

Site:

\*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.

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# Pit Remediation and Closure Reports (Pit #2)

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S: / gradwatr/facility/hampton/985ocd.doc

trict	
ion 1980, Hobbs. NM	
trict II	
Instreet DD, Anesia, NM \$5211	
trict III	
Lie Brizes Rd. Azer: NH 87410	-

State of New Mexico Energy, Minerals and Natural Resources Department SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

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

(Revised 3/9/94)

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## PIT REMEDIATION AND CLOSURE REPORT

perator: <u>Unchaston</u>	Resources	Telephone: (505) 326-9700
Idress: 3535 E. 3	ot Farmington NM 8	7402
icility Or: <u>Johnsto.</u>	Federal#4 (Mel	recing Location Pil #2
ocation: Unit or Qtr/Qtr	sec H sec 27 T 31	NR 9W COURTY San Juin
Lt Type: Separator	Dehydrator Other Te	mik Drain
and Type: $ELM \times$ , Sta	te, Fée, Other_	
Referenc	e: wellhead, other from reference:7	
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epth To Ground Water: fertical distance from phtaminants to seasonal igh water elevation of round water) :	50 feet	nan 50 feet (20 points) t to 99 feet (10 points) t than 100 feet (0 Points)
Vertical distance from ontaminants to seasonal igh water elevation of	50 feet Greater Greater Private Less than	t to 99 feet (10 points)
fertical distance from ontaminants to seasonal igh water elevation of round water) : ellbead Protection Are less than 200 feet from a p omestic water source, or; 1	50 feet Greater Greater Private Less than ter sources) er: Less than ter sources annial 200 feet ms, creeks, Greater	t to 99 feet (10 points) t than 100 feet (0 Points) Yes (20 points)

VELL NAME:	Johnston	FEDERAL	WELL N	IMBER: 4	-DPNO.: NOCE NAM	e: B134
PERATOR N/	AME: BURLING	TON RESCUE	ces	م من میں میں اور	PIL DISTRICT	ſ:
COORDINATES	5: TOWNS	HIP 31N RAN	ge 9W	SECTION	27 LETTER	H
PIT TYPE:	DEHYDRATOR C	Í SEPARA		BLÓW PIT C		
	OTECTION WELL:		•		UN	IKNOWN
SITE ASSESSA	NENT DATE: 8/	10/98 M	DI FOREMAN I	IO.	AREA:	<u> </u>
	:			· ·	· · · · · · · · · · · · · · · · · · ·	
MOCD ZONE	: (from NMOCD Map	os): Inside 🕅	Outside	;,;,;;		
AND TYPE:	BLM (1)	STATE (2)	FEE (3)	ÎNDIA		······
DEPTH TO GR	OUNDWATER:			TO 99 FT (2	)2 (20 POINTS) ) (10 POINTS) ) (0 POINTS)	
WELLHEAD PI or, is it less that	ROTECTION AREA: n 200 ft from a priva	: Is it less than 1,00 té domestic water so	D feet from wel ource (or 1.000	s, springs, or o on Navajo sur	ther sources of frest (ace)?	n water extrac
•		YES (20 POINTS)		NO <b>KA (O P</b>	OINTS)	
HORIZONTAL	DISTANCE TO SUF	RFACE WATER BOI	20	SS THÀN 200 ) FT TÔ 1,000 R THÀN 1,000	FT (2) (10 P	DINTS)
SURFACE WAT	ER BODY: PERENNIA	NAM L RIVERS, STREAMS		E WATER BO GATION CANAL	· · · · · · · · · · · · · · · · · · ·	PONDS
DISTANCE TO		ERAL STREAM	(1) - <100 F (2) - >100 F	EET (NAVAJO P	IT'S ONLY)	



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

1000 Monroe Road			•		
armington, NM 87401		Ď-ti.	0014760		
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				
	•	DETECTION			:
PARAMETER	RESULTS	LIMIT		UNITS	
Benzene	81000	5000 (P)		μg/Kg	
Foluene	41000	5000 (P)		μg/Kg	
Ethylbenzene	85000	5000 (P)		μg/Kg	
Fotal Xylene	780000	5000 (P)		μ <b>g/Kg</b>	•
Total Volatile Aromatic Hydrocarbons	987000			μ <b>g/Kg</b>	ŧ
Surrogate	% Recovery				
1,4,Difluorobenzene	120				
4-Bromofluorobenzene	193MI				•
Method 8020A***					
Analyzed by: AA					
Date: 08/13/98	<del>,</del> '				

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.

Kia

Billy G. Rich, Lab Director

FARMINGTON LABORATORY 807 S. CARLTON FARMINGTON, NM 87498-1289 (505) 326-2588

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Gertificate of Analysis No. 9803038-03b

Philip Environmental Services . ..... 4000 Monroe Road Farmington, NM 87401 Date: 08/17/98 Attn: Cory Chance Project No: BR Misc. 19074 Project: Johnston Fed #4, Pit #2 Matrix: Soil Site: Sampled By: Holly Bradbury **Date Sampled:** 08/10/98 BR8B1541BV Date Received: 08/11/98 Sample ID: **Analytical Data** DETECTION LIMIT RESULTS UNITS PARAMETER Gasoline Range Organics 17000 1000 (P) mg/kg Surrogate % Recovery 1,4,Difluorobenzene 123 4-Bromofluorobenzene 367MI Method 80158\*\*\* for Gasoline Analyzed by: AA Date: 08/13/98 Total Petroleum Hydrocarbons-Diesel 2700 200 (P) mg/kg % Recovery Surrogate 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

Fr A Ha

Billy G. Rich, Lab Director

PHILIP SERVICES	CTION PIT REME		
WELL NAME Tobostow FHTH	Well No.:	DP No.:	
OPERATOR NAME: Bushington Renow	P/L DIST		
COORDINATES: LETTER	N: <u>27</u> Townshi	P: <u>31N</u> RANGE: <u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	-
PIT TYPE: DEHYDRATOR: LOCAT	ION DRIP: LIN	E DRIP: OTHER:	
FOREMAN NO .: GARY OSBORNS	AREA: A-1-	<u></u>	·····
INITIAL REMEDIATION ACTIVITIES	and the second se		
DATE: 12-17-48	ТІМЕ:		
GROUND WATER ENCOUNTERED?	NE / YE		
INSIDE NMOCD ZONE			-
FINAL EXCAVATION DIMENSIONS	LENGTH: 58 WIDTH	1: <u>-15</u> DEPTH: <u>30</u>	÷
APPROX. CUBIC YARDS: 476		1967.ppm	
		:	•
REMEDIATION METHOD: ONSIT			5
OFFSIT	E LANDFARM <u>×</u> Lo	CATION: Johnston FD	22824
OTHER	<u> </u>		, ·
LANDFARM DIMENSIONS: LENG	TH:		
OUTSIDE NMOCD ZONE			
FINAL SAMPLE DEPTH:	FINAL PID REAL	DING:	
EXCAVATION SAMPLING INFORMAT	ION	· · ·	:
IF PID READINGS ARE LESS THAN 100		RING EXCAVATION)	
SAMPLE DATE:			
SAMPLE ANALYSIS: TPH METHOD			
IF PID READINGS ARE <u>GREATER THAN</u> THE EXCAVATION WILL BE SAMPLED PR	100 PPM, NO SAMPLE V	VILL BE TAKEN DURING EXCA E ADDITIONAL SAMPLING SE	AVATION. CTION).
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Certificate of Analysis No. 9812150-01a

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		04/00/00
		01/06/99
		20440
•	•	Soil
		12/28/98
	Date Received:	12/30/98
Analytical Data		
	DETECTION	
RESULTS	LIMIT	UNITS
ND	500 (P)	µg/Kg
20000	500 (P)	μg/Kg
8100	500 (P)	μg/Kg
120000	500 (P)	μ <b>g/Kg</b>
148100		μ <b>g/Kg</b>
% Recovery		
100		
160MI		
	54	
	•	
	ND 20000 8100 120000 148100 <b>% Recovery</b> 100	DETECTION           RESULTS         LIMIT           ND         500 (P)           20000         500 (P)           8100         500 (P)           120000         500 (P)           148100         500 (P)           % Recovery         100           160MI         500 (P)

**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.



Certificate of Analysis No. 9812150-01b

Philip Environmental Services		•	
4000 Monroe Road		• ,	. 1
Farmington, NM 87401		Date	01/06/99
Attn: Robert Thompson		Project No	
Project: BR Pits		Matrix	
Site: Farmington		Date Sampled	• •
Sampled By: R. Thompson Sample ID: 12281416 - BOTTOM	•	Date Received	
Sample ID: 12281416 - 30110M	Analytical Data		
	Analytical Data	DETECTION	
PARAMETER	RESULTS	LIMIT	UNITS
Gasoline Range Organics Surrogate 1,4,Difluorobenzene 4-Bromofluorobenzene Method 8015B*** for Gasoline Analyzed by: AA Date: 01/05/99	2100 % Recovery 80 613MI	50 (P)	mg/kg
Total Petroleum Hydrocarbons-Diesel Surrogate n-Pentacosane Method 8015B*** for Diesel Analyzed by: RR Date: 01/04/99	430 <b>% Recovery</b> 96	250 (P)	mg/kg
		ND-Not Detected	

Notes:

MI-Matrix Interference

(P)-Practical Quantitation Limit

**ND-Not Detected** 

\*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.



Certificate of Analysis No. 9812150-02a

Philip Environmental Services	_ <b>-</b>		<b></b> , '
4000 Monroe Road			· Sec.
Farmington, NM 87401		Duta	NAINGIOO
Attn: Robert Thompson	<u> </u>	Date:	01/06/99
Project: BR Pits		Project No:	20440
Site: Farmington		Matrix:	Sòil
Sampled By: R. Thompson		Date Sampled:	
Sample ID: 12281410 - WALLS		Date Received:	12/30/98
	Analytical Data		
		DETECTION	
PARAMETER	RESULTS	LIMIT	UNITS
Benzene	ND	500 (P)	μg/Kg
Toluene	6100	500 (P)	μ <b>g/Kg</b>
Ehylbenzene	3400	500 (P)	μ <b>g/Kg</b>
Total Xylene	75000	500 (P)	μ <b>g/Kg</b>
Total Volatile Aromatic Hydrocarbons	84500		μ <b>g/Kg</b>
Surrogate	% Recovery		
1,4,Difluorobenzene	100		
4-Bromofluorobenzene	167MI		
Method 8020A***			
Analyzed by: AA			
Date: 01/05/99		2	

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.

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307 S. CARLTON AVE FARMINGTON, NEW MEXICO 87401 PHONE (505) 328-2878 FAX (505) 328-2878

Certificate of Analysis No. 9812150-02b

Philip Environmental Services		•		: '
4000 Monroe Road				· tart.
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 - WAUS			Received:	12/30/98
	Analytical Data			·
	•	DETECTION		
PARAMETER	RESULTS	LIMIT		UNITS
Gasoline Range Organics	1600	50 (P)		mg/kg
Surrogate	% Recovery			
1,4,Difluorobenzene	87			
4-Bromofluorobenzene	667MI			
Method 80158*** for Gasoline				
Analyzed by: AA			•	
Date: 01/05/99				
Total Petroleum Hydrocarbons-Diesel	250	6 50 (P)		mg/kg
Surrogate	% Recovery			
n-Pentaçosane	92			
Method 8015B*** for Diesel		:		
Analyzed by: RR				
				•

MI-Matrix Interference (F

Notes:

(P)-Practical Quantitation Limit

D-Diluted, limits not applicable

\*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

TAN THE AND

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

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(618)	281-7173 Pi	юле
(618)	281-5120 FL	X

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G 3232 COC Serial No.

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Project Name	<u> </u>			Le	b.	Name		<u>PL</u>	•	
Project Number		Task /DC	0.11			Locati		FELLY	mington	<u> </u>
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Philip Environ		utal Ser	vice: C	èrp,					Wc1 Ø Pego	Mus-BZ
Fernington, No					Project I	Lorrio	Bu	e line	bon	
(608) 328-228:	2 FA)	( (505) 3:	20-2399	ىرىيىنى مەر <u>بىشىرىك دىرەر يېچىتكىنى م</u> رد دەر	Project Number 21057 Phone 1000.0					
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Borehole Lo GWL Depth		1	1 <sup>-10</sup> -1		Poreanne	On-Site	L.	Cher	ney	K. Padilla, A Padilla
Logged By			vena,			ore On-Site				
Drilled By			<u>adill</u>		Carne Fo	rsonnol On-	Dirto		EJ /1	asely
Date/Time : 1 Date/Time (			113/9		<b>Drilling N</b>		4/4			s/A
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Philip Environmental Services Corp.	Well MW-BZ
4000 Montes Recd	Pege Z of Z
Fernington, New Mexico 87401	Project Nerro but in a lon
(506) 328-2282 FAX (505) 328-2388	Project Minister 0 11.00 7
	Project Location John Sten Feel # 4
Elevation	Well Logged By P Cheney
Borehole Location	Personnel On-Site P. Cheney, K. H. d. 11 9 D. Podella
GWL Depth	Contractors On-Site
Logged By <u>P. Chener</u> Drilled By K. Packilla	Client Personnel On-Site Ed 163014
Dete/Time Started 5/13/99 6920	
Date/Time Completed 57/3/95 1200	Drilling Method <u>474</u> Jd 1+519 Air Monitoring Method <u>PID</u>
Sampto	
Depth Sample Type & Sample Deputies	Depth

Depth (Foot)	Semata Interval	Sempto Typo & Rocavery (Inchiso)	Semple Description Classification System: USCS	USCS Symbol	Depth Lithslooy Change (feat)		Meriter nim: ND BH		Detting contraction
	-40 -42	- Marina	listit stay, fine 10 medium stained clayest sand frm			11.6	5.0	1075	BC= 7 5/HS = 291
- 4/5 	- <del>45</del> - 47		gray, uny marse grained sund W/STO smoll smuel. Shong adding phone 2 that yellowich how n' renselidated send at 97'			(j. Z	•	946	BC= 36 S/HS = 2,56
510 5710 5710	- 58		gray Ane to medium grained sand: 2-5% black mineral grains well ronsolidated		: : : : : : : : : : : : : : : : : : :	0.3		77	BC= 50 (7") 5/15=141
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Goologist Signature

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ORING WELL INSTALLATION RECORD Virializated Services Corp.	ġ ·	Borahote Wall # Page	#	
New Manico 87801	Projec	Name Jurinhal	on Drilling	
262 FAX (606) 326-2388	Frajec	Number $\frac{21057}{205156}$	Phase <u>Popo.</u>	
ation sth 4; <sup>1</sup> By <u>K Padrills</u> D Pedrills	Perso Contre	nnel Ori-Site	d Hase 14	// <sub>5</sub>
The Started $5/13/99 1300$ The Completed $6/4/99 1300$			1	÷
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n of Natural Cave-In		•	-01	
fGroundweter		Bottom of Screen Bottom of Borehole	50	
Depth of Borehole				Ś.
	Geologist Signature	Level 9	For Paul C	licne y

# Attachment 2: Ground Water Monitoring Well Development and Sampling Logs

## WELL DEVELOPMENT AND SAMPLING LOG

Project No <u>30003.0</u> Project Name <u>BR Groundwater Sampling</u> Client: <u>Burlington</u>										
Location: Johnson Federal 4_ Well No: <u>MW-1</u> Development <u>Sampling</u>										
Project Manager MJN Date 032106 Start Time 1452 Weather clear 50s										
Depth to Water <u>46.74</u> Depth to Product <u>na</u> Product Thickness: <u>na</u> Measuring Point <u>TOC</u>										
Water Column Height 3.16 Well Dia. 2"										
Sampling Method: Submersible Pump  Centrifugal Pump  Peristaltic Pump  Other										
Bottom Valve	e Bailer	Х		Double	Check Valv	∕e Bailer □	] Stainles	s-Steel Ke	mmerer 🛛	
Criteria: 3 to 5 Casing Volumes of Water Removal X stabilization of Indicator Parameters X Other or bail dry										
, ,					Water Volu	me in Well				
	<u>ft of wat</u> 6 x .16	er		Gallons 0.51			Ounces		Gal/oz to be removed	
J. 1	0 X . 10			0.51					1.51	
						_				
Time	pH		SC	Temp	ORP	D.O.	Turbidity	Vol Evac		
(military)	(su)	•	nos/cm)	(°F)	(millivolts)	(mg/L)	(NTU)	( gal)	Flow rate	
1501	6.89	2	750	60.3				.25	clear, HC odor	
	6.88	. 2	750	59.0				.5	grey, HC odor, sheen	
	6.89	2	800	58.8				.75	grey, HC odor, sheen	
	6.90	2	850	58.2			· · · · · · · · · · · · · · · · · · ·	1	grey, HC odor, sheen	
	6.92	2	850	58.0				1.25	grey, HC odor, sheen	
	6. <del>9</del> 1	2	840	57.5				1.5	grey, HC odor, sheen	
<u>1510</u>	6.95	2	850	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
<u>1510</u>	6.95 2850	<b>57.1</b>					1.75	grey, HC odor, sheen

COMMENTS

ſ

INSTRUMENTATION: pH Me	eter X	Ten	nperature Meter x
DO	Monitor	Oth	ner
Conductivity	Meter X	- 	
Water Disposal <u>onsite</u>	Sample	ID Johnson Federal 4 MW-1	Sample Time <u>1512</u>
Analysis: <u>BTEX</u>			
MS/MSD	BD	BD Name/Time	ТВ

## WELL DEVELOPMENT AND SAMPLING LOG

🔶 F	Project N	o <u>30</u>	003.0	Project	t Name <u>BR G</u>	Groundwate	er Sampling	_ Clien	t: <u>Burlington</u>
Location: Jo	hnson Fe	deral	4_ Well	No: M	N-1	Deve	lopment <u>S</u>	ampling	
Project Man	ager	MJN			Date 062	<u>2106</u> St	art Time14	134	Weather_ <u>clear</u>
Depth to Wa	ater 4	6.84	Dep	th to Produ					suring Point <u>TOC</u>
Water Colun									·
Sampling Me	ethod: S	ubmer	sible Pum	ip 🗖	Centrifugal	Pump [	] Peristaltic	Pump	Other 🗌
Bottom Valv	e Bailer	Х		Double	e Check Valvo	e Bailer 🗆	] Stainles	ss-Steel Ker	nmerer 🗌
Outback			0						
Criteria: 31	to 5 Casi	ng voi	umes of v	vater Rem	ioval X stad	lization of	Indicator Pa	rameters X	Other <u>or bail dry</u>
, 					Water Volun	ne in Well	•		
Gal/ft x	t of wat	er		Gallons			Ounces		Gal/oz to be removed
5.0	6 x .16			0.81					2.43
Time	pН		SC	Temp	ORP	D.O.	Turbidity	Vol Evac.	Comments/
(military)	(su)	(umł	nos/cm)	(°F)	(millivolts)	(mg/L)	(NTU)	( gal)	Flow rate
1434	7.09	1	530	68.5				.25	clear, HC odor
	7.09	1	450	66.0				.75	clear, HC odor
	7.10	1	430	65.3				1	clear, HC odor
	7.10	7.10 1410 64.8 1.5 clear, HC o							
	7.10	1	400	64.5				2	grey, HC odor, sheen
	7.12	1	410	64.3				2.25	grey, HC odor, sheen
<u>1449</u>	7.12	1	420	64.6				2.5	grey, HC odor, sheen

Final:							
Time	рН	SC Te	mp Eh-ORP	D.O.	Turbidity	Vol Evac.	Comments/Flow Rate
<u>1449</u>	7.12	1420 6	4.6			2.5	grey, HC odor, sheen
		in the second					

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COMMENTS

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INSTRUMENTATION:	pH Meter X	Temper	ature Meter x	_
	DO Monitor	Other	·	
Conc	luctivity Meter X	·		
Water Disposal onsite	Sam	ple ID Johnson Federal 4 MW-1	Sample Time <u>1451</u>	
Analysis: <u>BTEX</u>				
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		
<b>Client Company</b>	MWH	Date	10/20/06

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

#### Comments

Did not install sock, will let well sit.

Signature:

Martin Nee

Date: 10/20/06

✤ Lodestar ◆

#### WELL DEVELOPMENT AND SAMPLING LOG

Project No	Project Name <u>B</u> u	urlington Ground Water	r Sampling Client:_	Burlington
Location: Johnston Fe	deral 4	Well No: <u>MW-1</u>	Development	Sampling
Project Manager	MJN	Date12/13/	/06 Start Time08	45 Weatherclear 19
Depth to Water46	.92 Depth to	Product 46.82 Pro	oduct Thickness: 0.10	Measuring Point <u>TOC</u>
Water Column Height	_6'_ Well Dia	2"		

Sampling Method: Submersible Pump Centrifugal Pump Peristaltic Pump Other

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

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

	Water Vo		
Gal/ft x ft of water	Gallons	Ounces	Gal/oz to be removed
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
Q900	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:		ار جري کې او الا جريدې			ef.		Ferrous		
Time	рН	SC	Temp	Eh-ORP	D.O.	Turbidity	Iron	Vol Evac.	Comments/Flow Rate
<u>0936</u>	5.98	4050	51.1					384 oz	still appears to have
A Section 1		i di kati kati Lateria di kati kati kati kati kati kati kati kat					n na sea anna 2007 an 19 Taoine an 19 Taoine an 19 an 19	а. 	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	Oth	er
Conductivity I	Meter X		
Water Disposal onsite	Sample	ID Johnston Federal 4 MW-1	_Sample Time0938
<b><u>BTEX</u></b> VOCs Diesel			
MS/MSDE	3D	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

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.



REPAD.01.06.05.01



L55782: Page 1 of 8

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

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

#### **Burlington Resources, Inc.**

Project ID:JOHNSON FEDERALSample ID:JOHNSON FEDERAL MW-1

# Organic Analytical Results

ACZ Sample ID:L55782-01Date Sampled:03/20/06 15:12Date Received:03/23/06Sample 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 and the second s	CAS	Result Q	UAL Dilution X	Q 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 Street and	CAS	Result Q	UAL Dilution X	Q Ünits	MDL	PQL
Bromofluorobenzene	000460-00-4	81.2	100	* %	83	117



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

port 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 % (exce	pt for LCSS, mg/Kg)		
LCL	Lower Control Limit			
MDL	Method Detection Limit. Same as	Minimum Reporting Lim	nit. Allows for	instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/sta	andards to trace to the n	nanufacturer's	s certificate of analysis
PQL	Practical Quantitation Limit			
QC	True Value of the Control Sample of	or the amount added to	the Spike	
Rec	Amount of the true value or spike a	added recovered, in % (	except for LC	SS, mg/Kg)
RPD	Relative Percent Difference, calcul	ation used for Duplicate	e QC Types	
Upper	Upper Recovery Limit, in % (exce	pt for LCSS, mg/Kg)		
UCL	Upper Control Limit			
Sample	Value of the Sample of interest			
Sample Ty	pes			
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	r	PBS	Prep Blank - Soil
LFB	Laboratory Fortified Blank		PBW	Prep Blank - Water
Sample Tu				
Sample Ty	pe Explanations			
Blanks	The first state of the state stat		al contaminati	on in the prep method procedure.
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REPIN03.11.00.01

# 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
.55782-01 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.
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	•				

REPAD.15.06.05.01

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

AGZ Laboratories, Inc. 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493			ample eceip	
Burlington Resources, Inc. JOHNSON FEDERAL		ceived: ved By:	d: 3/23/	
Receipt Verification	Date F	Printed:	3/	23/2006
		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?		Х		
5) Is the Chain of Custody complete?		Х		
6) Is the Chain of Custody in agreement with the samples received?		Х		
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?

13) Do the samples that require a Foreign Soils Permit have one?

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

Х

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#### Notes

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

**Burlington Resources, Inc.** 

JOHNSON FEDERAL

# Sample Receipt

ACZ Project ID: Date Received: Received By:

1 wat many

L55782 3/23/2006

## Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	3K < 2	Y< 2	YG< 2	B< 2	0 < 2	T >12	N/A	RAD	ID
L55782-01	JOHNSON FEDERAL MW-1									Х		
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Abbreviatio	on Description	Contai	ner Type	e Pre	servat	ve/Lim	its					
R	Raw/Nitric	RED		pН	must be	< 2						
В	Filtered/Sulfuric	BLUE		pН	must be	< 2						
вк	Filtered/Nitric	BLACK		pН	must be	< 2						
G	Filtered/Nitric	GREEN		pН	must be	< 2						
0	Raw/Sulfuric	ORANG	θE	pН	must be	< 2						
Р	Raw/NaOH	PURPL	Ξ	pН	must be	> 12 *						
Т	Raw/NaOH Zinc Acetate	TAN		pН	must be	> 12						
Y	Raw/Sulfuric	YELLO	W	pН	must be	< 2						
YG	Raw/Sulfuric	YELLO	W GLASS	6 pH	must be	< 2						
N/A	No preservative needed	Not app	licable									
RAD	Gamma/Beta dose rate	Not app	licable	mu	st be < 2	250 µR/h	r					

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By:

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			6402							JSTC		
2773 Downhill Drive Steamboat Spri Report to:	ngs, CO 8048	87 (800) 334	-5493									
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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

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.



REPAD.01.06.05.01



L57332: Page 1 of 8

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

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

#### **Burlington Resources, Inc.**

Project ID:JOHNSTON FEDERAL #4Sample ID:JOHNSTON FEDERAL MW

# Organic Analytical Results

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 <sup>·</sup>	5	30
Surrogate Recoveries	CAS	% Recovery	Dilution	XQ Units	LCL	UCL
Bromofluorobenzene	. 460-00-4	106.2	25	%	83	117
Workgroup: I						
Analyst: a	сср					
	07/40/06 45-07					
Extract Date: Analysis Date: (						

Compound States	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene m p Xylene	71-43-2 1330 20 7	4900 8520	н н	50. 50	*	ug/L ug/L	20 20	50 100
Surrogate Recoveries	CAS 2	Recovery		Dilution	XQ	_	LCL	UCL
Bromofluorobenzene	460-00-4	97.3		50	*	%	83	117



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port Header	Explanations			
Batch	A distinct set of samples an	nalyzed at a specific time	9	
Found	Value of the QC Type of int	erest		
Limit	Upper limit for RPD, in %.			
Lower	Lower Recovery Limit, in %	(except for LCSS, mg/l	Kg)	
LCL	Lower Control Limit			
MDL	Method Detection Limit. Sa	ame as Minimum Report	ing Limit. Allows for	instrument and annual fluctuations.
PCN/SCN	A number assigned to reag	ents/standards to trace t	to the manufacturer'	s certificate of analysis
PQL	Practical Quantitation Limit			
QC	True Value of the Control S	ample or the amount ad	ded to the Spike	
Rec	Amount of the true value or	spike added recovered,	, in % (except for LC	SS, mg/Kg)
RPD	Relative Percent Difference	e, calculation used for Du	uplicate QC Types	
Upper	Upper Recovery Limit, in %	<ul> <li>(except for LCSS, mg/l</li> </ul>	Kg)	
UCL	Upper Control Limit			
Sample	Value of the Sample of inte			
Sample Ty	0es	t parts		
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
	Laboratory Fortified Blank pe Explanations		PBW	Prep Blank - Water
	pe Explanations	erifies that there is no or		Prep Blank - Water
Sample Ty	pe Explanations Ve	erifies that there is no or erifies the accuracy of th	minimal contaminati	ion in the prep method procedure.
Sample Ty Blanks	pe Explanations Ve nples Ve		minimal contaminati e method, including	ion in the prep method procedure. the prep procedure.
Sample Ty Blanks Control Sar Duplicates Spikes/Fort	pe Explanations Ve nples Ve Ve ified Matrix De	erifies the accuracy of the	minimal contaminati e method, including e instrument and/or	ion in the prep method procedure. the prep procedure. method. y.
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REPIN03.11.00.01

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# 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.
		Toluené	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.



(800) 334-5493



#### **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				L57332 23/2006 23/2006		
Receipt Verification						
		YES	NO	NA		
1) Does this project require special handling procedures such as CLP protocol?				<b>X</b> ·		
2) Are the custody seals on the cooler intact?		Х				
3) Are the custody seals on the sample containers intact?				Х		
4) Is there a Chain of Custody or other directive shipping papers present?		Х				
5) Is the Chain of Custody complete?		Х				
6) Is the Chain of Custody in agreement with the samples received?		Х				
7) Is there enough sample for all requested analyses?		Х				
8) Are all samples within holding times for requested analyses?		Х				
9) Were all sample containers received intact?		Х				
10) Are the temperature blanks present?				Х		
11) Are the trip blanks (VOA and/or Cyanide) present?				Х		
12) Are samples requiring no headspace, headspace free?		Х	•			
13) Do the samples that require a Foreign Soils Permit have one?			· · · · ·	Х		

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
	-	<u> </u>	

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

# Notes

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

## **Burlington Resources, Inc.**

JOHNSTON FEDERAL #4

# Sample Receipt

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	0<2	T >12	N/A	RAD	ID	
L57332-01	JOHNSTON FEDERAL MW1	1				1		1		Х	<u> </u>		
Sample Co	ontainer Preservation Lege	nd					6					lienia	
Abbreviatio	on Description	Contai	ner Typ	e Pre	servat	ive/Lim	its						
R	Raw/Nitric	RED		pН	must be	< 2							
В	Filtered/Sulfuric	BLUE	BLUE		pH must be < 2								
ВК	Filtered/Nitric	BLACK	BLACK		pH must be < 2								
G	Filtered/Nitric	GREEN		pН	pH must be < 2								
0	Raw/Sulfuric	ORANG	θE	pН	pH must be < 2.								
Р	Raw/NaOH	PURPLE	Ξ	ρH	must be	> 12 *							
Т	Raw/NaOH Zinc Acetate	TAN		pН	must be	> 12							
Y .	Raw/Sulfuric	YELLO	W	pН	must be	< 2							
YG	Raw/Sulfuric	YELLO	W GLAS	S pH	must be	< 2							
N/A	No preservative needed	Not app	licable							,			
RAD	Gamma/Beta dose rate	Not app	licable	mu	st be < 2	250 µR/h	r						

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By:

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ACZ Labor	ratories,	Inc.						CHA	AIN o	of Cl	JST	DDY
2773 Downhill Drive Steamboat Spi	ings, CO 80487	(800) 334-5	5493									
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s Indicated, ACZ will proceed with	n the requested a	analyses, e	ven if H									فعيني
PROJECT INFORMATION				AN.	ALYSES I	5 REQU	ESTED	attach	list or u	se quo	te num	oer)
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REMARKS												
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Please re	efer to ACZ's ter	rms & con	ditions le	ocated	on the	reverse	e side of	f this C	OC.			
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FRMAD050.03.05.02	White - Return v	with sample.	. Yella	w - Ret	ain for y	our reco	ords.					
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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.





L60375: Page 1 of 8

REPAD.01.06.05.01

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

#### **Burlington Resources, Inc.**

Project ID: JOHNSTON FEDERAL 4 Sample ID: JOHNSTON FEDERAL 4 M

# Organic Analytical Results

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	L 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	* ˈug/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



3 Downhill I	Laboratories, Inc. Drive Steamboat Springs, CO 80487 (800) 334	-5493	Reference
	Explanations		
Batch	A distinct set of samples analyzed at a specific	A second se	
Found	Value of the QC Type of interest	anic	
Limit	Upper limit for RPD, in %.		
Lower	Lower Recovery Limit, in % (except for LCSS,	ma/Ka)	
LCL	Lower Control Limit	ing/itg/	
MDL	Method Detection Limit. Same as Minimum Re	porting Limit Allows for	instrument and annual fluctuations
PCN/SCN	A number assigned to reagents/standards to tra		
PQL	Practical Quantitation Limit		
QC	True Value of the Control Sample or the amour	nt added to the Spike	·
Rec	Amount of the true value or spike added recover		SS. ma/Ka)
RPD	Relative Percent Difference, calculation used for		
Upper	Upper Recovery Limit, in % (except for LCSS,		
UCL	Upper Control Limit	5 5, .	
Sample	Value of the Sample of interest		
Sample Ty			
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
Sample Ty	pe Explanations		
Blanks	Verifies that there is n	o or minimal contamination	on in the prep method procedure.
Control Sa	mples Verifies the accuracy	of the method, including t	he prep procedure.
Duplicates	Verifies the precision	of the instrument and/or r	nethod.
Spikes/For	tified Matrix Determines sample m	atrix interferences, if any	
Z Qualifiers	s (Qual)	· · · · · · ·	
В	Analyte detected in daily blank	<b>`</b>	
н	Analysis exceeded method hold time.		
J	Analyte concentration detected at a value betw	een MDL and PQL	· ,
R	Poor spike recovery accepted because the oth	er spike in the set fell with	nin the given limits.
Τ́	High Relative Percent Difference (RPD) accept	ed because sample conc	entrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the	e indicated MDL	
V .	I light blowly data apparent of bacause approximate app	centration is 10 times hig	her than blank concentration
W	High blank data accepted because sample con	-	
	Poor recovery for Silver quality control is accepted	-	
x	Poor recovery for Silver quality control is accept Quality contreol sample is out of control.	oted because Silver often	precipitates with Chloride.
x z	Poor recovery for Silver quality control is accept	oted because Silver often	precipitates with Chloride.
X Z P	Poor recovery for Silver quality control is accept Quality control sample is out of control. Poor spike recovery is accepted because samp Analyte concentration differs from second deter	oted because Silver often ble concentration is four ti ctor by more than 40%.	precipitates with Chloride. mes greater than spike concentration.
X Z P E	Poor recovery for Silver quality control is accept Quality contreol sample is out of control. Poor spike recovery is accepted because samp	oted because Silver often ble concentration is four ti ctor by more than 40%.	precipitates with Chloride. mes greater than spike concentration.
X Z P E M	Poor recovery for Silver quality control is accept Quality control sample is out of control. Poor spike recovery is accepted because samp Analyte concentration differs from second dete Analyte concentration is estimated due to result Analyte concentration is estimated due to matr	oted because Silver often ole concentration is four ti ctor by more than 40%. It exceeding calibration ra ix interferences.	precipitates with Chloride. mes greater than spike concentration.
X Z P E M thod Refere	Poor recovery for Silver quality control is accept Quality contreol sample is out of control. Poor spike recovery is accepted because samp Analyte concentration differs from second dete Analyte concentration is estimated due to result Analyte concentration is estimated due to matr ences	oted because Silver often ole concentration is four ti ctor by more than 40%. It exceeding calibration ra ix interferences.	precipitates with Chloride. mes greater than spike concentration. nge.
X Z P E M thod Refere	Poor recovery for Silver quality control is accept Quality control sample is out of control. Poor spike recovery is accepted because samp Analyte concentration differs from second dete Analyte concentration is estimated due to result Analyte concentration is estimated due to matrences EPA 600/4-83-020. Methods for Chemical Analyte	oted because Silver often ole concentration is four ti ctor by more than 40%. It exceeding calibration ra ix interferences.	precipitates with Chloride. mes greater than spike concentration. nge. s, March 1983.
X Z P E M thod Refere (1) (2)	Poor recovery for Silver quality control is accept Quality control sample is out of control. Poor spike recovery is accepted because samp Analyte concentration differs from second dete Analyte concentration is estimated due to result Analyte concentration is estimated due to matrences EPA 600/4-83-020. Methods for Chemical Ana EPA 600/4-90/020. Methods for the Determination	oted because Silver often ole concentration is four ti ctor by more than 40%. It exceeding calibration ra ix interferences.	precipitates with Chloride. mes greater than spike concentration. nge. s, March 1983. ids in Drinking Water (I), July 1990.
X Z P E M thod Reference (1) (2) (3)	Poor recovery for Silver quality control is accept Quality control sample is out of control. Poor spike recovery is accepted because samp Analyte concentration differs from second dete Analyte concentration is estimated due to result Analyte concentration is estimated due to matrences EPA 600/4-83-020. Methods for Chemical Ana EPA 600/4-90/020. Methods for the Determinate EPA 600/R-92/129. Methods for the Determinate	oted because Silver often ole concentration is four ti ctor by more than 40%. It exceeding calibration ra ix interferences.	precipitates with Chloride. mes greater than spike concentration. nge. es, March 1983. nds in Drinking Water (I), July 1990. nds in Drinking Water (II), July 1990.
X Z P E M thod Refere (1) (2) (3) (5)	Poor recovery for Silver quality control is accept Quality control sample is out of control. Poor spike recovery is accepted because samp Analyte concentration differs from second dete Analyte concentration is estimated due to result Analyte concentration is estimated due to matr <b>EPA 600/4-83-020</b> . Methods for Chemical Ana EPA 600/R-92/129. Methods for the Determinate EPA SW-846. Test Methods for Evaluating So	oted because Silver often ole concentration is four ti ctor by more than 40%. It exceeding calibration ra- ix interferences. Alysis of Water and Waste ation of Organic Compour ation of Organic Compour ation of Organic Compour	precipitates with Chloride. mes greater than spike concentration. nge. es, March 1983. eds in Drinking Water (I), July 1990. eds in Drinking Water (II), July 1990. vith Update III, December, 1996.
X Z P E M thod Reference (1) (2) (3) (5) (6)	Poor recovery for Silver quality control is accept Quality control sample is out of control. Poor spike recovery is accepted because samp Analyte concentration differs from second dete Analyte concentration is estimated due to result Analyte concentration is estimated due to matrences EPA 600/4-83-020. Methods for Chemical Ana EPA 600/4-90/020. Methods for the Determinate EPA 600/R-92/129. Methods for the Determinate	oted because Silver often ole concentration is four ti ctor by more than 40%. It exceeding calibration ra- ix interferences. Alysis of Water and Waste ation of Organic Compour ation of Organic Compour ation of Organic Compour	precipitates with Chloride. mes greater than spike concentration. nge. es, March 1983. eds in Drinking Water (I), July 1990. eds in Drinking Water (II), July 1990. vith Update III, December, 1996.
X Z P E M thod Refere (1) (2) (3) (5) (6) mments	Poor recovery for Silver quality control is accept Quality control sample is out of control. Poor spike recovery is accepted because samp Analyte concentration differs from second dete Analyte concentration is estimated due to result Analyte concentration is estimated due to matrences EPA 600/4-83-020. Methods for Chemical Ana EPA 600/4-90/020. Methods for the Determina EPA 600/R-92/129. Methods for the Determina EPA SW-846. Test Methods for Evaluating So Standard Methods for the Examination of Wate	oted because Silver often ole concentration is four ti ctor by more than 40%. It exceeding calibration ra ix interferences. Alysis of Water and Waste ation of Organic Compour ation of Organic Compour	precipitates with Chloride. mes greater than spike concentration. nge. es, March 1983. eds in Drinking Water (I), July 1990. eds in Drinking Water (II), July 1990. with Update III, December, 1996. edition, 1995.
X Z P E M thod Reference (1) (2) (3) (5) (6)	Poor recovery for Silver quality control is accept Quality control sample is out of control. Poor spike recovery is accepted because samp Analyte concentration differs from second dete Analyte concentration is estimated due to result Analyte concentration is estimated due to matr <b>EPA 600/4-83-020</b> . Methods for Chemical Ana EPA 600/R-92/129. Methods for the Determinate EPA SW-846. Test Methods for Evaluating So	oted because Silver often ole concentration is four ti ctor by more than 40%. It exceeding calibration ra- ix interferences. Alysis of Water and Waste ation of Organic Compour ation of Organic Compour did Waste, Third Edition we ar and Wastewater, 19th e may vary slightly if the rou	precipitates with Chloride. mes greater than spike concentration. nge. es, March 1983. eds in Drinking Water (I), July 1990. eds in Drinking Water (II), July 1990. with Update III, December, 1996. edition, 1995.

REPIN03.11.00.01

Organic

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

#### **Burlington Resources, Inc.**

Organic Extended Qualifier Report

ACZ Project ID: L60375

ACZ ID	WORKNUM	PARAMETER	METHOD	UAL	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.



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#### **Burlington Resources, Inc.**

ACZ Project ID: L60375

No certification qualifiers associated with this analysis

REPAD.05.06.05.01

L60375: Page 5 of 8

ACZ Laboratories, Inc. 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493		imple eceipt
Burlington Resources, Inc. JOHNSTON FEDERAL 4	ACZ Project ID: Date Received:	L60375 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
<ul><li>2) Are the custody seals on the cooler intact?</li><li>3) Are the custody seals on the sample containers intact?</li></ul>		X
<ul><li>4) Is there a Chain of Custody or other directive shipping papers present?</li></ul>		^
5) Is the Chain of Custody complete?	X	the second s
6) Is the Chain of Custody in agreement with the samples received?	X	
7) Is there enough sample for all requested analyses?	Х	
8) Are all samples within holding times for requested analyses?	X	•
9) Were all sample containers received intact?	X	and the second
10) Are the temperature blanks present?		X
11) Are the trip blanks (VOA and/or Cyanide) present?		Х
12) Are samples requiring no headspace, headspace free?	X	
13) Do the samples that require a Foreign Soils Permit have one?		X

N/A

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

N/A

Shipping Conta	iners	za da na serie da se Norma da serie da seri Norma da serie da ser				and the second se
Cooler Id	Temp (°C)	Rad (µR/hr)	Client must c	contact ACZ Project Man	ager if analysis should r	not proceed for
1244	5.9	22		eived outside of thermal		
Notes						

	ACZ Laboratories, Inc. 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493								Sample Receipt				
Burlington Resources, Inc. JOHNSTON FEDERAL 4									CZ Proj ate Rec Recei				.60375 4/2006
Sample C	ontainer Preservation							• Protes Spy	10.4 P		****		
SAMPLE	CLIENT ID	R < 2	G < 2	ВК <	2 Y<2	YG< 2	B< 2	0<2	T >12	N/A	RAD	ID	
L60375-01	JOHNSTON FEDERAL 4 M									X			
Sample C	ontainer Preservation Lege	nd			er og son Geboortene	in ng sin Sili Sat							
Abbreviati	on Description	Contai	ner Typ	be F	reservat	ive/Lim	its						
R	Raw/Nitric	RED		p	H must be	< 2							
В	Filtered/Sulfuric	BLUE		p	H must be	< 2							
ВК	Filtered/Nitric	BLACK		p	H must be	< 2							
G	Filtered/Nitric	GREEN		р	H must be	: < 2							
0	Raw/Sulfuric	ORANG	θE	p	H must be	< 2							
Р	Raw/NaOH	PURPLE	Ξ	p	H must be	> 12 *							
Т	Raw/NaOH Zinc Acetate	TAN		p	H must be	> 12							
Y	Raw/Sulfuric	YELLO	w	p	H must be	< 2							
YG	Raw/Sulfuric	YELLO	W GLAS	SS p	H must be	< 2							
N/A	No preservative needed	Not app	olicable										
RAD	Gamma/Beta dose rate	Not app	licable	n	nust be < 2	250 µR/h	r						

\* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By:

ACZ Laboratories, Inc. 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493		a	52	SF	5	СН	AIN	of C	UST	ODY	
Report to:			<u> </u>								
Name: Grega Wurtz	Δ	ddre	ee' F	30 1	42.8	a –					
Company: Bir lington Conoco Phillips	f	_			ton		Λ Ο	714	99		
E-mail: Quurtzo BR-inc. com			none:		<u>70 n</u> 5 32						
		erehi		50-	<u>, 2</u>	_0	733				
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Name: M N.C.	E	-mai	<u>: mj</u>	NO	lode	star	ser	Vice	<u>s. C</u> e	m	
Company: Lodestar Services	Τe	elept	none:	<u>505</u>	33	4 2	:79	1			
Invoice to:											
Name: G Wurtz	A	ddre	ss:								
Name: G Wurtz Company: as above											
E-mail:	Telephone:										
If sample(s) received past holding time (HT), or if insufficient HT				te				YES	~		
analysis before expiration, shall ACZ proceed with requested she	ort HT a	analy	ses?					NO		1 I	
If "NO" then ACZ will contact client for further instruction. If neit								•		}	
Is indicated, ACZ will proceed with the requested analyses, even PROJECT INFORMATION	h if HT is				will be a ESTED			1100-01-0		bor	
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Quote #:		rs	ズ								
Project/PO#: Johnston Federal 4		of Containers	BTEJ								
Reporting state for compliance testing:		onte									
Sampler's Name: ALA		ţČ	i E								
Are any samples NRC licensable material?	:	°#	8021B								
	atrix	3									
Johnsten Federal 4MULII21306 0938 G	n :	2	<b>√</b>								
			L								
		_									
Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) ·	· DW (Drii	nking	Water)	SL (Slud	ge) · SO (	Soil) · O	L (Oil) · C	other (Spe	acify)		
REMARKS											
* voas contain air bubbles -could no No preservative	ot e	lin	nina	k	5/2 0:	f pr	odu	<u>.</u> 4			
FedEX 847982594300					. • . • .						
Please refer to ACZ's terms & conditio		ited o			e side o /ED BY			A	TE:TIN	ΛE	
RELINQUISHED BY: DATE: TIME Ushley F Rgen 121306 153		1	$\Delta \Sigma$	E,		•		12.	<u>U.C</u>		
<u> </u>	<u> </u>								11.0	~ <del>~~</del>	
FRMAD050.03.05.02 White - Return with sample.	Yellow -	Reta	in for yo	our reco	rds.						

L60375: Page 8 of 8