3RP-173

GW monitoring report

DATE: 2004



San Juan Division

March 31, 2005

RECEIVED

Certified: 70993400001842167364

RECENTED

Glen Von Gonten

New Mexico Oil Conservation Division APR 06 2005

1220 South St. Francis Drive

Santa Fe, NM 87505

Oil Conservation Division

APR 00 2005

Environmental Bureau Oil Conservation Division

RE: 2004 Annual Groundwater Investigation and Remediation Reports

San Juan Basin, New Mexico

Environmental Bureau

Dear Mr. von Gonten:

As required in Burlington Resources approved Groundwater Investigation and Remediation Plan dated August, 1998, enclosed are the 2004 annual reports for Burlington's groundwater impact sites in the San Juan Basin. Separate reports are enclosed for the following locations:

3RP 66	Cozzens B#1
3RP 69	Hampton #4M
3NP 71	Johnson Federal #4 Metering Station
377173	Flora Vista (ENTER PRISE FIELD SUICES - FLORASCE VISTA #1
3RP 37	Marcotte Pool Unit #1 (Bum) 30-045-29466
	Sategna #2 (30-645-67974)

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:

Denny Foust - NMOCD Aztec

WFS - Mark Harvey (Cozzens B#1, Hampton #4M)

EPFS - Scott Pope (Johnson Fed. #4,) Facility and Correspondence Files

BURLINGTON RESOURCES 2004 ANNUAL GROUND THE REPORT

Marcotte Pool Unit 1

SITE DETAILS

Oil Conservation Division

Environmental Bureau

Location:

Unit Letter G, Section 08, Township 31N, Range 10W; San Juan County, New Mexico

Land Type:

Federal

2004 ACTIVITIES

Excavation was backfilled with clean fill. Monitoring well MW-1 was installed in an area central to the excavation.

2003 ACTIVITIES

Hydrocarbon impacted soil was discovered at Burlington Resources (BR) production location Marcotte Pool Unit 1 on 9/16/03. The impacted soil was discovered during excavation work to reset the production equipment. Remediation excavation and land treatment of impacted soils started 9/17/03.

The Marcotte Pool Unit #1 is located in the OCD determined vulnerable area. A second order ephemeral wash boarders the location approximately 30 yds. to the north. A seasonal irrigation ditch is located approximately 100 yds. to the west. The soils at the location area are mainly fine to coarse sands with minor amounts of cobbles and boulders. The ground water gradient is approximately west/southwest parallel to the adjacent stream coarse.

The attached facility maps (Attachment 1) display: 1) regional and general location layout; 2) perimeter of the excavation; 3) surface water features; 4) boring and well locations and 5) proposed source well MW-1 location.

The well has been producing oil and gas since Nov. 1953.

Soil Impacts

Approximately 3000 cubic yards of impacted soil was removed and land farmed on the adjacent Marcotte #2. Permission to landfarm was obtained from OCD and BLM (Attachment 2, BLM Sundry Notice). No soil was land farmed on the Marcotte Pool Unit 1 because of the limited area available on location. The land farmed soil will be tested to confirm soil is below OCD clean up standards and filled back into the excavation.

The vertical extent of contamination and the extent of the excavation was determined by the depth to ground water. Soils were excavated down to ground water at approximately 30 feet below grade. The vertical extent of contamination appears to stop at the ground water table. A black organic decaying gravel layer marks the extent of vertical soil impacts approximately 6 inch in depth above the water table. Soils below this layer were water saturated and no hydrocarbons were detected in the field. The horizontal extent of contamination was determined by the limits of the open excavation and four soil borings. Soil monitoring using a photo ionization detector was used for field-testing. Soil samples collected during soil

boring were using a split spoon sampler every 2.5 feet . The four soil borings were used to determine the northwest, west and southwest extent of contamination (Attachment 3). Soil samples collected from the sides of the excavation determined the horizontal extent on the north, northeast, and east sides of the location. An x-section of the soil contamination plume approximates the shape of a bell at depth with the top of the bell at the source of contamination , the old earth pit, and the bottom of the bell at the ground water surface. The contamination spread at depth to form the sides of the bell. The soil contamination spread furthest from the source directly above the water table (i.e., vadose zone). The soil borings, Boring 3 and Boring 4 were completed into downgradient monitoring wells, monitoring wells MW-2 and MW-3. An additional source well (MW-1) and soil borings are proposed and will be used to confirm the north, northeast and southeast limits of contamination. Production equipment and the lack of open space prevented the subsequent drilling to start until backfilling the excavation in 2004. Boring logs and well diagrams are provided for the work completed in 2003 (Attachment 4).

Ground Water Impacts

Observations of the water in the bottom of the open excavation showed minor free phase hydrocarbons during excavation activities. Water and oil was removed from the open excavation using a pump truck over a period of 2 months. Prior to backfilling the excavation no free phase hydrocarbons were visible on the water surface in the excavation.

The downgradient extent of the groundwater contamination was defined by the monitoring wells (MW-2 and MW-3) located down gradient of the excavation. These wells where first sampled in October 2003 for a general list of water quality parameters and BTEX and then subsequently for BTEX only. No constituents of concern were detected in the general or BTEX analysis (Attachment 5).

CONCLUSIONS

The analytical results of groundwater sampling in 2003 from the downgradient wells show that levels of benzene, toluene, ethylbenzene, total xylenes and general water quality parameters are below the New Mexico Groundwater Standards in all wells.

RECOMMENDATIONS

- Burlington Resources proposes to submit for closure. The wells MW-2 and MW-3 are below the standards in the last four quarters. The water quality in MW-1 has also been below the standards for the last two quarters.

· CDWIPDF on other

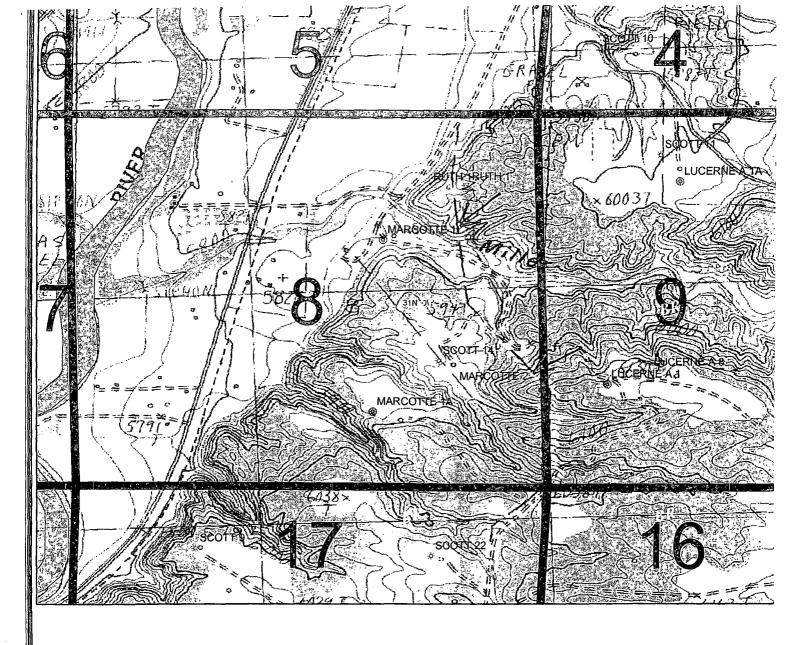
Attachments: Attachment 1 Site Maps

Attachment 2 BLM Sundry
Attachment 3 Soil sample analytical results
Attachment 4 Drilling Log/Wellbore Diagrams

Attachment 5 2003 Ground water sampling and analysis results

Attachment 1

Site maps

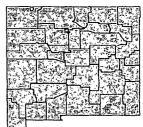


Legend

FRUITLAND COAL

- PICTURED CLIFFS
- **MESAVERDE**

MORRISON



BURLINGTON

1 " equals 5,690,862 ' GCS North American 1927

SPLAT

BURLINGTON RESOURCE

San Juan

MARCOTTE WELLS

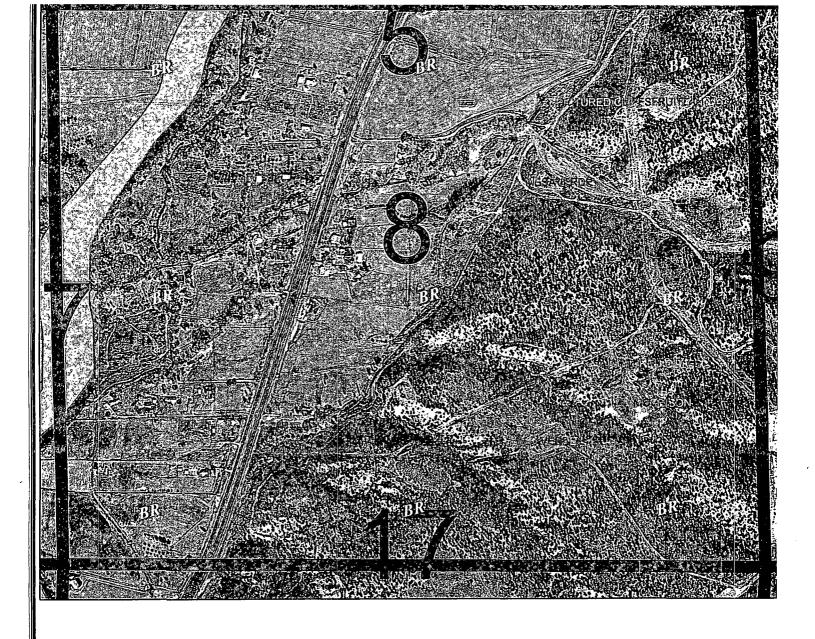
Prepared By: Alan Alexander

Date:

9/22/2003

Revised Date:

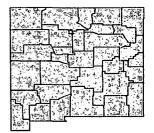
File MalatPublic\Projects\1 San Juan Basin Users\1 San Juan Basin U





- FRUITLAND COAL
- ♦ PICTURED CLIFFS
- MORRISON





BURLINGTON

o 275 550 1,100 1,650 2,200

GCS North American 1927



BURLINGTON RESOURCE

San Juan

MARCOTTE WELLS

Prepared By: Alan Alexander

Date:

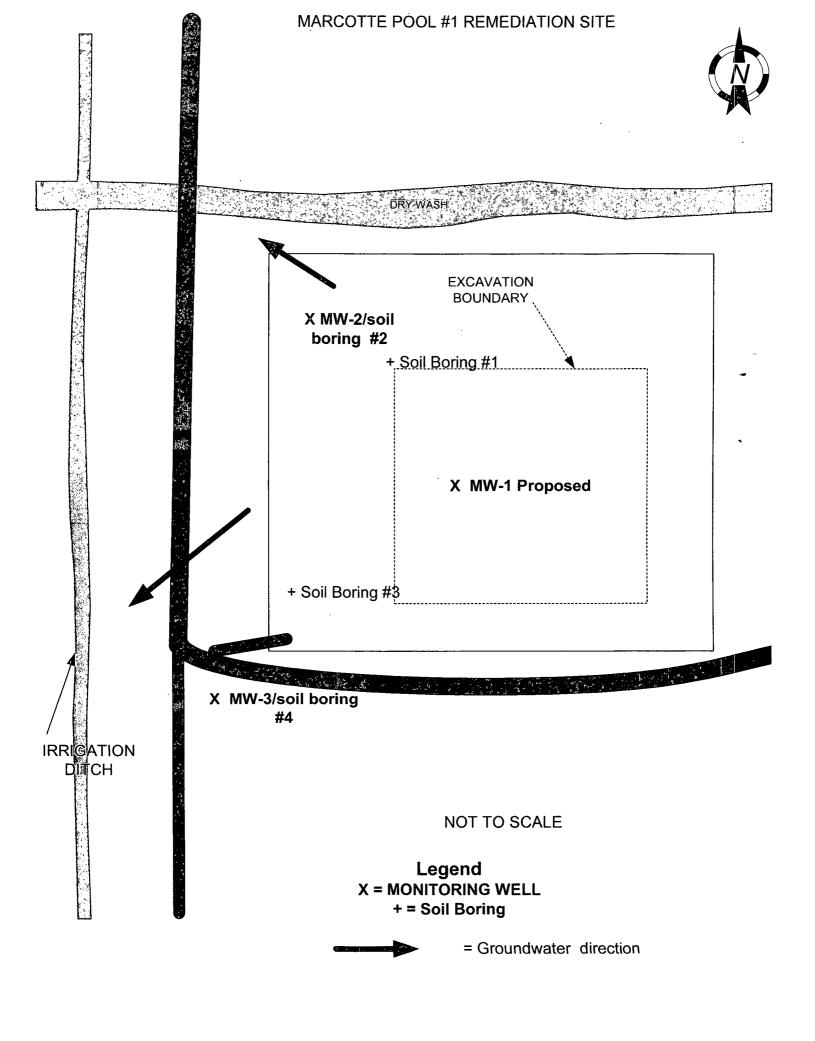
File Number:

Revised Date:

File NahaBPublic\Projects\1 San Juan Basin Users\1 San Juan Basin I

1) McEwenGasCom.(M) Marcotte Gas Com.(M)		Sc
(AMOCO) (AMOCO) (NM 9180, NM 9182 81,85 MOI (PM)E/2 AMOCO (F) 1	+ / /	
AMOCO(PM)W/2 $Boyd G.C.C(P)$	1	Ĺ
2 39.74 1 39.61 NM 375 14	8	Z
3/AMOCO Ruth (F) Boyd G.C. B'(P) Boyd G.C. (M) A1.04 Ruth (F) Marcotte (PM) E/2 4 39.76 5 39.63	· · · · · · · · · · · · · · · · · · ·	
NIN / A O O O O O O O O O O O O O O O O O O		

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Attachment 2

BLM Sundry

submitted in lieu of Form 3160-5

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

Sundry Not:	ices and Reports on Wel	ls	
		5.	Lease Number
1. Type of Well GAS		6.	
2. Name of Operator		7.	Unit Agreement Name
BURLINGTON RESOURCES OIL & GAS	COMPANY		
3. Address & Phone No. of Operat	or	8.	Well Name & Number Marcotte #2
PO Box 4289, Farmington, NM		9.	
4. Location of Well, Footage, Se 1540'FSL, 935'FEL, Sec.8, T-3		10.	Field and Pool Wildcat Morrison
1510 182, 555 122, 55510, 1		11.	County and State San Juan Co, NM
12. CHECK APPROPRIATE BOX TO INI	TCATE NATURE OF NOTICE	REPORT OTHER	DATA
Type of Submission	Type of Act		DATA
X Notice of Intent	Abandonment	Change of Pla	
a la constant Barrant		New Construct	
Subsequent Report	Plugging Back Casing Repair	Non-Routine : Water Shut o	fracturing
Final Abandonment	Altering Casing _X_ Other -	Conversion to	o Injection
Attn: Ray Sanchez It is intended to move impa Background: The Marcotte #1 and the Mar The wells share the same sp Work start date 9/22/03 The duration of the soil be The impacted soils will be Marcotte #1. The soils will be transport starting 9/22/03. Landfarm every 2 weeks. The We will conduct the Landfar regulations. Soils will be land farmed o soil Upon successful remediation at the Marcotte #1 or a sui Approximate amount of soils	cotted soil from the Marcotte #2 are in the same acing unit and are on feeting placed on the Marcotte generated from a soil remed within two weeks acrost area used for landfarming operations in according to be moved to the Marcotte be moved to the Marcotte with the excavated soils will table environmentally approximately a	Mesaverde spacine land te #2 is a maximmediation excava ss gravel/soil or ng will be ½ to dance with applithe natural remed the proved use will otte #2 is 1000-	ng unit. um of 1 year tion activity at the il and gas lease roads 1 acre. cable OCD and BLM iation of the impacted the original excavation be determined.
14. I hereby certify that the			
Signed Tammy Winner		latory Speciali	st_Date 9/22/03
(This space for Federal or State	e Office use) Title	Date	
APPROVED BY CONDITION OF APPROVAL, if any:	11016	Date	· · · · · · · · · · · · · · · · · · ·

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Attachment 3

Soil Sample Analytical Results



2709-D Pan American Freeway NE Albuquerque, New Mexico 87107 Phone (505) 344-3777 Fax (505) 344-4413

Pinnacle Lab ID number October 23, 2003

310026

MARTIN NEE 26 CR 3500

FLORA VISTA,

NM 87415

BURLINGTON RESOURCES

P.O. BOX 4289

FARMINGTON.

NM

87499

Project Name

MARCOTE POOL

Project Number

(NONE)

Attention:

MARTIN NEE/GREGG WURTZ

On 10/02/03 Pinnacle Laboratories Inc., (ADHS Lincense No. AZ0643), received a request to analyze non-aq samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

H. Mitchell Rubenstein, Ph.D.

General Manager, Pinnacle Laboratories, Inc.

MR: jt

Enclosure





Printed: 10/23/03; 2:14 PM

LIENT	: MARTIN NEE	PINNACLE ID	: 310026
ROJECT#	: (NONE)	DATE RECEIVED	: 10/02/03
ROJECT NAME	: MARCOTE POOL	REPORT DATE	: 10/23/03
INNACLE			DATE
ID#	CLIENT DESCRIPTION	MATRIX	COLLECTED
10026 - 01	MARCOTE BH-1, 28.5'-29'	NON-AQ	09/30/03
10026 - 02	MARCOTE BH-2, 33'-35'	NON-AQ	09/30/03
10026 - 03	MARCOTE BH-3, 26'-28'	NON-AQ	09/30/03
10026 - 04	MARCOTE BH-4, 25'-27'	NON-AQ	10/01/03

Confidential File: '310026 BUR; COVEREP





GAS CHROMATOGRAPHY RESULTS

EST

: EPA 8021B MODIFIED / 8015B GRO

LIENT

: MARTIN NEE

PINNACLE I.D.: 310026

ROJECT#

: (NONE)

ANALYST : BP

ROJECT NAME

: MARCOTE POOL

	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							
AMPLE				DATE	DATE	DATE	DIL.	_
).#	CLIENT I.D.		MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR	
1	MARCOTE BH-1	, 28.5'-29'	NON-AQ	09/30/03	10/07/03	10/09/03	1	
2	MARCOTE BH-2	, 33'-35'	NON-AQ	09/30/03	10/07/03	10/09/03	2	
3	MARCOTE BH-3	, 26'-28'	NON-AQ	09/30/03	10/07/03	10/08/03	1	
ARAMETE	R	DET. LIMIT	UN	IITS	MARCOTE BH- 1, 28.5'-29'	MARCOTE BH- 2, 33'-35'	MARCOTE BH- 3, 26'-28'	
JEL HYDR	OCARBONS	10	MG	/KG	< 10	79	< 10	_
YDROCAR	BON RANGE				C6-C10	C6-C10	C6-C10	
YDROCAR	RBONS QUANTIT	ATED USING			GASOLINE	GASOLINE	GASOLINE	
ENZENE		0.025	MG	s/KG	< 0.025	< 0.050	< 0.025	
DLUENE		0.025	MG	s/KG	< 0.025	< 0.050	< 0.025	
THYLBEN	ZENE	0.025	MG	/KG	< 0.025	0.37	< 0.025	
OTAL XYL	ENES	0.050	MG	i/KG	< 0.050	1.7	< 0.050	
JRROGAT	· E:							
ROMOFLU	OROBENZENE (%)			90	113	86	
JRROGAT	E LIMITS	(65 - 120)						

HEMIST NOTES:

Α





GAS CHROMATOGRAPHY RESULTS

EST

: EPA 8021B MODIFIED / 8015B GRO

LIENT

: MARTIN NEE

PINNACLE I.D.: 310026

ROJECT#

: (NONE)

ANALYST : BP

ROJECT NAME

: MARCOTE POOL

AMPLE				DATE	DATE	DATE	DIL.	-
).#	CLIENT I.D.		MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR	
1	MARCOTE BH-4	, 25'-27'	NON-AQ	10/01/03	10/07/03	10/08/03	1	
ARAME	TER	DET. LIMIT	4U	NITS	MARCOTE BH- 4, 25'-27'		-	•
JEL HYI	DROCARBONS	10	MG	3/KG	< 10			
YDROC.	ARBON RANGE				C6-C10			
YDROC.	ARBONS QUANTITA	ATED USING			GASOLINE		•	
ENZENE	<u> </u>	0.025	Mo	G/KG	< 0.025			
DLUENE	=	0.025	MG	9/KG	< 0.025			
THYLBE	ENZENE	0.025	MG	9/KG	< 0.025			
OTAL X	YLENES	0.050	MG	9/KG	< 0.050			
JRROG	ATE:							
ROMOF	LUOROBENZENE (%)			92			•
IDDAG	ATELIMITO	(65 120)						

JRROGATE LIMITS

(65 - 120)

HEMIST NOTES:

Attachment 4 Drilling Log/Wellbore Diagrams

WELL DEVELOPMENT AND SAMPLING LOG Project No.:30003.0 Project Name: Burlington Marcote 1____ Client: Burlington Resources Well No: MW-2 Location: Marcote Pool Unit 1 Development Sampling Project Manager MJN Date___10/6/03 Start Time 1541 Weather sunny 80s Depth to Water 28.76 Depth to Product na Product Thickness na Measuring Point TOC Water Column Height 10.09 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 Water Volume in Well Gallons Gal/ft x ft of water Gal/oz to be removed Ounces 10.09 x .16 1.61 x 3 4.84 SC Temp ORP D.O. **Turbidity** Vol Evac. Comments/ Time pΗ (millivolts) (umhos/cm) (°C) Flow rate (military) (su) (ma/L) (NTU) (gal.) 1607 19.6 7.47 2400 1 Silty, brown 7.46 18.0 2250 2 Silty, brown 7.39 2260 17.4 3 Silty, brown 7.36 2240 17.9 Silty, brown 7.48 17.6 2260 Silty, brown 1624 Final: Ferrous SC Eh-ORP D.O. Vol Evac. Time pΗ Temp **Turbidity** iron Comments/Flow Rate 7.48 2260 17.6 1624 Silty, brown **COMMENTS:** INSTRUMENTATION: pH Meter X Temperature Meter x **DO Monitor** Other Conductivity Meter X Water Disposal onsite Sample ID Marcote 1 MW-2 Sample Time 1630 BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total Phosphorus

BD Name/Time_____ TB____

MS/MSD____

BD_____

WELL DEVELOPMENT AND SAMPLING LOG

······································							multe		
Project No	-30001	n		Project	: Name: <u>Bu</u>	*	V		ent: Burlington Resources
-			nit 1	-			vista		velopment Sampling
Location: Marcote Pool Unit 1 Well No: MW-3 Development Sampling Project Manager MJN Date 10/6/03 Start Time 1458 Weather sunny 80s									
•	_								
· -						Product I	nickness	na Me	easuring Point TOC
Water Colu	ımn Hei	ght <u>8.</u>	28 Wel	I Dia	2"				·
									
Sampling I	Method:	Subme	rsible Pun	ıp □	Centrifuga	al Pump 🗀] Peristal	tic Pump 🗀] Other □
		Bottom	Valve Bai	iler x	Double Ch	neck Valve	Bailer 🗆	Stainless-S	steel Kemmerer
Criteria:	3 to 5 Ca	sing Vo	lumes of \	Water Rem	oval X sta	bilization of	f Indicator F	Parameters	X Other
			Γ		Water Volu	me in Well			
Gai/ft	x ft of w	ater		Gallons			Ounces		Gal/oz to be removed
	28 x .16			1.32 x 3					3.79
			<u></u>						
			···						
Time	рH		SC	Temp	ORP	D.O.	Turbidity		1
(military)	(su)	(um	hos/cm)	(°C)	(millivolts) (mg/L)	(NTU)	(gal.)	Flow rate
1507	7.16		2230	19.1				0.5	muddy, brown, very good flow to well
·	7.26		2150	18.4	V - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -			1	muddy, brown, very good flow to well
	7.31		2130	17.9				1.5	muddy, brown, very good flow to well
	7.17	•	2270	18.0				5	muddy, brown, very good flow to well
	7.38		2220	17.4	***************************************			10	muddy, brown, very good flow to well
,	7.48	;	2240	17.1				15	muddy, brown, very good flow to well
<u>1603</u>	7.38		2390	17.3				20	muddy, brown, very good flow to well
1617	7.42	:	2330	17.3				30	muddy, brown, very good flow to well
									
			······································		•	···········	·		
Final:			T			***************************************	Ferrous	<u> </u>	
	рН	sc	Temp	Eh-ORP	D.O	Turbidity	Iron	Vol Evac.	Comments/Flow Rate
1617	7.42	2330	17.3					30	muddy, brown, very good flow to well
		****			طيح سيد	· · · · · · · · · · · · · · · · · · ·	 		<u> </u>
COMMEN	TS:								
INOTOLISA		ON							
INSTRUMENTATION: pH Meter X Temperature Meter x									
		Condu	DO Mo ctivity Me				_ Oth	er	
Water Dis	osal d		•				- Sar	nple Time_	na
·			•		ns Nitrate	Nitrite An	-		C Metals Total Phosphorus
MS/MSD			BU		Ð	D Name/Ti	mo		TD

Borehole 1

T	-4	Somicae	1

•	Page 1 of 1	
PO Box 3681	rage 1 01 1	
Farmington, New Mexico 87499	Project Name Burlington Resources Marcote Pool Unit 1	
(505) 334-2791	Project Number 30003 Phase	
	Project Location 1 mile south of Dutchman's Hill transfer	
•	station	
Elevation	Well Logged By M Nee	
Borehole Location WNW of former pit	Personnel On-Site R Thompson, Tony	
GWL Depth -29	Contractors On-Site Terracon	
Logged By MJN	Client Personnel On-Site G Wurtz	
Drilled By Terracon		
Date/Time Started 9/30/2003 0800 hrs	Drilling Method Mobile B59 Hollow Stem Auger	
Date/Time Completed 9/30/2003 1043 hrs	Air Monitoring Method Photo Vac 2020	

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)		Monitor Inits: NE BH	-	Drilling Conditions & Blow Counts
E		Split spoon	0-13 ' Sand, Moderate Yellow Brown, Sand is fine to medium grained, poorly sorted, unconsolidated.			0			
F 5	3-5	12							
	6-7	14							
 	7-9	16							
10	9-11	16	minor gravel and cobble in sample at 10.5-						
	11-13	16	12.5						
15	13-15	18	13-25' Sand, moderate yellow brown, very fine, minor small <1" silt stringers,	İ					
	15-17	20	moderate sorted, unconsolidated. Minor silt 16-17'						
	17-19	20	Sitt 10-17						
20	19-21	24							
	21-23	24							
25	23-25	20							
	25-27	16	25-28.5 Sand, coarse, minor gravel, well sorted, moisture increasing, saturated at						
	27-29	· 12	28' 28.5-30.0 Silty clay lense, black						
30	29-31	12	30-31, Gravel, black, saturated, with						
			cobbles			0			Refusal in cobbles/gravel
35			TD 31'						51
40									

Comments:

Geologist Signature)		

Borehole 2

In	doctor	Services	Inc
LU	uestar	Dervices	. HRC

PO Box 3681		
Farmington, New Mexico 87499	Project Name Bu	urlington Resources Marcote Pool Unit 1
(505) 334-2791	Project Number	30003 Phase
	Project Location 1	mile south of Dutchman's Hill transfer
	st	ation
Elevation	Well Logged By	M Nee
Borehole Location West of former pit	Personnel On-Site	R Thompson, Tony
GWL Depth -33	Contractors On-Site	Terracon
Logged By MJN	Client Personnel On-Sit	e G Wurtz
Drilled By Terracon		
Date/Time Started 9/30/2003 1116 hrs	Drilling Method Me	obile B59 Hollow Stem Auger
Date/Time Completed 9/30/2003 1340 hrs	Air Monitoring Method	Photo Vac 2020

Depth (Feet)	Sample Interval	Sample Type & Recovery (%)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	ľ	r Monito Jnits: NE BH		Drilling Conditions & Blow Counts
		Split spoon	0-23' Sand moderate yellow brown, coarse to fine moderately sorted, unconsolidated, minor cobble/gravel.			0			
5									
15									
20									
	23·25 25·27 27·29		27-29' fine-very fine sand, unconsolidated, well sorted. 27-29, clay, then very fine sand for 1" then into brown stiff clay to 36', some black marbleing 28.5-29						
30	29-31 31-33 33-35	100	30-31, Gravel, black, saturated, with cobbles			0		465 582	
35	35-35	100	36-36.5, coarse sand, saturated, black, well sorted, unconsolidated. 36.5-37, clay TD-37					2750 0	

Comments:	Borehole logged on	cutting returns from 0-23	3 feet beneath ground surface
-----------	--------------------	---------------------------	-------------------------------

Geologist Signature		

Borehole 3, MW-3

I ode	star :	Servi	COC	Inc

		Page 1 of 1
PO Box 3681		
Farmington, New Mexico 87499	Project Name	Burlington Resources Marcote Pool Unit 1
(505) 334-2791	Project Number	30003 Phase
	Project Location	1 mile south of Dutchman's Hill transfer
		station
Elevation	Well Logged By	M Nee
Borehole Location West of BH-2	Personnel On-Site	R Thompson, Tony
GWL Depth 27.1	Contractors On-Site	Terracon
Logged By MJN	Client Personnel On-	-Site G Wurtz
Drilled By Terracon		
Date/Time Started 9/30/2003 1359 hrs	Drilling Method	Mobile B59 Hollow Stem Auger
Date/Time Completed 9/30/2003 1730 hrs	Air Monitoring Metho	od Photo Vac 2020

Depth (Feet)	Sample Interval	Sample Type & Recovery (%)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)		Air Monitoring Units: NDU BZ BH S		Units: NDU		Drilling Conditions & Blow Counts
5 10 15		Split spoon	0-34' Sand moderate yellow brown, fine to medium grains, moderately well sorted, unconsolidated.			0					
20	20·22 22·24	95 95				0		0			
25	24-26 26-28 28-30	95 85 90	Saturated at 27.5			0 0		0 1.9			
35			34-37 Cobbles						34-37 rough drilling, cobbles		
40			TD- 3 7						34-37 rough drilling, cobbles Refusal at 37'		

Comments:

Borehole logged on cutting returns from 0-20 and 30-37 feet beneath ground surface. Groundwater at 27.1' beneath ground surface at 1600 hrs.

Geologist Signature	e		

Borehole 4, MW-2

I adact	Car	moi ana	· Inc

			Page	1 of 1
PO Box 3681				
Farmington, New Mexico 87499		Project Name	Burlington Resource	es Marcote Pool Unit 1
(505) 334-2791		Project Number	30003 Phas	e
		Project Location	1 mile south of Dute	chman's Hill transfer
`		\$	station	
Elevation		Well Logged By	M Nee	
Borehole Location North northwest of	pit.	Personnel On-Site	R Thompson,	Tony
GWL Depth 26.3		Contractors On-Site	Terracon	
Logged By MJN		Client Personnel On-S	Site G Wurtz	
Drilled By Terracon				
Date/Time Started 10/1/2003 082	20 hrs	Drilling Method	Mobile B59 Hollow	Stem Auger
Date/Time Completed 10/1/2003 160	00 hrs	Air Monitoring Method	d Photo Vac 20	20
Sample		Depth		
Denth Sample Type &	Sample Description	LICCC Litheless	Air Monitoring	Drilling Conditions

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	1	ir Monito Units: Ni BH	-	Dritting Conditions & Blow Counts
10		Split spoon	0-23.5' Sand, moderate yellow brown, fine to coarse grains, moderately sorted, unconsolidated.			0			
30	23-25 25-27 27-29	8 8	23.5-34 gravel/sand/cobble Saturated at 26.3 34-38.5 Clay, gray			0			Poor recovery due to cobbles cobbles/gravel/sand, saturated at bottom coarse sand, gravel, and cobbles in spoon. No cuttings beneath 34 feet. Lithology based on material on auger flights after retrevial
40			TD-38.5						

Comments:	borehole logged or	n cuttings from	0-23 feet.	Water level at	26 31 @ 100/

Geologist Signature	

MONITORING WELL INSTALLATION RECORD

Lodestar Services, Inc

PO Box 3861

Farmington, New Mexico 87499

(505) 334-2791

Elevation
Well Location
GWL Depth
West of fromer pit
26.30' beneath ground surface

Installed By Terracon

Date/Time Started
Date/Time Completed

10/1//03 0820 10/1/03 1600 Borehole # 3
Well # 3
Page 1 of 1

Project Name
Project Number
Project Number
Project Location
Project Location
On-Site Geologist
Personnel On-Site
Contractors On-Site
Client Personnel On-Site

Project Number

30003.0 Cost Code
I mi south of Dutchman's Hill transfer station
M. Nee
R. Thompson, Tony
Terracon
Client Personnel On-Site
C. Wurtz

Depths in Reference	to Ground Surface	_				
Item	Material	Depth (feet)	F	=	Top of Protective Casing	2.83
Top of Protective Casing	Flush to grade	2.83			Top of Riser	2.83
Bottom of Protective Casing	vault	-2.17	5 43 ·	320	Ground Surface	0.0
Top of Permanent Borehole Casing		na				
Bottom of Permanent Borehole Casing		na				
Top of Concrete	2 bags quickcrete	0.31				
Bottom of Concrete		0.0				
Top of Grout	5 96# bags portland	0.0	<u> </u>			
Bottom of Grout	with 5% bentonite chips	-16.33				
Top of Well Riser	2" flush threaded	2.83				
Bottom of Well Riser	schedule 40 pvc	-23.06			,	
Top of Well Screen	10 slot schedule 40	-23.06	000	ccc	Top of Seal	-16.33
Bottom of Well Screen	flush threaded pvc	-38.06		000		
Top of Peltonite Seal	1 bag 3/8 bentonite	-16.33	000	000		
Bottom of Peltonite Seal	chips	-18.67		cool	Top of Gravel Pack	-18.67
Top of Gravel Pack	8 #50 bags 10-20	-18.67	-	* 12 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Top of Screen	-23.06
Bottom of Gravel Pack	silica sand	-37.5	***			
Top of Natural Cave-In		-37.5	2.0			
Bottom of Natural Cave-In		-38.5]	-		
Top of Groundwater		-30.74		less of	Bottom of Screen	-38.06
Total Depth of Borehole		-38.5			Bottom of Borehole	-38.5

Comments:	Water level is 30.74 ben	eath top of casing	
			 ······································

Geologist Signature

MONITORING WELL INSTALLATION RECORD

Lodestar Services, Inc

PO Box 3861

Farmington, New Mexico 87499

(505) 334-2791

Elevation

Well Location GWL Depth North northwest of former pit 27.00' beneath ground surface

Installed By Terracon

Date/Time Started
Date/Time Completed

9/30//03 0800 9/30//03 1730 | Borehole # 4 | Well # 2 | Page 1 | of 1

Project Name
Project Number
Project Location
On-Site Geologist
Personnel On-Site
Project Name
Burlington Resources Flora Vista 1
30003.0 Cost Code
1 mi south of Dutchman's Hill transfer station
M. Nee
Personnel On-Site
R. Thompson, Tony

Contractors On-Site R. Thompson, Tony

Contractors On-Site G. Wurtz

Depths in Reference	to Ground Surface					
Item	Material	Depth (feet)		=	Top of Protective Casing	2.67
Top of Protective Casing	Flush to grade	2.67		41	Top of Riser	2.67
Bottom of Protective Casing	vault	-2.33		3.6 %	Ground Surface	0.0
Top of Permanent Borehole Casing		na				3
Bottom of Permanent Borehole Casing		na				
Top of Concrete	2 bags quickcrete	0.31]	1 1		
Bottom of Concrete		0.0]]]	1 1		
Top of Grout	5 96# bags portland	0.0]]]	1 1		
Bottom of Grout	with 5% bentonite chips	-12.75]		
Top of Well Riser	2" flush threaded	2.67				4
Bottom of Well Riser	schedule 40 pvc	-22.04	<u> </u>	1 1		1
Top of Well Screen	10 slot schedule 40	-22.04	000	ccd	Top of Seal	-14.6
Bottom of Well Screen	flush threaded pvc	-37.04	000	000		
Top of Peltonite Seal	1 bag 3/8 bentonite	-14.60	000	000		
Bottom of Peltonite Seal	chips	-17.60		 000	Top of Gravel Pack	-17.6
Top of Gravel Pack	9.5 #50 bags 10-20	-17.60		-	Top of Screen	-22.04
Bottom of Gravel Pack	silica sand	-34.25] [
Top of Natural Cave-In		-34.25		3 - 1		Ļ
Bottom of Natural Cave-In		-37.00] k	-		
Top of Groundwater		-27.00			Bottom of Screen	-37.04
Total Depth of Borehole		-37.04		200	Bottom of Borehole	-37.04

Comments:	water level is 28.76 beneath top of	casing	
		Geologist Signature	

Attachment 5

2003 Ground water sampling and analysis results

Table 1 Marcot Pool Unit 1

Groundwater Monitoring Well Sampling

		Sample	В	⊢	ш	×	BTEX	DTW (1)	BTEX DTW (1) Comments
Well Name	MW#	Date	(qdd)	(qdd)	(qdd)	(ppb)	(ppb)	(ft)	
Standard			10	750	220	620			
Marcote Pool Unit 1	-1	Well not ins	talled open	alled open excavation:					
Well installed		9/29/2004		**************************************		37.9	8.25	23.2	Clear, Gray, Silty
		eeS.		eneral wate	attached general water quality analysis for 3rd qtr	alysis for 3r	d'gtr. 🧢 🕆		
		12/13/2004	ି 0.4		0.7.1	. 20.2		~23.67	Grey
	2	10/6/2003	n	U	Π	n	n	29.71	muddy brn, very good well flow
		12/16/2003	0.4J	U	n	U	0.4J	30.09	Brown muddy
	24 To 1 34	3/15/2004	· 0.4J	030 s		0.2	₹ 0:0	30.62 Silty	Silty
	では、 一日 一日 日本				10 m		. 0	30:05	Silty
	Section Control of the Control			0.3J	. 0.3J	້ 0.9√	0.9		
		62.5	0.3J 🐦	7:3		11.2	. 13.1	29.88	Silty, Brown
	3	10/6/2003	n	0.23	n	Û	0.23	30.74	Silty, Brown
		12/16/2003	0.5J	U	n	N	0.5J	34.14	Silty Muddy
	100 mm	100		No Sar	No Sample Collected Dry	ed Dry	1000年		
				Ų	. · · · · ·	~ 0	. 0	36.62	Very Silty
		20.00		rz V		· · · · · · · · · · · · · · · · · · ·	. 0	~28.72	Brown
		12/13/2004	, n	0.3J	*> n **	1.6		32.35	🗽 32:35 🖄 Clear, Brown

J= Analyte concentration detected at a value between MDL and PQL (1) measured from top of casing

WELL DEVELOPMENT AND SAMPLING LOG

•	-		-			Client:_ <u>Burlir</u>			
						ment <u>Sam</u>		. 0720	Weather dear 40a
				th to Brodu					Weather clear 40s
•				l Dia		Product Thic	kness. <u>na</u>	<u> </u>	suring PointTOC
valer Colu	mm neign	۱ <u> </u>	<u> </u>	П DIa					
ampling M	lethod: S	ubmer	sible Pum	ıb 🗌	Centrifuç	gal Pump] Peristalt	ic Pump 🔲	Other
	В	ottom	Valve Bai	ler	1	Double Chec	k Valv⊡Bai	ler Stain	less-Steel Kemr⊡erer
Criteria: 3	to 5 Casi	ng Vol	umes of \	Water Rem	oval X st	abilization of	Indicator Page	arameters X	Other <u>or bail dry</u>
					Water Vo	lume in Well			
	x ft of wat	er		Gallons		-	Ounces		Gal/oz to be removed
8.2	23 x 0.16			1.34					4.03
Time	рН		SC	Temp	ORP	D.O.	Turbidity	Vol Evac.	Comments/
(military)	(su)	1	hos/cm)	(°F)	(millivolt		(NTU)	(gal)	Flow rate
819	8.05		1110	60.7				0.25	silty
	7.53		3570	58.8				0.50	
	7.45		3420	57.8				0.75	
	7.46		3510 	57.6				1,0	
	7.50		3500	57.3				2.0	
	7.44	3	3520	57.3				3.0	
			····						·
inal:			1		2400 1 m		Ferrous		······································
	oh s	C .	Temp	Eh-ORP	D.O.	Turbidity		Vol Evac.	Comments/Flow Rate
835	7.47	3500	57.4					4.0	silty
~ A A A C A I C	***************	holl:-	n down						
OMMENT	5: Well IS	palling	y down						
NSTRUME	NTATIO	V :	pH Meter	X		· · · · · · · · · · · · · · · · · · ·	Tem	perature Met	er x
			DO Mo				_ Othe	•	·
	C	Conduc	ctivity Met				_		
Vater Disp					e ID MW-2	2 Sample Ti	me <u>0835</u>		
TEX VO				, ,		•			
IS/MSD			BD_			BD Name/Ti	me		TB

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

Burlington Resources, Inc.

Analysis Method:

Project ID:

MISC GW SAMPLING

Sample ID:

MARCOTE MW-2

ACZ Sample ID:

L44968-01

Date Sampled:

03/15/04 8:35

Date Received:

03/17/04

Sample Matrix:

Ground Water

Benzene, Toluene, Ethylbenzene & Xylene

M8021B GC/PID

Analyst: jj

Extract Date:

03/26/04 14:29

L44968: Page 2 of 8

Analysis Date: 03/26/04 14:29

Extract Method: Method Dilution Factor:

Compound

Compound	CAS.≅	Result	QUAL	XO Units.	Mor	`E@F
Benzene	000071-43-2	0.4	J	* ug/L	0.3	1
Ethylbenzene	000100-41-4		U	ug/L	0.2	1
m p Xylene	01330 20 7		U	ug/L	0.4	2
o Xylene	00095-47- 6	0.2	J	ug/L	0.2	1
Toluene	000108-88-3	0.3	J	ug/L	0.2	1

Surrogate Recoveries

Suregate	e/AS	% Recovery t		ren	ngr .
Bromofluorobenzene	000460-00-4	96.3	%	83	117

WELL DEVELOPMENT AND SAMPLING LOG

Location:_M	arcote P	ool Unit 1	Well N	t Name: <u>Burli</u> lo: <u>MW-3</u> _3/15/04				Burlington Resources ment <u>Sampling</u> r_sunny 40s
Depth to Wa Water Colum	iter <u>n</u>	a Dep			Product Th	hickness <u>n</u>	a Measuri	ng Point <u>TOC</u>
	В	ubmersible Pun ottom Valve Bai	iler x	Double Che	eck Valve E	Bailer □ S	tainless-Steel k	Other Kemmerer Other: or bail dry
Gal/ft x	ft of wat	er	Gallons	Water Volum		Ounces	Ga	I/oz to be removed
Gai/it X	na	01	na			<u> Canooo</u>		na
							<u> </u>	
Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
Final: Time	рН			ORP D.O. Probably due	Turbid			ts/Flow Rate to lack of local irrigation.
INSTRUMEN		N: pH Meter DO Mo Conductivity Met	nitor			Temp Other	erature Meter	K -
Water Dispo		Sample ID		San	nple Time	na		
BTEX VO	Os Alka	linity TDS Cati	ons Anior	ns Nitrate N	Jitrite Amr	monia TKN 1	NMWQCC Me	tals Total Phosphorus
MS/MSD		BD_		BD	Name/Tim	ne		ТВ

Labo	ratories, Inc.		ù	1 A A	11 11			7.3	JST(
2773 Downhill Drive Steamboat S	prings, CO 80487 (800) 33	4-5493		149	08	or to					
Report to:			1						4		
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Company: Buring	ION Res-	-			1119			<u>87</u>	144		
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analysis before expiration, shall if "NO" then ACZ will contact clic									NO		j
r "NO" then ACZ will contact clic s indicated, ACZ will proceed wi						a will b	e gual	lified.			
ROJECT INFORMATION :		, y							use,qu	ote:jjun	iber) 🐒
Quote #:							· · · · ·			, and 1	
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Shipping Co.:			ja ja					ļ			
racking #:		1	of Containers								1
Reporting state for compliance	testing:	1	Č	7					ĺ		
Are any samples NRC licensab		1	#	1/8]				·	
SAMPLE IDENTIFICATION		Matrix		~							
MARLOTE MW-2	3-15-04 0835	FZ8		2							
HAMPTON MW-1	3-15-04 0958	GW		2							
HAMOTON MW-15	3-15-04 1038	Gw		2							
HAMPTON MW-9	3-15-04 1130	GW		2							
HAMPTON MW-16	3-15-04 1222	GW		2					<u> </u>		
HAMOTON MW-12	3-15-04 1258	GW		2							
HAMPTON SEEP	3-15-04 1312	GW	<u></u>	2						<u> </u>	
HAMPOTON MW-5	3-15-04 1345	9w	<u> </u>	2_					 		
Hamptou mui-7	3-15-04 1420	GW		2					 	<u> </u>	<u> </u>
	_	 							ı	1	
HAMPTON MW-11	3-15-04 1510	GW	<u> </u>	2	<u> </u>			<u> </u>	<u> </u>		<u> </u>
Matrix SW (Surface Water) · GW	(Ground Water) · WW (Waste	Water) · D		ing Wate	r) · SL (Slu	ıdge) - S	SO (Sail) · OL (C	il) · Othe	r (Specify	y)
Matrix SW (Surface Water) · GW	(Ground Water) · WW (Waste			ing Wate	r) SL (Slu	idge) · S	SO (Sail) · OL (C	Dil) · Othe	r (Specify	y)
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Matrix SW (Surface Water) GW REMARKS Please provide 10 cation, lla	e a sepera. mpTUN, MM	He RC U	rete	000 , C0 REG	+ f	Dr ENS	00	chilon	ATE:T	1.5 (-)	

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Address: 3-40 FOFF Stambout Springs CO 80487 (800) 324-3432	ALZ Labo	ratorie	s, Inc.		*2					and or	HAIN		
Name: GRECA INJULTA Company (Grunt Industrial) Email: Frumino found m 87499 Telephone: 505 326 9700 Gypor Report to Name: Company: Telephone: If sample(s) received past holding time (iff), or if maufficient iff remains to complete analysis before oxpiration, and after preceded in the requested analysis before oxpiration, and activated the requested analysis oxpirated analysis before oxpiration, and address: If sample(s) received past holding time (iff), or if maufficient iff remains to complete analysis before oxpiration, and activated the remains to complete analysis before oxpiration, and activated the remains to complete analysis before oxpiration and activated the remains analysis oxpiration in the precision of the remains analysis oxpiration in the precision of the pr	2773 Downhill Drive Steamboat S	prings, CO 80	9487 (800) 33	4-5493	64	1490	28			, Cl	IST()D)Y	
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Company: Email: 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? 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. REDUCCTINORMATION ANALYSES REQUESTED (Tisch is for use quick number). Quote #: Project/PO #: IN ISC Gray No Water Server Shipping Co: Tracking #: Reporting state for compliance testing: Are any samples NRC licensable material? SAMPLE IDENTIFICATION DATE: TIME: Matrix COZZEALS MW-I 3-16-04 QOB GW 2 FROM IS-LA MW-I 3-16-04 QOB GW 2 TRIP BANK 3-16-04 QOB GW 1 Notice SW (Surface Water) - GW (Ground Water) - WW (Waste Water) - DW (Drinking Water) - SL (Sindge) - SO (Scri) - OL (OB) - Other (Specify) REMARKS PLEASE PLAN IDE SEPARTE REPORTS FOR EMCH CO CATION , CO ZZEMS / Flora V 1 SHA RELINOUSHEDBY DATE: TIME RECEIVED 81 Page (NES) 3-16-04 945 White - Return with sample. Yellow Lakebachtority are feedfals.	Invoice to:										A.c.		
Company: Email: 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? If "No" then ACZ will contact client for further instruction. If neither "YES" nor "No" If "No" then ACZ will proceed with the requested short HT analyses? If "No" then ACZ will proceed with the requested short HT analyses? If "No" then ACZ will proceed with the requested short HT analyses? ANALYSES REQUESTED (affect his or use quote number) Quote #: Project/PO #: IN/SC Greated Western Senary Shipping Co: Tracking #: Reporting state for compliance testing: Are any samples NRC licensable material? SAMRIE (IDENTIFICATION) OATE: HIME Matrix COZZENS MW-I 3-15-D4 IUI3 Gw 2 Flora VIS-1a MW-I 3-15-D4 IUI3 Gw 2 Flora VIS-1a MW-I 3-15-D4 IUI3 Gw 2 TRIP Start L 3-16-D4 DAZO Gw II Matrix PLEASE PLAN IDE SEPARTE REPORTS FOR EMCH CO CATION , CO ZZEMS / Flora VIS-1a RELINOUSHEDBY DATE: IME RECEIVED 8' Page AND 3/17/44 MOD OF OF FREMORO21,12,03,06	Name: SAME AS	AROUE	3		Addre	ss:				100			
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2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

March 30, 2004

Gregg Wurtz
Burlington Resources, Inc.
3401 E. 30th St. PO BOX 4289
Farmington, NM 87402-4289

Project ID: MISC GW SAMPLING

ACZ Project ID: L44968

Gregg Wurtz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 17, 2004. This project has been assigned to ACZ's project number, L44968. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 10.0. The enclosed results relate only to the samples received under L44968. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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, 2004. 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. Please notify your Project Manager if you have other needs.

If you have any questions, please contact your Project Manager or Customer Service Representative.

30/Mar/04

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







2773 Downhill	Laborate Drive Steamboat Springs, (ories, Inc.	3	Organie Reference				
Réport Headei	Explanations ;							
Batch	A distinct set of samples a	nalyzed 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 Ty	pes:			and the control of the second of the second				
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				
QG Sample Ty	pe Explanations							
Blanks	. \	erifies that there is no or r	minimal contaminatio	on in the prep method procedure.				
Control Sar	Samples Verifies the accuracy of the method, including the prep procedure.							
Duplicates	licates Verifies the precision of the instrument and/or method.							
Spikes/For		etermines sample matrix	interferences, if any.					
ACZ Qualifiers	(Qual)	A Lank (
В	Analyte detected in daily b	lank						
Н	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.							
Т	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.							
Р	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 Refere	mces	A Section 1						
(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 v	ary slightly if the rou	inded values are used in the calculations.				

REPIN03.11.00.01

Organic analyses are reported on an "as received" basis.

L44968: Page 3 of 8

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



Burlington Resources, Inc.

ACZ Project ID: L44968

A@Z[0]	(WORKNUM)	PARAMETER .		METHOD	OUAL	DESCRIPTION S
L44968-01	WG169653	Benzene	•	M8021B GC/PID	V7	Calibration verification recovery was above the method control limit for this analyte, however the average % difference or % drift for all the analytes met method criteria.

EXTQUAL.11.20.02.01

L44968: Page 4 of 8

Sample : Receipt

Burlington Resources, Inc.

MISC GW SAMPLING

ACZ Project ID: Date Received: L44968 3/17/2004

Received By:

coryd

Receipt Verilie item.

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

YES	NO	NA
		NA Ö
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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)
ACZ	0.4	12

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

NOOS :



Burlington Resources, Inc.

MISC GW SAMPLING

ACZ Project ID:

L44968

Date Received:

3/17/2004

Received By:

coryd

Sample C	ontainer R	rêservation								er al l de			
SAMPLE	CLIENT ID		R < 2	G < 2	Y < 2	YG< 2	B < 2	BG< 2	0 < 2	T >12	P >12	N/A	RAD
L44968-01	MARCOTE I	MW-2							-			Ö	
Sample 0	ontainer Pi	eservation Legen	d						100				

Abbreviation	Description	Container Type	Preservative/Limits
В	Filtered/Sulfuric	BLUE	pH must be < 2
BG	Filtered/Sulfuric	BLUE GLASS	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
0	Raw/Sulfuric	ORANGE	pH must be < 2
Р	Raw/NaOH	PURPLE	pH must be > 12
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Υ	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

L44968: Page 6 of 8

WELL DEVELOPMENT AND SAMPLING LOG

Location:_ Project Mana Depth to Wa Water Colum	Project No.: Project Name: Marcote											
Sampling Me	Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐ Bottom Valve Bailer Double Check Valv ☐ Bailer Stainless-Steel Kemr ☐ rer											
Criteria: 3 to 5 Casing Volumes of Water Removal X stabilization of Indicator Parameters X Other_or bail_dry												
					Water Vo	lum	e in Well					
	ft of wat	er		Gallons				Ounces		(Gal/oz to be removed	
8.80	x 0.16			1.44							4.31	
Time	рН	<u> </u>	SC	Temp	ORP		D.O.	Turbidity	Vol Ev	20	Comments/	
(military)	(su)	1	nos/cm)	(°F)	(millivol		(mg/L)	(NTU)	(gal		Flow rate	
1448	6.59	. 1	400	68.2					.25		silty	
	6.69	1	310	61.8					.5		silty	
	6.44	1	390	60.4					.75		silty	
	6.49	1	230	59.3					2.5	silty		
	6.46	1	390	58.6					3.5 silty			
	6.45	1	310	58.9					4.0		silty	
	6.45	1	390	58.6			-		4.25	5	silty	
<u>1504</u>	6.49	1	340	58.3				-	4.5		silty	
	 -											
l												
Final:							. 1	Ferrous				
Time pl		C	Temp	Eh-ORP	D.O.	Tu	rbidity	Iron	Vol Evac.		omments/Flow Rate	
<u>1504</u> 6	5.49 1	1340	58.3			-			4.5	S	ilty	
COMMENTS	S. Wall in	hailing	down									
OCIVIIVILIAL	J. WOII 13	Dannig	GOVVII									
INSTRUME	OITATIO	1 : p	H Meter	X				Tem	perature l	Viete	er x	
			DO Mo	nitor				Oth	er			
	C	Conduc	tivity Met	er X								
Water Dispo			•		e ID MW-2	2 S	ample Tin	ne <u>1510</u>				
Analysis	BTI			•		_	•					
MS/MSD	-		BD			BD	Name/Tin	ne			ТВ	

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

Organie Analytica Results

Burlington Resources, Inc.

Analysis Method:

Project ID:

MISC SAMPLING

Sample ID:

MW-2 MARCOTE

ACZ Sample ID:

L46372-02

Date Sampled:

06/21/04 15:10

Date Received:

06/24/04

Sample Matrix:

Ground Water

Benzene Toluene Ethylbenzene & Xylene.

Analyst: km

M8021B GC/PID

Extract Date: Analysis Date: 06/29/04 22:19 06/29/04 22:19

Extract Method:

Method

Dilution Factor: 1

Compound

Compound Benzene	OAS R	esuli eual xo U *	Viille) ug/L	<u>MDL</u> ∌ 0.3	FQL 1
Ethylbenzene	000100-41-4	υ	ug/L	0.2	1
m p Xylene	01330 20 7	U	ug/L	0.4	2
o Xylene	00095-47- 6	U	ug/L	0.2	1
Toluene	000108-88-3	U	ug/L	0.2	1
Surrogate Recoveries			SPECIFIC CONTRACTOR	7	
Simolate (*)	(A)	ecovery : XO	(Units)	Sinage -	Color -

Bromofluorobenzene

000460-00-4

98.8

117

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:30003.0 Project Name: Burlington Marcote 1 Client: Burlington Resources Location: Marcote Pool Unit 1 Well No: MW-3 Development Sampling Project Manager MJN Date 6/21/04 Start Time 1417 Weather sunny 80s Depth to Water 36.62 Depth to Product na Product Thickness na Measuring Point TOC Water Column Height 2.04 Well Dia. 2" Sampling Method: Submersible Pump D. Centrifugal Pump D. Peristaltic Pump D. Other D.											
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											
Water Volume in Well											
Gal/ft x	ft of water	er		Ga	llons				Ounces		Gal/oz to be removed
	4 x .16		_		33						.99
·	w					,					,
Time (military)	pH (su)	1	SC los/cm		mp F)	ORF (millivo		D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
1417	6.42	1:	560	72	2.4					.14	very silty
	6.60	1.	400	65	5.4					.31	very silty
	6.59		380	80 62.8 .44 very silty							
	6.55		380		2.4					.58	very silty
	6.53	1:	390	60).9					.72	very silty
1426	6.57	1:	350	. 60).7					1	very silty
Final: Time 1426	pH 6.5 7	SC 13	350	Temp 60.7	Eh-	ORP D	0.0.	Turbidi	ty Vol Eva	very si	ents/Flow Rate
COMMENTS	S: There	was r	no wat	er in the	well.	Probabl	ly due	e to seaso	nal drop in w		ue to lack of local irrigation.
INSTRUMEN	NOITATION	1: p	H Met	ter X					Tempe	erature Mete	er X·
	C	Conduc		Monitor Meter X		-			Other		
,	Conductivity Meter X Water Disposal on site Sample ID mw-3 Sample Time 1430 Analysis DTEX										
i -	Analysis BTEX MS/MSD										

Organie Analytie

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

Burlington Resources, Inc.

Analysis Method:

Project ID:

MISC SAMPLING

Sample ID:

MW-3 MARCOTE

ACZ Sample ID:

L46372-01

Date Sampled:

06/21/04 14:30

Date Received:

06/24/04 Sample Matrix: Ground Water

Benzene, Toluene, Ethylbenzene, & Xylene

Analyst:

km

M8021B GC/PID

Extract Date: Analysis Date:

06/29/04 21:36 06/29/04 21:36

Dilution Factor:

Extract Method: Method

Compound

(Compound)	GAS Result G	NUAL.	XO.	Units	MDL.	POL
Benzene	000071-43-2	U	*	ug/L	0.3	1
Ethylbenzene	000100-41-4	U		ug/L	0.2	1
m p Xylene	01330 20 7	U		ug/L	0.4	2
o Xylene	00095-47- 6	U		ug/L	0.2	1
Taluene	000108-88-3	U		ug/L	0.2	1
o Xylene	00095-47- 6	U		ug/L	0.2	1 1

Suice:	e/s	%Recovery :	. Xe Units	PLGS.	ner
Bromofluorobenzene	000460-00-4	97.8	%	83	117

Labo	ratorie	s, Inc.			– 9	_			Έ .	TAIIN ISTO	Si di ini	
2773 Downhill Drive Steamboat St	orings, CO 804	187 (800) 334	-5493	4	437	9.90 ga 37	5. 484. FG 5. F	Total Assess	ن ر ان دستان	3 I U		
Report to				if and					Y P			G MA
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Company: Burlington	y Keso	urces	-		NMI.	ngt	0N	NW		499		
E-mail:				Telep	hone:	5	05	32	6 9	700		
Copy of Report to:					, s			A 19 4 1	4. 10	Ca.	200	
Name:			_	E-ma	il:							
Company:				Telep	hone:							
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Name: SAME	, , , , , , , , , , , , , , , , , , , ,			Addre	ess:	_		*				
Company:												
E-mail:				Telep	hone:							
If sample(s) received past holding						ete				YES		
analysis before expiration, shall A						"כ				NO		
is indicated, ACZ will proceed wit							will b	e qualifi	ed.			
PROJECT INFORMATION	and the second	is the same	Bar to be	AN	ALYSES	REQU	ESTED	(attach	list or	ûse quo	te num	ber), 🗼
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Project/PO#: MISC Sac	molina		_	ers								
Shipping Co.:	<u> </u>			of Containers							i	
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Reporting State for compliance	testing:]		1		<u> </u>				ł	
SAMPLE IDENTIFICATION	DATE	:TIME	Matrix	#	5						Ì	
	10/21/04		GW		X			<u> </u>				
MW-3 Marcore	6/21/04		(40)	9	+			ļ · ···		<u> </u>		
MW-1 CLORA VISTA	6/21/04	1558	GW	a	F							
mw-1 COZZENS	4011610	1650	GW	a	+							
MW-2 COZZENS	6121104	1705	qw	9	7	ļ	<u> </u>	ļ				
mw-1 Johnson Federal # 4	6/93/04	1247	aw	9	17	ļ	ļ	<u> </u>	 			
Trip Blank	4015019	1300	g	1	+			ļ	ļ			<u> </u>
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					1							
Matrix SW (Surface Water) · GW	(Ground Water)	· WW (Waste V	Vater) · DV	V (Drinki	ng Water) · SL (\$1	udge) · S	SO (Soil)	OL (Oil)	· Other (Specify)	
REMARKS					***		÷	4 . pr				, <u>.</u> .
Please provide Severo 1) marcote 3: 2) Klora Vista 4	He repo	vt for	each	100	atic	M						
1) Maycote 3.	1 Iruns	on Feder	101									
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									116	6		

FRMQA021.06,03.05

#01.

White - Return with sample.

llow Retain for your records L46372: Page 8 of 8 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493



Gregg Wurtz
Burlington Resources, Inc.
3401 E. 30th St. PO BOX 4289
Farmington, NM 87402-4289

July 08, 2004

Project ID: MISC SAMPLING ACZ Project ID: L46372

Gregg Wurtz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 24, 2004. This project has been assigned to ACZ's project number, L46372. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 10.0. The enclosed results relate only to the samples received under L46372. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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 08, 2004. 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. Please notify your Project Manager if you have other needs.

If you have any questions, please contact your Project Manager or Customer Service Representative.

08/Jul/04

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





2773 Downhill	Laboratories, In Drive Steamboat Springs, CO 80487 (800)		©rganic Reference
Report Heade	Explanations:		
Batch	A distinct set of samples analyzed at a spe	ecific time	
Found	Value of the QC Type of interest		
Limit	Upper limit for RPD, in %.		
Lower	Lower Recovery Limit, in % (except for LC	CSS, mg/Kg)	
LCL	Lower Control Limit		
MDL	Method Detection Limit. Same as Minimu	m Reporting Limit. Allows for i	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 a	mount added to the Spike	
Rec	Amount of the true value or spike added re	ecovered, in % (except for LCS	SS, mg/Kg)
RPD	Relative Percent Difference, calculation us	sed for Duplicate QC Types	
Upper	Upper Recovery Limit, in % (except for LC	CSS, mg/Kg)	
UCL	Upper Control Limit		
Sample	Value of the Sample of interest		
QC 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	PBS	Prep Blank - Soil
LFB	Laboratory Fortified Blank	PBW	Prep Blank - Water
	pe Explanations		
Blanks			n in the prep method procedure.
Control Sar	•	racy of the method, including the	, , ,
Duplicates	•	sion of the instrument and/or m	nethod.
Spikes/Fort		ple matrix interferences, if any.	
B		NAME OF THE OWNER OF THE OWNER, AND ADDRESS OF THE OWNER, AND ADDRESS OF THE OWNER, AND ADDRESS OF THE OWNER,	
Н	(Ciral)		
	Analyte detected in daily blank		
	Analyte detected in daily blank Analysis exceeded method hold time.	hotwoon MDL and BOL	
J	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value		in the given limits
J R	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value Poor spike recovery accepted because the	e other spike in the set fell with	· ·
J R T	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value Poor spike recovery accepted because the High Relative Percent Difference (RPD) ac	e other spike in the set fell with ccepted because sample conce	· ·
J R T U	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value Poor spike recovery accepted because the High Relative Percent Difference (RPD) ac Analyte was analyzed for but not detected	e other spike in the set fell with ccepted because sample conce I at the indicated MDL	entrations are less than 10x the MDL.
J R T U V	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value Poor spike recovery accepted because the High Relative Percent Difference (RPD) ac Analyte was analyzed for but not detected High blank data accepted because sample	e other spike in the set fell with ccepted because sample conce f at the indicated MDL e concentration is 10 times high	entrations are less than 10x the MDL.
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J R T U V W X Z	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value Poor spike recovery accepted because the High Relative Percent Difference (RPD) ac Analyte was analyzed for but not detected High blank data accepted because sample Poor recovery for Silver quality control is a Quality contreol sample is out of control. Poor spike recovery is accepted because	e other spike in the set fell with ccepted because sample concert at the indicated MDL. e concentration is 10 times high accepted because Silver often particular concentration is four time detector by more than 40%. result exceeding calibration raise.	entrations are less than 10x the MDL. mer than blank concentration precipitates with Chloride. mes greater than spike concentration.
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J R T U V W X Z P E M M Mothodiscience (1)	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value Poor spike recovery accepted because the High Relative Percent Difference (RPD) ac Analyte was analyzed for but not detected High blank data accepted because sample Poor recovery for Silver quality control is a Quality contreol sample is out of control. Poor spike recovery is accepted because Analyte concentration differs from second Analyte concentration is estimated due to Analyte concentration is estimated due to EPA 600/4-83-020. Methods for Chemica	e other spike in the set fell with accepted because sample concert at the indicated MDL. The concentration is 10 times high accepted because Silver often particular sample concentration is four time detector by more than 40%. The result exceeding calibration rain matrix interferences.	entrations are less than 10x the MDL. ner than blank concentration precipitates with Chloride. mes greater than spike concentration. nge. s, March 1983.
J R T U V W X Z P E M Methodizatere (1) (2)	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value Poor spike recovery accepted because the High Relative Percent Difference (RPD) ac Analyte was analyzed for but not detected High blank data accepted because sample Poor recovery for Silver quality control is a Quality contreol sample is out of control. Poor spike recovery is accepted because Analyte concentration differs from second Analyte concentration is estimated due to Analyte concentration is estimated due to EPA 600/4-83-020. Methods for Chemica EPA 600/4-90/020. Methods for the Deter	e other spike in the set fell with accepted because sample concert at the indicated MDL. The concentration is 10 times high accepted because Silver often particular sample concentration is four time detector by more than 40%. The result exceeding calibration raise matrix interferences. All Analysis of Water and Wastermination of Organic Compounts	entrations are less than 10x the MDL. mer than blank concentration precipitates with Chloride, mes greater than spike concentration. nge. s, March 1983. ds in Drinking Water (I), July 1990.
J R T U V W X Z P E M Mothodisciere (1) (2) (3)	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value Poor spike recovery accepted because the High Relative Percent Difference (RPD) ac Analyte was analyzed for but not detected High blank data accepted because sample Poor recovery for Silver quality control is a Quality contreol sample is out of control. Poor spike recovery is accepted because Analyte concentration differs from second Analyte concentration is estimated due to Analyte concentration is estimated due to EPA 600/4-83-020. Methods for Chemica EPA 600/4-90/020. Methods for the Deter EPA 600/R-92/129. Methods for the Deter	e other spike in the set fell with ccepted because sample concert at the indicated MDL. e concentration is 10 times high accepted because Silver often particular sample concentration is four time detector by more than 40%. result exceeding calibration rain matrix interferences.	entrations are less than 10x the MDL. mer than blank concentration precipitates with Chloride. mes greater than spike concentration. nge. s, March 1983. ds in Drinking Water (I), July 1990. nds in Drinking Water (II), July 1990.
J R T U V W X Z P E M Methodelxerere (1) (2) (3) (5)	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value Poor spike recovery accepted because the High Relative Percent Difference (RPD) ac Analyte was analyzed for but not detected High blank data accepted because sample Poor recovery for Silver quality control is a Quality contreol sample is out of control. Poor spike recovery is accepted because Analyte concentration differs from second Analyte concentration is estimated due to Analyte concentration is estimated due to EPA 600/4-90/020. Methods for Chemica EPA 600/R-92/129. Methods for the Dete EPA SW-846. Test Methods for Evaluatin	e other spike in the set fell with accepted because sample concert at the indicated MDL. The concentration is 10 times high accepted because Silver often particular sample concentration is four time detector by more than 40%. The result exceeding calibration rangements interferences. All Analysis of Water and Wastermination of Organic Compoundermination of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition Waste, Third Edition Waste, Third Edition Waste, Third Edition Waste, Third Edi	entrations are less than 10x the MDL. mer than blank concentration precipitates with Chloride. mes greater than spike concentration. mge. s, March 1983. ds in Drinking Water (I), July 1990. nds in Drinking Water (II), July 1990. ith Update III, December, 1996.
J R T U V W X Z P E M M Metrochrefere (1) (2) (3) (5) (6)	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value Poor spike recovery accepted because the High Relative Percent Difference (RPD) ac Analyte was analyzed for but not detected High blank data accepted because sample Poor recovery for Silver quality control is a Quality contreol sample is out of control. Poor spike recovery is accepted because Analyte concentration differs from second Analyte concentration is estimated due to Analyte concentration is estimated due to EPA 600/4-83-020. Methods for Chemica EPA 600/4-90/020. Methods for the Deter EPA 600/R-92/129. Methods for the Deter	e other spike in the set fell with accepted because sample concert at the indicated MDL. The concentration is 10 times high accepted because Silver often particular sample concentration is four time detector by more than 40%. The result exceeding calibration rangements interferences. All Analysis of Water and Wastermination of Organic Compoundermination of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition with a sample concentration of Organic Compounders Solid Waste, Third Edition Waste, Third Edition Waste, Third Edition Waste, Third Edition Waste, Third Edi	entrations are less than 10x the MDL. mer than blank concentration precipitates with Chloride. mes greater than spike concentration. mge. s, March 1983. ds in Drinking Water (I), July 1990. nds in Drinking Water (II), July 1990. ith Update III, December, 1996.
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REPIN03.11.00.01

Organic analyses are reported on an "as received" basis.

L46372: Page 4 of 8

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



Burlington Resources, Inc.

ACZ Project ID: L46372

ACZID 🖖	WORKNUM	PARAME	iek 🗀 🗀	METHOD	(AUAL	DESCRIPTION
L46372-01	WG174234	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.
L46372-02	WG174234	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.

EXTQUAL.11.20.02.01

L46372: Page 5 of 8

Sample Receipt

Burlington Resources, Inc.

MISC SAMPLING

ACZ Project ID: Date Received:

L46372 6/24/2004

Received By:

VEC

Receipt Verification

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

YES	NO	NA
		X
Х		
		X
Х		
Х		
X		
Х		
Х		1.1
X X X X X		
Х		
	Х	
Х		
		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	T	Temp (°C)	Rad (µR/hr)
ACZ		1.6	15
	1		

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

NOC

Sample Receipt

Burlington Resources, Inc.

MISC SAMPLING

ACZ Project ID:

L46372

Date Received:

6/24/2004

Received By:

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SAMPLE	CLIENT ID	R < 2	G < 2	Y < 2	YG< 2	B < 2	BG< 2	0 < 2	T >12	P >12	N/A	RAD
L46372-01	MW-3 MARCOTE										Ö	
L46372-02	MW-2 MARCOTE							"			Ö	
Sample C	ontainer Preservation Legen	d .								- 14 M		

3 1 1 10 10 10 10 10 10 10 10 10 10 10 10		A Committee of the Comm	
	Container P	17.4-7.4-7.4-1	TAR STATE OF A SECOND
PA_15111111111111111	L"X", 1117 - 118 L - 154 E	3 K - 1 - 1 - 1 Pk d - 1 3 k *	3 8 83 00 F-F. F. Talle 1888

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 3
В	Filtered/Sulfuric	BLUE	pH must be < 2
BG	Filtered/Sulfuric	BLUE GLASS	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
0	Raw/Sulfuric	ORANGE	pH must be < 2
Р	Raw/NaOH	PURPLE	pH must be > 12
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Υ	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

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:3	30003.0		F	Proiect Nar	ne:√Burl	ington Ma	rcote 1	Client	:: Burlington Resources	s
Location: Ma		ool Unit 1		Vell No:					opment Sampling	-
Project Mana							Time 0940		her 60s	İ
Depth to Wa	-		-			_		· · · · · · · · · · · · · · · · · · ·	uring Point TOC	ľ
Water Colum			-			r roudot 1,	1101111000 <u>111</u>	<u></u> cao	uning / onk	
vvalci Coluii	ar rieigii	10.75	vvcii Dia.							
Sampling Me	ethod: Si	ubmersible	Pump 🗌	Cei	ntrifugal	Pump 🔲	Peristaltic	Pump 🗌	Other 🗆	L
	В	ottom Valve	Bailer x	. Do	uble Che	eck Valve E	Bailer □ S	tainless-Stee	el Kemmerer 🛚	
Criteria: 3 t	o 5 Casi	ng Volumes	of Water	r Removal	X stabi	lization of	Indicator Pa	rameters X	Other: or bail dry	
		T		Wat	er Volum	ne in Well				\neg
Gal/ft x	ft of wat	er	Ga	allons			Ounces		Gal/oz to be removed	
10.7	5 x 0.16		1	1.72					5.17	
L										
			· · · · · · · · · · · · · · · · · · ·			T 2 2 T		1		
Time	pH	SC	 		ORP	D.O.	Turbidity	Vol Evac.	Comments/ Flow rate	
(military)	(su)	(umhos/ci			illivolts)	(mg/L)	(NTU)	(gal.)		
0943	7.04	5070		0.1				.25	clear	
	6.86	4810		0.9				.5	clear	
	6.87	5150	6	1.3				.75	gray	
	7.07	4880	60	0.9				2	gray, silty	
	6.84	4830	61	1.0				3	gray, silty	
·	6.86	4790	6	1.0				4.5	gray, silty	
	6.89	4810	6′	1.2				4.75	gray, silty	
	6.88	4820	6	1.2				5	gray, silty	
1000	6.91	4810	6′	1.3				5.25	gray, silty	
						<u>.</u>		l		
Final:										
Time	pН	sc	Temp	Eh-ORP	D.O.	Turbidi			ents/Flow Rate	
<u>1000</u>	6.91	4810	61.3				5.25	gray, s	ilty	
L			1			<u> </u>				
COMMENTS	·									
			V				T			
INSTRUMEN	NIAHON	•					•	erature Mete	r X	
	_		Monitor				Other			1
141 1		onductivity					4005			
Water Dispos				,						ļ
RLEX AOC	Ls Alka	linity TDS	Cations	Anions	Nitrate	Nitrite A	mmonia TKI	NMWQC0	C Metals Total Phospho	rus
MS/MSD	·····		BD		BD	Name/Tim	ne		TB_tb092104-03	
										1

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

Organic Analytica Results

Burlington Resources, Inc.

Project ID:

Sample ID:

MW-1 MARCOTE

Locator:

ACZ Sample ID: L48066-01

Date Sampled: 09/29/04 10:05

Date Received: 10/01/04

Sample Matrix: Ground Water

Benzene, Toluene, Ethylbenzene &

Analyst:

km Extract Date:

Analysis Date:

10/06/04 13:53 10/06/04 13:53

Analysis Method: Extract Method:

Method

M8021B GC/PID

Dilution Factor:

Compound

Gompound	GAS .	Reenff	QUAL	XO Units	Mole	BOR
Benzene	000071-43-2		U	ug/L	0.3	1
Ethylbenzene	000100-41-4	38		* ug/L	0.2	1
m p Xylene	01330 20 7	36.9		* ug/L	0.4	2
o Xylene	00095-47- 6	1	J	ug/L	0.2	1
Toluene	000108-88-3		U	ug/L	0.2	1
Cumanata Danavaria						

Sunogeio	CAS (F)	% Recovery	XQ -Unito	LCL	- ner
Bromofluorobenzene	000460-00-4	110.4	%	83	117

Inorganie Analytical Results

Burlington Resources, Inc.

Project ID:

Sample ID:

MW-1 MARCOTE

ACZ Sample ID:

L48066-01

Date Sampled:

09/29/04 10:05

Date Received:

10/01/04

Sample Matrix:

Ground Water

M	e	a	ls	Α	n	а	lγ	si	S

Parameter -	EPA Method	Result	Qual X	் ம	its MDL	POL	Date :	Analyst
Arsenic, dissolved	M200.8 ICP-MS		U	m	g/L 0.001	0.005	10/24/04 0:09	sp
Barium, dissolved	M200.7 ICP	0.017	В	m	g/L 0.006	0.02	10/18/04 14:28	wfg
Cadmium, dissolved	M200.8 ICP-MS	0.0009	В	m	g/L 0.0002	0.001	10/24/04 0:09	sp
Calcium, dissolved	M200.7 ICP	286		* m	g/L 0.4	2	10/18/04 14:28	wfg
Chromium, dissolved	M200.8 ICP-MS	0.0003	В	m	g/L 0.0002	0.001	10/24/04 0:09	sp
Copper, dissolved	M200.8 ICP-MS	0.001	В	m	g/L 0.001	0.005	10/24/04 0:09	sp
Iron, dissolved	M200.7 ICP	0.19		m	g/L 0.02	0.1	10/18/04 14:28	wfg
Magnesium, dissolved	M200.7 ICP	39.9		m	g/L 0.4	2	10/18/04 14:28	wfg
Manganese, dissolved	M200.7 ICP	0.65		m	g/L 0.01	0.05	10/18/04 14:28	wfg
Potassium, dissolved	M200.7 ICP	2.5		m	g/L 0.6	2	10/18/04 14:28	wfg
Sodium, dissolved	M200.7 ICP	727		m	g/L 0.6	2	10/18/04 14:28	wfg
Zinc, dissolved	M200.7 ICP		U	m	g/L 0.02	0.1	10/18/04 14:28	wfg

Wet Chamistry

Wet Chemistry					·			
Parameter	EPA Method	Result "	Qual XQ	Units	Mol	BOF	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration							
Bicarbonate as		318		mg/L	2	10	10/11/04 0:00	mah
CaCO3	•							
Carbonate as CaCO	3		U	mg/L	2	10	10/11/04 0:00	mah
Hydroxide as CaCO	3		U	mg/L	2	10	10/11/04 0:00	mah
Total Alkalinity		318		mg/L	2	10	10/11/04 0:00	mah
Cation-Anion Balance	Calculation							
Cation-Anion Balance	e	-3.4		%			10/25/04 0:00	calc
Sum of Anions		53.2		meq/L	0.1	0.5	10/25/04 0:00	calc
Sum of Cations		49.7		meq/L	0.1	0.5	10/25/04 0:00	calc
Chloride	M325.2 - Colorimetric	99		mg/L	1	5	10/16/04 19:36	ksj
Conductivity @25C	M120.1 - Meter	4030		umhos/cm	1	10	10/11/04 20:16	mah
Lab Filtration	SM 3030 B						10/11/04 11:20	ktd
Lab Filtration & Acidification	SM 3030 B						10/06/04 14:56	ak
pH (lab)	M150.1 - Electrometric	7.1	Н	units	0.1	0.1	10/11/04 20:16	mah
Sulfate	M375.3 - Gravimetric	2100		mg/L	10	50	10/14/04 9:26	nlm

L48066: Page 3 of 17



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

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)
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, typically 5 times the MDL.
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)
Sample	Value of the Sample of interest

QC Sample T	ypes 🖂 🖟 🖟 🖟 🖟 🚉 🚉 🚉 🚉		
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calivation Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution

QC Sample Type Explanations

Blanks Verifies that there is no or minimal contamination in the prep method or calibration 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.

Standard Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

- Analyte concentration detected at a value between MDL and PQL.
 Analysis exceeded method hold time. pH is a field test with an immediate hold time.
- 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 control sample is out of control.
- Z Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples Supplement I, May 1994.
- (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) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

REPIN03.11.00.01

L48066: Page 4 of 17

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

Inorganic Extended

Qualifier Report

Burlington Resources, Inc.

ACZ Project ID: L48066

ACZID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L48066-01	WG179980	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.

EXTQUAL.11.20.02.01

L48066: Page 5 of 17

Organic Analytical Results

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

Burlington Resources, Inc.

Analysis Method:

Extract Method:

Project ID:

Sample ID: MW-2 MARCOTE

Locator:

ACZ Sample ID: L48066-02

Date Sampled: 09/29/04 9:30

Date Received: 10/01/04

Sample Matrix: Ground Water

Benzene, Toluene, Ethylbenzene & Xylene

Method

M8021B GC/PID

Analyst: km

Extract Date:

Analysis Date:

10/06/04 16:00 10/06/04 16:00

Dilution Factor:

Compound

Compound	GAS.	Result	QUAL X0	Unite:	Wor	POL
Benzene	000071-43-2		U	ug/L	0.3	1
Ethylbenzene	000100-41-4	0.3	J *	ug/L	0.2	1
m p Xylene	01330 20 7	0.7	J *	ug/L	0.4	2
o Xylene	00095-47- 6	0.2	J	ug/L	0.2	1
Toluene	000108-88-3	0.3	J	ug/L	0.2	1
Toluene	000108-88-3	0.3	J	ug/L	0.2	1

Sweete	GAS : 45	% Recovery	1	Of Online	ाखेर	vol:
Bromofluorobenzene	000460-00-4	94.6		%	83	117

WELL DEVELOPMENT AND SAMPLING LOG

		· · · · · · · · · · · · · · · · · · ·									
Project No.:	30003.0			F	Project	l Nam	e:_ <u>Burli</u>	ington Ma	rcote 1	Clien	t: Burlington Resources
Location:_/M	larcote P	ooLUn	it 1	V	Vell N	:0	MW-3-	1		Deve	lopment Sampling
Project Man	ager	MJN					9/04		Time 1020	Weat	her 60s
Depth to Wa	-							•			uring Point TOC
Water Colun				-				1 10000111			.dimg / oint
vvaler Colum	IIII neigii	L	94 VV6	sii Dia.							
Sampling Me	ethod: S	ubmer	sible Pu	mp □		Cen	trifugal	Pump 🗆	Peristaltic	Pump [7]	Other
			0.0.0	р 🗀						,	
	В	ottom	Valve Ba	ailer x	ζ	Dou	ble Che	ck Valve E	Bailer □ S	tainless-Ste	el Kemmerer 🛚 🗆
Criteria: 3 t	to 5 Casi	ng Vo	lumes of	Wate	r Rem	oval)	(stabi	lization of	Indicator Pa	rameters X	Other: or bail dry
						Wate	r Volum	ne in Well			
	ft of wat	er			allons				Ounces		Gal/oz to be removed
9.9	4 x .16			1	1.59						4.77
Time	1 -11		SC	T.)RP		Turbidity	Vol Evac.	Comments/
Time (military)	pH (su)	1	ನ್ನರ hos/cm)		emp °F)		livolts)	D.O. (mg/L)	(NTU)	(gal.)	Flow rate
1030	7.42		3480	<u> </u>	7.2	\\	nvolto)	(111972)	(1110)	.5	brown
	7.42		9400	3						.5	DIOWII
	7.31	3	3380	5	7.5					1	brown
	7.28	;	3520	5	7.4					1.5	brown
	7.27	3	3240	57	7.4					3	brown
	7.24	;	3210	5	7.3					4	brown
	7.27	-;	3460	57	7.3			,		4.5	brown
1044	7.30	-	3420	5	7.4		· · · · · · · · · · · · · · · · · · ·			5	brown
				-			<u> </u>				
		<u> </u>									
											
Final:	.				T						· ·
Time	pH	S	с Т	emp	Eh-0	ORP	D.O.	Turbidi	ty Voi Ev	ac. Comm	ents/Flow Rate
1044	7.30			57.4	 =::::				5	brown	
COMMENTS	S: There	e was	no water	in the	well.	Prob	ably due	e to seaso	nal drop in w	vater level di	ue to lack of local irrigatio
							,				
NSTRUMEN	NTATION	d : 1	pH Mete	r X					Temp	erature Mete	er x
		- • (DO M			-			Other		
	,	`ond							Outer		
Motor Dies			ctivity Me		m 0				do Timo - 40) A E	
Nater Dispo			_ Sam	ole ID_	<u>mw-3</u>			samp	le Time10	/4 3	
Analysis	BTE	<u>X</u>								e.	
MS/MSD			BC)			BD	Name/Tim	ne		ТВ



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

Organic Analytica Results

Burlington Resources, Inc.

Analysis Method:

Extract Method:

Project ID:

Sample ID: MW-3 MARCOTE

Locator:

ACZ Sample ID: L48066-03

Date Sampled:

09/29/04 10:45

Date Received:

10/01/04

Sample Matrix:

Ground Water

Benzene Toluene Ethylbenzene & Xylene

Method

M8021B GC/PID

Analyst:

km

Extract Date:

10/06/04 16:43

Analysis Date:

10/06/04 16:43

Dilution Factor:

Compound

Compound	CAS e Result	OUAL X	e Units	Mor.	Fet-	
Benzene	000071-43-2	U	ug/L	0.3	1	
Ethylbenzene	000100-41-4	U *	ug/L	0.2	1	
m p Xylene	01330 20 7	U *	ug/L	0.4	2	
o Xylene	00095-47- 6	U	ug/L	0.2	1	
Toluene	000108-88-3	U	ug/L	0.2	1	
Surrogato Pocoverine						

Surcesso : : : :	CAS.	% Recove	χу χ Θ .(itiins (rote vinge)

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493 Organie/Analytica Results

Burlington Resources, Inc.

Analysis Method:

Extract Method:

Project ID:

Sample ID: TB092104-03

Locator:

ACZ Sample ID: L48066-07

Date Sampled: 09/29/04 0:00

10/01/04 Date Received:

Sample Matrix: Ground Water

Benzene, Toluene, Ethylbenzene & Xylene

Method

M8021B GC/PID

Analyst: km

Extract Date:

10/06/04 20:17

Analysis Date:

10/06/04 20:17

Dilution Factor: 1

Compound

Gompound)	CAS Result	QUAL XXQ	Valle	MDR.	BOR
Benzene	000071-43-2	U	ug/L	0.3	1
Ethylbenzene	000100-41-4	U *	ug/L	0.2	1
m p Xylene	01330 20 7	U *	ug/L	0.4	2
o Xylene	00095-47- 6	U	ug/L	0.2	1
Toluene	000108-88-3	U	ug/L	0.2	1

Sunccite .	CAS	WRecovery.	XQ, Vinto	(LOC)	Cor
Bromofluorobenzene	000460-00-4	90.5	%	83.	117

ט נwriniii L	Laboratories, Inc. Drive Steamboat Springs, CO 80487 (800) 334-5493		Organie Reference
ontHeader	Explanations		Constitution of the Consti
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	g)	
LCL	Lower Control Limit		
MDL	Method Detection Limit. Same as Minimum Reportin	g 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 adde	ed to the Spike	
Rec	Amount of the true value or spike added recovered, in	n % (except for LCS	SS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Dup	licate QC Types	
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg	g)	
UCL	Upper Control Limit		
Sample	Value of the Sample of interest		
Sample Ty	pes		and the second second second second
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			on in the prep method procedure.
Control San	· ·	-	
Duplicates	Verifies the precision of the		
Spikes/Fort		nterferences, if any.	
2 Qualifiers			Control of the Contro
			the second of th
В	Analyte detected in daily blank		
В	Analyte detected in daily blank Analysis exceeded method hold time.		
В	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M		
B H J R	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik	ce in the set fell with	•
B H J R T	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec	ke in the set fell with cause sample conc	•
B H J R T	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indice	ke in the set fell with cause sample conc cated MDL	entrations are less than 10x the MDL.
B H J R T U	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indic High blank data accepted because sample concentra	te in the set fell with cause sample conc cated MDL tion is 10 times hig	entrations are less than 10x the MDL. her than blank concentration
B H J R T U V	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indic High blank data accepted because sample concentra Poor recovery for Silver quality control is accepted be	te in the set fell with cause sample conc cated MDL tion is 10 times hig	entrations are less than 10x the MDL. her than blank concentration
B H J R T U V W	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indic High blank data accepted because sample concentra Poor recovery for Silver quality control is accepted be Quality control sample is out of control.	te in the set fell with cause sample cond cated MDL ation is 10 times high ecause Silver often	entrations are less than 10x the MDL. her than blank concentration precipitates with Chloride.
B H J R T U V W X Z	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indic High blank data accepted because sample concentra Poor recovery for Silver quality control is accepted be Quality control sample is out of control. Poor spike recovery is accepted because sample con	ce in the set fell with cause sample conc cated MDL tion is 10 times high ecause Silver often ncentration is four ti	entrations are less than 10x the MDL. her than blank concentration precipitates with Chloride.
B H J R T U V W X Z P	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indic High blank data accepted because sample concentra Poor recovery for Silver quality control is accepted bec Quality control sample is out of control. Poor spike recovery is accepted because sample con Analyte concentration differs from second detector by	se in the set fell with cause sample conceated MDL stion is 10 times high ecause Silver often acentration is four tily more than 40%.	entrations are less than 10x the MDL. her than blank concentration precipitates with Chloride. mes greater than spike concentration.
B H J R T U V W X Z P E	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indic High blank data accepted because sample concentra Poor recovery for Silver quality control is accepted be Quality control sample is out of control. Poor spike recovery is accepted because sample con Analyte concentration differs from second detector by Analyte concentration is estimated due to result exce	ce in the set fell with cause sample conceated MDL ation is 10 times higher ause Silver often accentration is four time or than 40%. The ding calibration raise in the calibration raise	entrations are less than 10x the MDL. her than blank concentration precipitates with Chloride. mes greater than spike concentration.
B H J R T U V W X Z P E M	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indic High blank data accepted because sample concentra Poor recovery for Silver quality control is accepted be Quality contreol sample is out of control. Poor spike recovery is accepted because sample con Analyte concentration differs from second detector by Analyte concentration is estimated due to result exce	ce in the set fell with cause sample conceated MDL ation is 10 times higher ause Silver often accentration is four time or the contration at 10%. The setting calibration raises are sampled to the contration of	entrations are less than 10x the MDL. her than blank concentration precipitates with Chloride. mes greater than spike concentration.
B H J R T U V W X Z P E M	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indic High blank data accepted because sample concentra Poor recovery for Silver quality control is accepted be Quality control sample is out of control. Poor spike recovery is accepted because sample con Analyte concentration differs from second detector by Analyte concentration is estimated due to result exce Analyte concentration is estimated due to matrix inter	se in the set fell with cause sample conceated MDL ation is 10 times high ecause Silver often accentration is four tipy more than 40%, reding calibration rangerences.	entrations are less than 10x the MDL. her than blank concentration precipitates with Chloride. mes greater than spike concentration. nge.
B H J R T U V W X Z P E M nockratere (1)	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indic High blank data accepted because sample concentra Poor recovery for Silver quality control is accepted be Quality contreol sample is out of control. Poor spike recovery is accepted because sample con Analyte concentration differs from second detector by Analyte concentration is estimated due to result exce Analyte concentration is estimated due to matrix inter EPA 600/4-83-020. Methods for Chemical Analysis of	ce in the set fell with cause sample concepted MDL atton is 10 times high ecause Silver often acentration is four tipy more than 40%, reding calibration rapiferences.	entrations are less than 10x the MDL. ther than blank concentration precipitates with Chloride. mes greater than spike concentration. nge. s, March 1983.
B H J R T U V W X Z P E M noc Refere	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indic High blank data accepted because sample concentra Poor recovery for Silver quality control is accepted bec Quality contreol sample is out of control. Poor spike recovery is accepted because sample con Analyte concentration differs from second detector by Analyte concentration is estimated due to result exce Analyte concentration is estimated due to matrix inter CCS EPA 600/4-83-020. Methods for Chemical Analysis of EPA 600/4-90/020. Methods for the Determination of	te in the set fell with cause sample concepted MDL ation is 10 times high ecause Silver often acentration is four tipy more than 40%. The eding calibration rangerences. Of Water and Waster forganic Compound	entrations are less than 10x the MDL. her than blank concentration precipitates with Chloride. mes greater than spike concentration. nge. s, March 1983. ds in Drinking Water (I), July 1990.
B H J R T U V W X Z P E M nockrafax	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indic High blank data accepted because sample concentra Poor recovery for Silver quality control is accepted bec Quality contreol sample is out of control. Poor spike recovery is accepted because sample con Analyte concentration differs from second detector by Analyte concentration is estimated due to result exce Analyte concentration is estimated due to matrix inter MCCS EPA 600/4-83-020. Methods for Chemical Analysis of EPA 600/R-92/129. Methods for the Determination of	te in the set fell with cause sample conceated MDL atton is 10 times high ecause Silver often ancentration is four tipy more than 40%, reding calibration rapper and waste forganic Compound of Organic Compound	entrations are less than 10x the MDL. ther than blank concentration precipitates with Chloride. mes greater than spike concentration. nge. s, March 1983. ds in Drinking Water (I), July 1990. nds in Drinking Water (II), July 1990.
B H J R T U V W X Z P E M roc Racce (1) (2) (3) (5)	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indic High blank data accepted because sample concentra Poor recovery for Silver quality control is accepted bec Quality contreol sample is out of control. Poor spike recovery is accepted because sample con Analyte concentration differs from second detector by Analyte concentration is estimated due to result exce Analyte concentration is estimated due to matrix inter EPA 600/4-83-020. Methods for Chemical Analysis of EPA 600/R-92/129. Methods for the Determination of EPA 600/R-92/129. Methods for the Determination of EPA SW-846. Test Methods for Evaluating Solid Wa	te in the set fell with cause sample conceated MDL ation is 10 times high ecause Silver often acentration is four tipy more than 40%, reding calibration rangerences. of Water and Waste of Organic Compounds of Organic Compounds to Third Edition was a sample of the sam	entrations are less than 10x the MDL. ther than blank concentration precipitates with Chloride. mes greater than spike concentration. nge. s, March 1983. ds in Drinking Water (I), July 1990. nds in Drinking Water (II), July 1990. rith Update III, December, 1996.
B H J R T U V W X Z P E M hock Reference (1) (2) (3) (5) (6)	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indic High blank data accepted because sample concentra Poor recovery for Silver quality control is accepted bec Quality contreol sample is out of control. Poor spike recovery is accepted because sample con Analyte concentration differs from second detector by Analyte concentration is estimated due to result exce Analyte concentration is estimated due to matrix inter DES EPA 600/4-83-020. Methods for Chemical Analysis of EPA 600/R-92/129. Methods for the Determination of EPA 600/R-92/129. Methods for the Determination of EPA SW-846. Test Methods for Evaluating Solid Wa Standard Methods for the Examination of Water and	te in the set fell with cause sample conceated MDL ation is 10 times high ecause Silver often acentration is four tipy more than 40%. Therefore and Waste of Organic Compounds of Organic Compour iste, Third Edition wastewater, 19th e	entrations are less than 10x the MDL. ther than blank concentration precipitates with Chloride. mes greater than spike concentration. nge. s, March 1983. ds in Drinking Water (I), July 1990. nds in Drinking Water (II), July 1990. rith Update III, December, 1996.
B H J R T U V W X Z P E M roc Racce (1) (2) (3) (5)	Analyte detected in daily blank Analysis exceeded method hold time. Analyte concentration detected at a value between M Poor spike recovery accepted because the other spik High Relative Percent Difference (RPD) accepted bec Analyte was analyzed for but not detected at the indic High blank data accepted because sample concentra Poor recovery for Silver quality control is accepted bec Quality contreol sample is out of control. Poor spike recovery is accepted because sample con Analyte concentration differs from second detector by Analyte concentration is estimated due to result exce Analyte concentration is estimated due to matrix inter EPA 600/4-83-020. Methods for Chemical Analysis of EPA 600/R-92/129. Methods for the Determination of EPA 600/R-92/129. Methods for the Determination of EPA SW-846. Test Methods for Evaluating Solid Wa	te in the set fell with cause sample conceated MDL ation is 10 times high ecause Silver often acentration is four tipy more than 40%, reding calibration rangerences. Of Water and Waste of Organic Compounds of Organic Compounds to Third Edition wastewater, 19th expenses and the sample of the sam	entrations are less than 10x the MDL. ther than blank concentration precipitates with Chloride. mes greater than spike concentration. nge. s, March 1983. ds in Drinking Water (I), July 1990. nds in Drinking Water (II), July 1990. nith Update III, December, 1996. dition, 1995.

REPIN03.11.00.01

L48066: Page 13 of 17

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

Organic Extended

Qualifier Reports

Burlington Resources, Inc.

ACZ Project ID: L48066

AGZID -	WORKNUM	PARAMETER!	METHOD 2411	OUAL.	DESCRIPTION
L48066-01	WG179312	Ethylbenzene	M8021B GC/PID	N1	See Case Narrative.
		m p Xylene	M8021B GC/PID	N1	See Case Narrative.
L48066-02	WG179312	Ethylbenzene	M8021B GC/PID	N1	See Case Narrative.
		m p Xylene	M8021B GC/PID	N1	See Case Narrative.
L48066-03	WG179312	Ethylbenzene	M8021B GC/PID	N1	See Case Narrative.
		m p Xylene	M8021B GC/PID	N1	See Case Narrative.
L48066-04	WG179312	Ethylbenzene	M8021B GC/PID	N1	See Case Narrative.
		m p Xylene	M8021B GC/PID	N1	See Case Narrative.
L48066-05	WG179312	Ethylbenzene	M8021B GC/PID	N1	See Case Narrative.
		m p Xylene	M8021B GC/PID	N1	See Case Narrative.
L48066-06	WG179312	Ethylbenzene	M8021B GC/PID	N1	See Case Narrative.
		m p Xylene	M8021B GC/PID	N1	See Case Narrative.
L48066-07	WG179312	Ethylbenzene	M8021B GC/PID	N1	See Case Narrative.
		m p Xylene	M8021B GC/PID	N1	See Case Narrative.

EXTQUAL.11.20.02.01

L48066: Page 14 of 17



Burlington Resources, Inc.

ACZ Project ID:

L48066

Date Received: Received By: 10/1/2004

Receipt Verification

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

YES	ИО	NA
		Х
X		
		X
Х		1
X		
Х		
X		
X		
X X X X X X		
Х		
X		
Χ		
		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)
ACZ		5.2	14
	†		

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

NOCO

REPAD.03.11.00.01

L48066: Page 15 of 17



Burlington Resources, Inc.

ACZ Project ID: Date Received:

L48066 10/1/2004

eived By:

Date	Γ
Re	ec

SAMPLE	CLIENT ID	R < 2	G < 2	Y < 2	YG< 2	B < 2	BG< 2	0 < 2	T >12	P >12	N/A	RAD
48066-01	MW-1 MARCOTE										Ö	
48066-02	MW-2 MARCOTE										Ö	
48066-03	MW-3 MARCOTE										Ö	
48066-04	MW-1 COZZENS					-					Ö	
48066-05	MW-2 COZZENS										Ö	
48066-06	MW-1 FLORA VISTA										Ö	
48066-07	TB092104-03										Ö	
Sample@	Container/Preservation Le	gend	140									

lesintana (ann	rentrative rays and that first	u .	
Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
В	Filtered/Sulfuric	BLUE	pH must be < 2
BG	Filtered/Sulfuric	BLUE GLASS	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
0	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
Υ	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

L48066: Page 16 of 17

WELL DEVELOPMENT AND SAMPLING LOG

				•												
Project No.:3	30003.0			Р	roject	Nam	e: Burli	ington Ma	rcote	1	Clie	ent: B	urlington Resources			
Location: Ma		ol Unit	<u> </u>		-								nent Sampling			
Project Mana								Start	Time	— <u>9 0930</u>	We	ather	clear 30s			
Depth to Wa	ter2	3.67	 D€	epth to	Produ	ct	na l	– Product Tł	nickn	ess_na	Me	asurin	g Point TOC			
Water Colum			-	•										_		
	_															
Sampling Me	thod: Si	ubmers	sible Pu	ımp 🗌		Cen	trifugal	Pump 🗆	P	eristaltic	Pump [ı C	Other			
	В	ottom \	Valve B	ailer x		Dou	ble Che	ck Valve I	3aile	r□ Si	tainless-S	teel K	emmerer 🗆			
Criteria: 3 t	o 5 Casi	ng Vol	umes of	f Water	Rem	oval)	(stabi	lization of	Indic	ator Par	ameters	X C	Other: or bail dry			
						Wate	r Volum	ne in Well						7		
	ft of wat				llons				Oun	ces		Gal	oz to be removed	_		
10.2	8 x 0.16			1.64	45 x 3								4.934			
Time	рН		SC	Te	mp		DRP	D.O.	Tu	rbidity	Vol Eva	2	Comments/			
(military)	(su)	1	nos/cm)		F)	l	livolts)	(mg/L)		NTU)	(gal.)	.	Flow rate			
0932	6.98	4	940	53	3.7	,					.25	CI	ear			
	6.82	6	840	57	7.2						.50	Gı	rey			
	6.95	5	190	59	0.0						1.0	Gı	rey			
	6.73	5	120	20 58		58.7							2.0	G	rey	
	6.73	5	210	10 58.3		58.3						3.0	Gı	rey		
	6.68		010		0.0						4.0		rey			
<u>0946</u>	6.71	5	160	58	3.6						5.0	G	rey			
Final:			- 1	-		·	1			· · · · · · · · · · · · · · · · · · ·						
Time	pH	sc	. 7	Temp	Eh-0	ORP	D.O.	Turbid	tv	Vol Eva	ac Com	ments	/Flow Rate			
0946	6.71			58.6		J (()	0.0.	Tarbia	•	5.0	Gre		, Tow rate			
COMMENTS																
INSTRUMEN	ITATION	1: p	oH Mete								erature M	eter x				
				lonitor						Other						
			tivity Me													
Water Dispos			ample II					nple Time								
BTEX VOC	Cs Alkal	inity I	TDS Ca	itions .	Anion	s Ni	trate N	Vitrite Amr	noni	a TKN 1	VMWQC	C Meta	lls Total Phosphorus			
			_ =	_									_			
MS/MSD			BE	נ			BD	Name/Tim	ne			Т	В			

Organic Analytica Results

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

Burlington Resources, Inc.

Project ID:

MISC GW SAMPLES

Sample ID:

MARCOTE MW 1

Locator:

ACZ Sample ID: L49153-02

Date Sampled: 12/13/04 9:50

Date Received:

12/15/04

Sample Matrix:

Ground Water

Benzene, Toluene, Ethylbenzene & Xylene

M8021B GC/PID Analysis Method:

Extract Method: Method Analyst: km

Extract Date: 12/21/04 1:27 Analysis Date: 12/21/04 1:27

Dilution Factor:

Compound

Compound:	CAS	Result 2.	QUAL	Xe Unit	s "Mol	Pel
Benzene	000071-43-2	0.4	J	* ug/l	. 0.3	1
Ethylbenzene	000100-41-4	0.7	J	* ug/l	. 0.2	1
m p Xylene	01330 20 7	20.2		* ug/l	. 0.4	2
o Xylene	00095-47- 6		U	* ug/l	0.2	1
Toluene	000108-88-3	0.7	J	* ug/L	0.2	1

Surge 10	CAS	% Recovery	χe	Units	LOL	(ingr
Bromofluorobenzene	000460-00-4	105.4	*	%	83	117

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:			-						
Location:_					•				M-41
Project Mana									Weatherclear 30s
Water Colun			-		_		nicknessi	<u>ia</u> iviea	asuring Point <u>TOC</u>
vvaler Colum	illi nelgii	ι <u>0.97</u>	vvei	I Dia		•			
Sampling Me			sible Pun Valve Bai						Other □ inless-Steel Kemr⊡rer
Criteria: 3									X Other_or bail_dry
					Water Vo	olume in W	ell		
	tft of wat	er		Gallons			Ounces		Gal/oz to be removed
8.97	7 x 0.16			1.435 x 3	}				4.306
Time	n l l		SC	Temp	ORP	D.O	Turbidit	y Vol Evad	c. Comments/
Time (military)	pH (su)	1	hos/cm)	(°F)	(millivo	l l			Flow rate
0904	7.10	3	3430	54.4				.25	Silty/brown
	7.07	3	3350	55.2				.50	
	7.02	3	3380	55.1				.75	
	7.00	3	3360	54.4				2.0	
	7.12	3	3410	55.0				3.0	
	7.12	3	3380	55.1				4.0	
0922	7.14	3	3360	55.1				5.0	
Final:					Ţ		Ferrous		
Time pl	н s	C	Temp	Eh-ORP	D.O.	Turbidity	Iron	Vol Evac.	Comments/Flow Rate
		3360	55.1					5.0	
					I	J		<u>L —</u>	
COMMENTS	S: well is	bailing	down						
INSTRUME	NTATION	V : 1	pH Meter	Х			Te	mperature Me	eter x
, <u>-</u>			DO Mo					her	
	C	Conduc	ctivity Met						
Water Dispo			•		e ID MW-	2 Sample	— Time <u> 092</u>	5	
BTEX VO				-		-			
						DD N	Ti		ТВ

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

Organie Analytical Results

Burlington Resources, Inc.

Analysis Method:

Extract Method:

Project ID:

MISC GW SAMPLES

Sample ID:

MARCOTE MW 2

Locator:

ACZ Sample ID: L49153-01

Date Sampled: 12/13/04 9:25

Date Received: 12/15/04

Sample Matrix: Ground Water

Benzene, Toluene, Ethylbenzene & Xylene

Method

M8021B GC/PID

Analyst: km

Extract Date: 12/21/04 1:37

Dilution Factor: 1

Analysis Date: 12/21/04 1:37

Compound

Gompound (25)	GAS	Result	QUAL)	O Unite	Moe,	FOL.
Benzene	000071-43-2	0.3	J	ug/L	0.3	1
Ethylbenzene	000100-41-4	0.3	J	ug/L	0.2	1
m p Xylene	01330 20 7	8.6		ug/L	0.4	2
o Xylene	00095-47- 6	2.6		ug/L	0.2	1
Toluene	000108-88-3	1.3		ug/L·	0.2	1

Stricte	CAS	% Recovery	Online Ox	LOL	OO L
Bromofluorobenzene	000460-00-4	99.2	%	83	117

WELL DEVELOPMENT AND SAMPLING LOG

Project No.:300				roject Nam		ngton Ma	cote 1			Burlington Resources		
Location:_Mare										Development <u>Sampling</u>		
Project Manage						_	· · · · · · · · · · · · · · · · · · ·		-	ner <u>clear 30s</u>		
Depth to Water			· ·		naP	roduct 11	nckness	<u>na</u>	Meas	uring Point <u>TOC</u>		
Water Column	Height	<u>6.31</u> \	vveli Dia.									
Sampling Meth	od: Sul	bmersible f	oump 🗀	Cen	trifugal F	ump 🗆	Peris	taltic Pı	ump 🛚	Other		
	Bot	ttom Valve	Bailer x	Dou	ble Chec	ck Valve E	Bailer □	Stair	nless-Stee	el Kemmerer		
Criteria: 3 to	5 Casin	g Volumes	of Water	Removal)	(stabili	zation of	Indicato	r Paran	neters X	Other: or bail dry		
Gal/ft x ft of water Gallons Ounces Gal/oz to be removed												
6.31 x				11 x 3			Ounces			3.03		
Time (military)	pH (su)	SC (umhos/cn			ORP livolts)	D.O. (mg/L)	Turbic (NTU		/ol Evac. (gal.)	Comments/ Flow rate		
	7.11	3810		5.7	voito)	(mg/c/	(1410	,,	.25	Clear		
	7.15	3480	56	5.6					.50	Brown		
	7.16	3650	56	5.9					.75	Brown		
	7.16	3773	56	5.7					2.0	Brown		
1007	7.14	3610	56	5.9					3.0	Brown		
			_									
									,			
Final:												
Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidi	ty Vo	l Evac.		ents/Flow Rate		
1007	7.14	3610	56.9					3.0	Brown			
COMMENTS:	There	was no wat	ter in the	well. Prob	ably due	to seaso	nal drop	in wate	er level du	ie to lack of local irrigation.		
					<u> </u>							
INSTRUMENT	AHON:	•	ter X Monitor		· · · · · · · · · · · · · · · · · · ·			empera ther	iture Mete	r x		
	Co	onductivity I					9					
Water Disposa		•		mw-3		Samp	le Time	<u>1</u> 010)			
Analysis		Water Disposal on site Sample ID mw-3 Sample Time 1010										
i	Analysis BTEX MS/MSD BD BD Name/Time TB											

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493 Organic Analytica Results :

Burlington Resources, Inc.

Project ID:

MISC GW SAMPLES

Sample ID:

MARCOTE MW 3

Locator:

ACZ Sample ID: L49153-03

Date Sampled: 12/13/04 10:10

Date Received:

12/15/04

Sample Matrix: Ground Water

Benzene, Toluene, Ethylbenzene & Xylene

Analysis Method:

M8021B GC/PID

Extract Method:

Method

Analyst: km

Extract Date:

12/21/04 10:26 12/21/04 10:26

Analysis Date:

Dilution Factor:

Compound

ØAS	e Result	GUAL X	O Units	MDL.	Per
000071-43-2		U	ug/L	0.3	1
000100-41-4		U	ug/L	0.2	1
01330 20 7	1.2	J	ug/L	0.4	2
00095-47- 6	0.4	J	ug/L	0.2	1
000108-88-3	0.3	J	ug/L	0.2	1
	000100-41-4 01330 20 7 00095-47- 6	000071-43-2 000100-41-4 01330 20 7 1.2 00095-47- 6 0.4	000071-43-2 U 000100-41-4 U 01330 20 7 1.2 J 00095-47- 6 0.4 J	000071-43-2 U ug/L 000100-41-4 U ug/L 01330 20 7 1.2 J ug/L 00095-47- 6 0.4 J ug/L	000071-43-2 U ug/L 0.3 000100-41-4 U ug/L 0.2 01330 20 7 1.2 J ug/L 0.4 00095-47-6 0.4 J ug/L 0.2

Sturogate, 193	ØAS 4	-% Recovery	esse Xej (Viille)	(EQL)	(OGL)
Bromofluorobenzene	000460-00-4	98.6	0/0	83	117

L4 9153

Laboratories, Inc.	4 E402						72 7	HAIN JSTC		
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 33 Report to	4-5493			a 118	4	or Tugger				
Name: GREGG Wurtz		Addre	ss: 3	ረዛን	7	カち	<u>u</u> <	4	,	
Company: Burlmaton	1		mi		rnal	A.		874	19	
E-mail:	-	Telep			05	32		9700		
Copy of Report to:	سا در این این این این این این این این این این			1,300	a luke of		0 333	47.5		
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Name: SAME AS Above	_	Email:	:							
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If sample(s) received past holding time (HT), or if insufficie				lete				YES		
analysis before expiration, shall ACZ proceed with request if "NO" then ACZ will contact client for further instruction.				IO"				ИО		
is indicated, ACZ will proceed with the requested analyses					a will b	e quali	fied.			
PROJECT INFORMATION	, mary							use quo	te nun	iber)
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Project/PO#: MISC- GROUND Water Panyol	7	of Containers]]] .	1		}	
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SAMPLE IDENTIFICATION DATE: TIME	Matrix		Q							
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TB 120904-01 121304 1750	0	1	1							
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December 31, 2004

Report to:
Gregg Wurtz
Burlington Resources, Inc.
3401 E. 30th St. PO BOX 4289
Farmington, NM 87499

Bill to:
Gregg Wurtz
Burlington Resources, Inc.
3401 E. 30th St. PO BOX 4289
Farmington, NM 87499

Project ID: MISC GW SAMPLES

ACZ Project ID: L49153

Gregg Wurtz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 15, 2004. This project has been assigned to ACZ's project number, L49153. 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 L49153. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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 January 31, 2005. 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. Please notify your Project Manager if you have other needs.

If you have any questions, please contact your Project Manager or Customer Service Representative.

31/Dec/04

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





2773 Downhill Drive Steamboat Springs, CO 8048: (800) 334-5493



December 31, 2004

Burlington Resources, Inc.

Project ID: MISC GW SAMPLES

ACZ Project ID: L49153

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 4 ground water samples from Burlington Resources, Inc. on December 15, 2004. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L49153. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for organic parameters. The individual methods are referenced on both, the ACZ invoice an the analytical reports. The following anomalies required further explanation not provided by the Extended Qualifier Report:

- 1. For sample L49153-02, Toluene was detected in the Prep Blank (PBW) so the toluene value, flagged with a "B1", is considered estimated.
- 2. For sample L49153-02 flagged with an "N1", Benzene recovered outside of the control charted limits but within the method limits for the LCSW/LCSWD.

REPAD.02.11.00.01 L49153: Page 2 of 11

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

Burlington Resources, Inc.

Analysis Method:

Extract Method:

Project ID:

MISC GW SAMPLES

Sample ID:

TB120904-01

Locator:

ACZ Sample ID: L49153-07

Date Sampled:

12/13/04 17:30

Date Received:

12/15/04

Sample Matrix:

Ground Water

Benzene Toluene, Ethylbenzene & Xylene:

Method

M8021B GC/PID

Analyst: km

Extract Date:

12/21/04 9:43

Analysis Date: 12/21/04 9:43

Dilution Factor: 1

Compound

Compound	. CAS + Result	QUAL XQ	ening.	MOL	FQL/
Benzene	000071-43-2	U	ug/L	0.3	1
Ethylbenzene	000100-41-4	U	ug/L	0.2	1
m p Xylene	01330 20 7	U	ug/L	0.4	2
o Xylene	00095-47- 6	U	ug/L	0.2	1
Toluene	000108-88-3	U	ug/L	0.2	1

Strice Control of the Strice Control of the	GAS 4	Recovery Xe	Unite -	TIGE	nor.
Bromofluorobenzene	000460-00-4	94	%	83	117

Laboratories, Inc.

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

Organic Reference

	nations

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 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.

to the second of

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

REPIN03.11.00.01





Burlington Resources, Inc.

ACZ Project ID: L49153

AG2ID	VVORKNUM	PARAMETER	METHOD	OUAL	DESCRIPTION STATES
L49153-02	WG183031	*All Compounds*	M8021B GC/PID	N1	See Case Narrative.
		Benzene	M8021B GC/PID	V8	Calibration verification récovery was below the method control limit for this analyte, however the average % difference or % drift for all the analytes met method criteria.
		Toluene	M8021B GC/PID	B1	Target analyte detected in method blank at or above the method reporting limit. See Case Narrative.



Burlington Resources, Inc.

MISC GW SAMPLES

ACZ Project ID: Date Received:

L49153 12/15/2004

Received By:

sueb

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

YES	NO	NA
		X
X		
		X
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Exceptions: If you answered no to any of the above questions; please describe

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

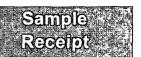
Gregg Wurtz was contacted. Gregg indicated who did the sampling.

Shipping Containers

Cooler Id		Temp (°C)	Rad (µR/hr)		
acz		8.5	13		

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

[&]quot;Sampled by" not relinquished.



Burlington Resources, Inc.

MISC GW SAMPLES

ACZ Project ID:

L49153

Date Received:

12/15/2004

Received By:

sueb

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	Y < 2	YG< 2	B < 2	BG< 2	0 < 2	T >12	P >12	N/A	RAD
L49153-01	MARCOTE MW 2										X	
L49153-02	MARCOTE MW 1										Х	
L49153-03	MARCOTE MW 3										Х	
L49153-07	TB120904-01										X	
Sample 0	ontainer, Preservation Legen	dl 👫	J. Francisco			1			1. Jan. 1.			

Description	Container Type	Preservative/Limits
Raw/Nitric	RED	pH must be < 2
Filtered/Sulfuric	BLUE	pH must be < 2
Filtered/Sulfuric	BLUE GLASS	pH must be < 2
Filtered/Nitric	GREEN	pH must be < 2
Raw/Sulfuric	ORANGE	pH must be < 2
Raw/NaOH	PURPLE	pH must be > 12
Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Raw/Sulfuric	YELLOW	pH must be < 2
Raw/Sulfuric	YELLOW GLASS	pH must be < 2
No preservative needed	Not applicable	
Gamma/Beta dose rate	Not applicable	must be < 250 μR/hr
	Raw/Nitric Filtered/Sulfuric Filtered/Sulfuric Filtered/Nitric Raw/Sulfuric Raw/NaOH Raw/NaOH Zinc Acetate Raw/Sulfuric Raw/Sulfuric Raw/Sulfuric No preservative needed	Raw/Nitric RED . Filtered/Sulfuric BLUE Filtered/Sulfuric BLUE GLASS Filtered/Nitric GREEN Raw/Sulfuric ORANGE Raw/NaOH PURPLE Raw/NaOH Zinc Acetate TAN Raw/Sulfuric YELLOW Raw/Sulfuric YELLOW GLASS No preservative needed Not applicable

ALL Labora	atories, Inc.			122	. 1 7			The state of	IAIN IST	F3-4	
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FRMQA021.06.03.05

White - Return with sample.

Yellow - Retain for your records.



October 30, 2003

Gregg Wurtz
Burlington Resources, Inc.
3401 E. 30th St. PO BOX 4289
Farmington, NM 87402-4289

Project ID:

ACZ Project ID: L43323

Gregg Wurtz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on October 10, 2003. This project has been assigned to ACZ's project number, L43323. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 10.0. The enclosed results relate only to the samples received under L43323. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

This report shall be used or copied only in it's 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 November 30, 2003. 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. Please notify your Project Manager if you have other needs.

If you have any questions, please contact your Project Manager or Customer Service Representative.

Sur Bankay

30/Oct/03

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





Inorganic Analytical Results

Burlington Resources, Inc.

Project ID:

Sample ID:

M P Unit 1 MW-2

ACZ Sample ID: L43323-01

Date Sampled: 10/08/03 16:30

Date Received: 10/10/03

Sample Matrix: Ground Water

metais	Αn	aıy	SIS
	8000	200	

Parameter	EPA Method	Result	Qual XQ	Units	MDL	POL	Date Ar	alyst
Arsenic, dissolved	M200.8 ICP-MS	0.0036		mg/L	0.0001	0.0005	10/24/03 8:49	jb
Barium, dissolved	M200.7 ICP	0.047		mg/L	0.003	0.01	10/31/03 19:57	wfg
Cadmium, dissolved	M200.8 ICP-MS	0.0001	В	mg/L	0.0001	0.0005	10/24/03 8:49	jb
Calcium, dissolved	M200.7 ICP	266		mg/L	0.2	1	10/29/03 14:52	scp
Chromium, dissolved	M200.8 ICP-MS	0.0008		mg/L	0.0001	0.0005	10/24/03 8:49	jb
Copper, dissolved	M200.8 ICP-MS	0.0021	В	mg/L	0.0005	0.003	10/24/03 8:49	jb
Iron, dissolved	M200.7 ICP	0.98		mg/L	0.01	0.05	10/31/03 19:57	wfg
Magnesium, dissolved	M200.7 ICP	34.9		mg/L	0.2	1	10/29/03 14:52	scp
Manganese, dissolved	M200.7 ICP	2.390	*	mg/L	0.005	0.03	10/31/03 19:57	wfg
Potassium, dissolved	M200.7 ICP	1.6		mg/L	0.3	1	10/31/03 19:57	wfg
Sodium, dissolved	M200.7 ICP	419		mg/L	0.3	1	10/31/03 19:57	wfg
Zinc, dissolved	M200.7 ICP	0.02	В	mg/L	0.01	0.05	10/29/03 14:52	scp

Wet Chemistry

Wet Criemistry								
Parameter	EPA Method	Result	Qual X	ia Units	MDL	POL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration							
Bicarbonate as CaCO3		302		mg/L	2	10	10/22/03 0:00	mah
Carbonate as CaCO3			U	mg/L	2	10	10/22/03 0:00	mah
Hydroxide as CaCO3			U	mg/L	2	10	10/22/03 0:00	mah
Total Alkalinity		302		mg/L	2	10	10/22/03 0:00	mah
Cation-Anion Balance	Calculation							
Cation-Anion Balance		-0.7		%			10/30/03 0:00	calc
Sum of Anions		35.4		meq/L	0.1	0.5	10/30/03 0:00	calc
Sum of Cations		34.9		meq/L	0.1	0.5	10/30/03 0:00	calc
Chloride	M325.2 - Colorimetric	45		mg/L	1	5	10/22/03 20:09	kmc
Conductivity @25C	M120.1 - Meter	2230		umhos/cm	1	10	10/22/03 0:10	mah
Lab Filtration	SM 3030 B						10/21/03 10:21	lms
Lab Filtration & Acidification	SM 3030 B						10/14/03 11:24	scp
pH (lab)	M150.1 - Electrometric	7.9	н	units	0.1	0.1	10/22/03 0:10	mah
Sulfate	M375.3 - Gravimetric	1340		mg/L	50	300	10/28/03 8:22	lms

L43323: Page 2 of 13

Inorganic Analytical Results

Burlington Resources, Inc.

Project ID:

Sample ID:

M P Unit 1 MW-3

ACZ Sample ID: L43323-02

Date Sampled:

10/08/03 17:00

Date Received:

10/10/03

Sample Matrix: Ground Water

Metals	Anah	vsis

Parameter	EPA Method	Result Qual	XO Units	MDL	POL	Date	Analyst
Arsenic, dissolved	M200.8 ICP-MS	0.0012	mg/L	0.0001	0.0005	10/24/03 8:55	jb
Barium, dissolved	M200.7 ICP	0.037	mg/L	0.003	0.01	10/31/03 20:09	wfg
Cadmium, dissolved	M200.8 ICP-MS	U	mg/L	0.0001	0.0005	10/24/03 8:55	jb
Calcium, dissolved	M200.7 ICP	262	mg/L	0.2	1	10/29/03 14:55	scp
Chromium, dissolved	M200.8 ICP-MS	0.0012	mg/L	0.0001	0.0005	10/24/03 8:55	jb
Copper, dissolved	M200.8 ICP-MS	0.0017 B	mg/L	0.0005	0.003	10/24/03 8:55	jb
Iron, dissolved	M200.7 ICP	0.47	mg/L	0.01	0.05	10/31/03 20:09	wfg
Magnesium, dissolved	M200.7 ICP	34.5	mg/L	0.2	1	10/29/03 14:55	scp
Manganese, dissolved	M200.7 ICP	0.063	* mg/L	0.005	0.03	10/31/03 20:09	wfg
Potassium, dissolved	M200.7 ICP	1.6	mg/L	0.3	1	10/31/03 20:09	wfg
Sodium, dissolved	M200.7 ICP	409	mg/L	0.3	1	10/31/03 20:09	wfg
Zinc, dissolved	M200.7 ICP	U	mg/L	0.01	0.05	10/29/03 14:55	scp

Wet Chemistry								
Parameter	EPA Method	Result	Qual)	@ Unite	MDL	POL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration							
Bicarbonate as		291		mg/L	2	10	10/22/03 0:00	mah
CaCO3								
Carbonate as CaCO3	3		U	mg/L	2	10	10/22/03 0:00	mah
Hydroxide as CaCO3	3		U	mg/L	2	10	10/22/03 0:00	mah
Total Alkalinity		291		mg/L	2	10	10/22/03 0:00	mah
Cation-Anion Balance	Calculation							
Cation-Anion Balance)	-4.2		%			10/30/03 0:00	calc
Sum of Anions		37.0		meq/L	0.1	0.5	10/30/03 0:00	calc
Sum of Cations		34.0		meq/L	0.1	0.5	10/30/03 0:00	catc
Chloride	M325.2 - Colorimetric	48		mg/L	1	5	10/22/03 20:09	kmc
Conductivity @25C	M120.1 - Meter	2340		umhos/cm	1	10	10/22/03 0:26	mah
Lab Filtration	SM 3030 B						10/21/03 10:31	lms
Lab Filtration &	SM 3030 B						10/14/03 11:25	scp
Acidification								
pH (lab)	M150.1 - Electrometric	7.9	Н	units	0.1	0.1	10/22/03 0:26	mah
Sulfate	M375.3 - Gravimetric	1420		mg/L	50	300	10/28/03 8:41	lms



Benori Hearle	r 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)		
MDL.	Method Detection Limit. Same as Minimum Reporting L	imit Allows fo	or instrument and annual fluctuations
PCN/SCN	· -		
PQL	Practical Quantitation Limit, typically 5 times the MDL.	e mandiactorer	3 certificate of analysis
QC		to the Coike	
Rec	True Value of the Control Sample or the amount added to	•	SSSW-)
RPD	Amount of the true value or spike added recovered, in %		.55, mg/kg)
	Relative Percent Difference, calculation used for Duplica	ate QC Types	
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)		
Sample	Value of the Sample of interest		
QC Sample Ty	pes		pa .
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calivation Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	Serial Dilution
QC Sample To	ine Explanations:		
Blanks	Verifies that there is no or mining	nal contaminati	on in the prep method or calibration procedure.
Control Sa			• •
Duplicates	Verifies the precision of the inst		
•	tified Matrix Determines sample matrix interf		
Standard	Verifies the validity of the calibra	-	•
AleZ enablica			La talance and the same of the same of the same of the same of the same of the same of the same of the same of
В	Analyte concentration detected at a value between MDL		
н	Analysis exceeded method hold time. pH is a field test to		
R	Poor spike recovery accepted because the other spike is		•
Т	High Relative Percent Difference (RPD) accepted becau		centrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicate		
V	High blank data accepted because sample concentration		
W	Poor recovery for Silver quality control is accepted because	use Silver ofter	n precipitates with Chloride.
X	Quality control sample is out of control.		
Z	Poor spike recovery is accepted because sample concer	ntration is four	times greater than spike concentration.
	encate and the second		
(1)	EPA 600/4-83-020. Methods for Chemical Analysis of W	Vater and Wast	es, March 1983.
(2)	EDA 600/P-93-100 Methods for the Determination of In		

- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples Supplement I, May 1994.
- (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) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.

REPIN03.11.00.01

Inorganic Extended Qualifier Report

Burlington Resources, Inc.

ACZ Project ID: L43323

A OZ (Ē.	WORKNUM	PARAMETER	METHOD	CLIAL	DESCRIPTION
L43323-01	WG164197	Manganese, dissolved	M200.7 ICP	МЗ	The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.
L43323-02	WG164197	Manganese, dissolved	M200.7 ICP	МЗ	The accuracy of the spike recovery value is reduced since the analyte concentration in the sample is disproportionate to spike level. The method control sample recovery was acceptable.

EXTQUAL.11.20.02.01

L43323: Page 5 of 13

WELL DEVELOPMENT AND SAMPLING LOG

Water Colu	larcote langer ater mn Heig	Pool Ur MJN 29.71 ht 9. Submer	nit 1 Dep 38 Wel rsible Pun Valve Ba	Well N oth to Produ Il Dia. np □ iler x Water Rem	o:MV Date octna 2" Centrifu Double	/-2 10// Igal I	6/03 Product T Pump □ ck Valve	Start Ti hickness_ Perista Bailer []	me na Itic Pi	Dev 1627 Mea	ent: Burlington Resources relopment Sampling Weather sunny 80s asuring Point TOC Other eel Kemmerer K Other
	x ft of wa 38 x .16	iter		Gallons 1.50 x 3	3	olum	e in Well	Ounces			Gal/oz to be removed 4.50
Time (military)	pH (su)	1	SC hos/cm)	Temp (°C)	ORP (millivo		D.O. (mg/L)	Turbidit (NTU)		ol Evac (gal.)	Comments/ Flow rate
1632	7.29	4	2070	17.2						1	muddy, brown, very good flow to well
	7.45		2080	17.3		·				2	muddy, brown, very good flow to well
	7.34	1	2000	16.9						3	muddy, brown, very good flow to well
	7.33		2040	16.8						4	muddy, brown, very good flow to well
	7.34	_	2170	16.6			·			5	muddy, brown, very good flow to well
1713	7.36		2180	16.4						10	muddy, brown, very good flow to well
								,	-		
	H 7.36	SC 2180	Temp 16.4	Eh-ORP	D.O.	Tu	rbidity	Ferrous Iron		Evac.	Comments/Flow Rate muddy, brown, very good flow to well
COMMENT	S:										
Water Disp	osal <u>o</u> i	Conduc	•	nitor ter X D_NA			Jitrite Am	Oth Sa	ner mple '	ture Me	
MS/MSD_			BD_			BD	Name/Tir	ne			TB

WELL DEVELOPMENT AND SAMPLING LOG

Gal/ft x	arcote Po ager ter30 nn Height ethod: So	ool Unit 1 MJN 0.74 7.92 ubmersible ottom Valve	V Depth to Well Dia. Pump ☐ Bailer x	2" Cen Dou Removal 2	MW-3 6/03 na f atrifugal l able Che	Start Product Ti Pump	Time hickr P Baile	e1637 nessna reristaltic	Deve Weat Meas Pump ainless-Stee ameters X	t: Burlington Resources lopment Sampling her_sunny 80s suring Point TOC Other Other Other: or bail dry Gal/oz to be removed 3.8
Time	рН	SC	T _O	mp (ORP	D.O.	Ti	ırbidity	Vol Evac.	Comments/
(military)	(su)	(umhos/cr			llivolts)	(mg/L)		NTU)	(gal.)	Flow rate
1645	7.10	2470	18	3.0					1	Silty, brown
	7.42	2240	17	7.1					2	Silty, brown
	7.44	2200	16	5.9	· ·-·				3	Silty, brown
<u>1656</u>	7.40	2230	17	7.0				· · · · · · · · · · · · · · · · · · ·	4	Silty, brown
Final: Time 1656	pH 7.40	SC 2230	Temp 17.0	Eh-ORP	D.O.	Turbid	ity	Vol Eva	Comm Silty, I	ents/Flow Rate prown
COMMENTS	3;									
Water Dispo BTEX VOC Phosphorus	C sal <u>ons</u>	DO onductivity <u>ite</u> Sampl	e ID <u>Maı</u>	cote 1 MW	<i>I</i> -3	Vitrate	- Nitri	Other Sample	e Time 170	
MS/MSD			BD		BD	Name/Tin	ne	· · · · · · · · · · · · · · · · · · ·		_ TB

Organic Analytical Results

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

Burlington Resources, Inc.

Project ID:

Sample ID: M P Unit 1 MW-2

ACZ Sample ID: L43323-01

Date Sampled: 10/08/03 16:30

Date Received: 10/10/03

Sample Matrix: Ground Water

Benzene, Toluene, Ethylbenzene & Xylene:

Analysis Method: M8021B GC/PID

Extract Method: Method

Analyst: km

Extract Date: 10/13/03 20:07 Analysis Date: 10/13/03 20:07

Dilution Factor: 1

Compound

Compodite : :	A Fesul		Uffle	MD	(0)[5]
Benzene	000071-43-2	υ	ug/L	0.3	1
Ethylbenzene	000100-41-4	U	ug/L	0.2	1
m p Xylene	01330 20 7	U	ug/L	0.4	2
o Xylene	00095-47- 6	U	ug/L	0.2	1
Toluene	000108-88-3	U	ug/L	0.2	1

Surrogate Recoveries

 Surrogate
 CAS ::
 Recevery
 XQ Units : EQL : BGE

 Bromofluorobenzene
 000460-00-4
 90.8
 %
 84
 114

84

114

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

Burlington Resources, Inc.

Project ID:

Sample ID:

M P Unit 1 MW-3

ACZ Sample ID: L43323-02

Date Sampled: 10/08/03 17:00

Date Received: 10/10/03

Sample Matrix: Ground Water

Benzene, Toluene, Ethylbenzene & Xylene

Analysis Method: M8021B GC/PID

Extract Method: Method

Analyst: km

Extract Date: 10/13/03 20:49 Analysis Date: 10/13/03 20:49

Dilution Factor: 1

92.6

Compound

Bromofluorobenzene

Benzene	000071-43-2		U	ug/L	0.3	1	
Ethylbenzene	000100-41-4		U	ug/L	0.2	1	
m p Xylene	01330 20 7	•	U	ug/L	0.4	2	
o Xylene	00095-47- 6		U	ug/L	0.2	1	
Toluene	000108-88-3	0.2	J	ug/L	0.2	1	
Surrogate Recoveries Surrogate	er, gas	= % Recovery		as, basis	I.C.	U.e.L.	

000460-00-4

Organic Analytical Results

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

Burlington Resources, Inc.

Project ID:

Bromofluorobenzene

Sample ID: TB100303-02

ACZ Sample ID: L43323-03

Date Sampled: 10/08/03 0:00

Date Received: 10/10/03

Sample Matrix: Ground Water

Benzene, Toluene, Ethylbenzene & Xylene

Analysis Method: M8021B GC/PID

Extract Method: Method

Analyst: km

Extract Date: 10/13/03 21:32

Analysis Date: 10/13/03 21:32

Dilution Factor: 1

91

Compound Compound	CAS	Results : IDVAL XO		14101	i.e.	
Benzene	000071-43-2	U	ug/L	0.3	1	
Ethylbenzene	000100-41-4	U	ug/L	0.2	1	
m p Xylene	01330 20 7	U	ug/L	0.4	2	
o Xylene	00095-47- 6	U	ug/L	0.2	1	
Toluene	000108-88-3	U	ug/L	0.2	1	
Surrogate Recoveries	1.00A	Recovery ,XO	J _D 1(5)	I	UeIL	

000460-00-4

ALZ Labo	ratories, Inc								HAIN ISTO		
2773 Downhill Drive Steamboat S	orings, CO 80487 (800) 3	34-5493	Jackson 2	la timbala	Bolista ve in	502) CSC	J. F.	ي ي	والو		
Report to:				1							
Name: GREGG WUR	<u>rz</u>	_		ess: <u>3</u>							
Company: BURLINGT	ON RESOURCES			RM			-			<u>i9</u>	
E-mail:			Tele	ohone:	<u> 503</u>	537	260	7700	<u>د</u>		
 Copy of Report to: ﷺ ﷺ									7.8 8	类纹	3 6 4 A
Name:	,		E-ma	ul:				/			
Company:			Telep	hone:							
Invoicetto						S. E. Sel			Later Later	· (%)	£
Name: SAME AS	ABOVE	14.45.48.3	Addr	DCC.		1. Tay	range, Mai		British W.	San Carde C	200
Company:	NDOVE		, taar								
E-mail:			Teler	hone:							
If sample(s) received past holding	g time (HT), or if insuffici	ـــــا ient HT rer	<u> </u>		ete				YES		T
analysis before expiration, shall				-					NO]
If "NO" then ACZ will contact clie is indicated, ACZ will proceed wi						a will be	a aualifi	ind			
PROJECT INFORMATION	in the requested analyse			ALYSES					use au	ote nun	nber)
Quote #:		30,255 99 8,48	Section 1	T. S. P. ST. ST.		1000		Tag Park Asi	(##K/5/44)	the organization	
Project/PO #: MISC_GW	SAMOLING	_	ی	1						İ	
Shipping Co.:	J747 P 1 1 4 4		of Containers								
Tracking #:			onta		ŗ						
Reporting State for compliance	testing:	i j	ပို	~	1			١			
		·····	#	1 1						<u> </u>	
SAMPLE IDENTIFICATION.	DATE:TIME	Matrix	4	15							
MW-3 MARCOTE	12-16-03 0847	GW	2	X			<u> </u>				
MW-2 MARCOTE	12-16-030915	GW	2	X	ļ						ļ
MW-1 Flora VISTA	12-16-03 1030	G-W	12	 X	ļ		<u> </u>				
MW-Z COZZENS	12-16-03 1105	GW_	12							 -	
MW-1 COZZENS	12-16-03 1131	GW O	7	X	<u> </u>						
TRIP BLANK	12-16-03 1200	0	 '				 				
			 			_					\vdash
			1								
										- 40	
	(Ground Water) · WW (Waste						O (Soil) ·	OL (Oil)	· Other (Specify)	
REMARKS : The state of the stat					17.5				1	est v	4.65
				****			_				
RÉLINQUISHED BY	DATE	TIME		REC	EIVED	BY		* DA	TE TII	ИΕ≪	PAGE
16 (DAVID NEE)	12-16-03	1205									
						;					Of

Organic Analytical Results

Burlington Resources, Inc.

Project ID:

MISC. GW SAMPLING

Sample ID:

M-2 MARCOTE

ACZ Sample ID:

L44072-12

Date Sampled:

12/16/03 9:15

Date Received:

12/17/03

Sample Matrix:

Ground Water

Benzene. Toluene, Ethylbenze

Analysis Method: Extract Method:

M8021B GC/PID

Method

Analyst: km

Extract Date: Analysis Date:

12/18/03 20:42 12/18/03 20:42

Dilution Factor:

Compound

Campound 2 2	CAS		A CONTRACTOR		MEL	[20]	
Benzene	000071-43-2	0.4	J	ug/L	0.3	1	
Ethylbenzene	000100-41-4		U	ug/L	0.2	1	
m p Xylene	01330 20 7		U	ug/L	0.4	2	
o Xylene	00095-47- 6		U	ug/L	0.2	1	
Toluene	000108-88-3		U	ug/L	0.2	1	
Surrogate Recoveries							

Bromofluorobenzene

000460-00-4

78.5

114

Organic Analytical Results

Burlington Resources, Inc.

Project ID:

MISC. GW SAMPLING

Sample ID:

MW-3 MARCOTE

ACZ Sample ID:

L44072-11

Date Sampled: Date Received: 12/16/03 8:47 12/17/03

Sample Matrix:

Ground Water

Benzene, Toluche, Ethylbenzene & Xylene

Analysis Method:

M8021B GC/PID

Extract Method:

Method

Analyst: km

Extract Date: 12/18/03 19:59

Analysis Date: 12/18/03 19:59

Dilution Factor:

Compound

Compound	LACCAS TOOL	Resul	5004	G Magailite	MDL	F(0)	
Benzene	000071-43-2	0.5	J	ug/L	0.3	1	
Ethylbenzene	000100-41-4		U	ug/L	0.2	1	
m p Xylene	01330 20 7		U	ug/L	0.4	2	
o Xylene	00095-47- 6		U	ug/L	0.2	1	
Toluene	000108-88-3		U	ug/L	0.2	1	
Surma nata Dagawanian							

Surrogate Recoveries Surrengiff

000460-00-4 Bromofluorobenzene

81.7

L44072: Page 12 of 23

114



Organic Reference

Roj	ori 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 i	instrument and annual fluctuations.
	PCN/SCN	A number assigned to reagents/standards to trace to t	he manufacturer's	certificate of analysis
	PQL	Practical Quantitation Limit		
	QC	True Value of the Control Sample or the amount adde	d to the Spike	
	Rec	Amount of the true value or spike added recovered, in	% (except for LCS	SS, mg/Kg)
	RPD	Relative Percent Difference, calculation used for Dupli		
	Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg))	
	UCL	Upper Control Limit		
	Sample	Value of the Sample of interest		
0.0		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	PBS	Prep Blank - Soil
	LFB	Laboratory Fortified Blank	PBW	Prep Blank - Water
00	Sample Tyr	pe Explanations		and the second s
en management	Blanks	Verifies that there is no or mi	nimal contaminatio	n in the prep method procedure.
	Control San	mples Verifies the accuracy of the n	nethod, including ti	ne prep procedure.
	Duplicates	Verifies the precision of the ir	nstrument and/or n	nethod.
	Spikes/Forti	tified Matrix Determines sample matrix in	terferences, if any.	
AO	/@walifiens	(Qual)	1.1	Market Commencer Commencer Commencer Commencer Commencer Commencer Commencer Commencer Commencer Commencer Com
	В	Analyte detected in daily blank		
	Н	Analysis exceeded method hold time.		
	J	Analyte concentration detected at a value between ME	DL and PQL	
	R	Poor spike recovery accepted because the other spike	e in the set fell with	in the given limits.
	Ŧ	High Relative Percent Difference (RPD) accepted because	ause sample conc	entrations are less than 10x the MDL.
	U	Analyte was analyzed for but not detected at the indica	ated MDL	
	V	High blank data accepted because sample concentration	ion is 10 times higl	ner than blank concentration
	W	Poor recovery for Silver quality control is accepted bed	cause Silver often i	precipitates with Chloride.
	Χ	Quality contreol sample is out of control.		
	Z	Poor spike recovery is accepted because sample cond	centration is four til	nes greater than spike concentration.
	Р	Analyte concentration differs from second detector by	more than 40%.	
	E	Analyte concentration is estimated due to result excee	ding calibration ra	nge.
##S#Ennes	M	Analyte concentration is estimated due to matrix interf	erences.	
Med	heri li karasi	gens		 Province and the second
	(1)	EPA 600/4-83-020. Methods for Chemical Analysis of	Water and Waste	s, March 1983.
	(2)	EPA 600/4-90/020. Methods for the Determination of	Organic Compoun	ds in Drinking Water (I), July 1990.
	(3)	EPA 600/R-92/129. Methods for the Determination of	Organic Compoun	ds in Drinking Water (II), July 1990.
	(5)	EPA SW-846. Test Methods for Evaluating Solid Was		•
	(6)	Standard Methods for the Examination of Water and V	Vastewater, 19th e	dition, 1995.
00	nments	full services and the services and the services are services as the services are services as the services are services as the services are services as the services are services as the services are services as the services are services as the services are services are services as the services are service		Section 1
	(1)	QC results calculated from raw data. Results may var	y slightly if the rou	nded values are used in the calculations.
	(2)	Organic analyses are reported on an "as received" bas	sis	

REPIN03.11.00.01

L43323: Page 9 of 13

Organic Extended
Qualifier Report

Burlington Resources, Inc.

ACZ Project ID: L43323

ACZ ID WORKNUM PARAMETER METHOD QUAL DESCRIPTION

No extended qualifiers associated with this analysis

Sample Receipt

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

Burlington Resources, Inc.

ACZ Project ID: Date Received:

L43323 10/10/2003

Received By:

tonya

213	е
	1

1) Does this project require special handling procedures such as CLP protocol?

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

YES	NO	NA
		√
1		
		1
1		
1		
V		1
1		7
√		
4		
V		
1		
V		
		√.

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

Militaria Contra

Cooler Id		Temp (°C)	Rad (µR/hr)		
ACZ		6.9	13		
	1				
	1				

REPAD.03.11.00.01

L43323: Page 11 of 13

Sample Receipt

Burlington Resources, Inc.

ACZ Project ID:

L43323

Date Received: Received By:

10/10/2003 tonya

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	Y < 2	YG< 2	B < 2	BG< 2	0<2	T >12	P >12	N/A	RAD
L43323-01	M P Unit 1 MW-2										1	
L43323-02	M P Unit 1 MW-3										7	
L43323-03	TB100303-02								-		^	

AALTE DEAFFOR INFIAI VIAD AVINI FIIAO PAA

Depth to Wa Water Colum Sampling Me	arcote Po ager ter30 nn Height ethod: Si Bo to 5 Casi	MJN 0.09 Dep 8.76 We ubmersible Pur ottom Valve Ba	Well N Date_ oth to Produ Il Dia mp ☐	o: MW- 12/16/03 act na 2" Centrifug Double Coval X st	Start Product T pal Pump Check Valve abilization of	Time 085 hickness r Peristalti Bailer □ S	Devented Dev	nt:_Burlington Resources elopment Sampling ather_cloudy 40s suring Point_TOC Other □ eel Kemmerer □ C Other: or bail dry Sal/oz to be removed 4.2	
0.707									
Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolt	D.O. s) (mg/L)	Turbidity (NTU)	Vol Evac (gal.)	. Comments/ _ Flow rate	
0902	6.96	5930	48.0				.50	Brown Muddy	
	7.0	5930	51.7				1.0	Brown Muddy	
	7.06 6360						1.25	Brown Muddy .	
<u> </u>	7.05	6310	51.5				2.0	Brown Muddy	
<u>0912</u>	0912 7.10 6160 51					-	3.0	Brown Muddy	
							4.0	Bailing Dry	
Final:						Fernous			
Time pl		C Temp 3160 51	Eh-ORP	D.O.	Turbidity		Vol Evac.	Comments/Flow Rate Brown Muddy	
COMMENT	S:			-					
INSTRUMENTATION: pH Meter X Temperature Meter x Other Other Conductivity Meter X Water Disposal onsite Sample ID Marcote 1 MW-2 Sample Time 0915 BTEX VOCs Alkalinity TDS Cations Anions Nitrate Nitrite Ammonia TKN NMWQCC Metals Total									
Phosphorus MS/MSD		•		Anions	Nitrate BD Name/Ti			NMWQCC Metals TotalTB	

AAFFF DFAFFAL MIFILL WIAD AWM. FILLA FAA

Project No.:30003.0 Project Name: Burlington Marcote 1 Client: Burlington Resources Location: Marcote Pool Unit 1 Well No: MW-3 Development Sampling Project Manager MJN Date 12/16/03 Start Time 0830 Weather cloudy 40s Depth to Water 34.14 Depth to Product na Product Thickness na Measuring Point TOC Water Column Height 4.52 Well Dia. 2" Sampling Method: Submersible Pump Centrifugal Pump Peristaltic Pump Other Depth Tother Stainless-Steel Kemmerer Coriteria: 3 to 5 Casing Volumes of Water Removal X stabilization of Indicator Parameters X Other: or bail dry Water Volume in Well									
Time	рН	SC	Temp	ORP	D.O.	Turbidity	Vol Evac.	Comments/ _	
(military) 0833	(su)	(umhos/cm) 6490	(°F) 48.1	(millivolts)	(mg/L)	(NTU)	(gal.)	Flow rate Brown/Heavy	
	6.65	6560	49.6				.5	Silt/Muddy	
	6.80	6520	.75				.75	Silt/Muddy .	
	6.83	6540	51.3				1.0	Silt/Muddy	
	6.79	6540	51.3				2.0	Silt/Muddy	
0845	6.80	6520	51.0				2.5	Silt/Muddy	
Final Time 0845	: pH 6.86		emp Eh-	ORP D.O.	Turbid	ity Vol Ev		ients/Flow Rate	
COMMENT	C.								
COMMENT	<u>. </u>				<u>-</u>				
INSTRUMENTATION: pH Meter X DO Monitor Temperature Meter x Other									
1	osal <u>ons</u> Cs Alk a	DO Mo Conductivity Met <u>site</u> Sample II Ilinity TDS	ter X O <u>Marcote</u>			- ·	e Time <u>08</u>	47 NMWQCC Metals Total	
MS/MSD BD BD Name/Time TB									