3R - 173

2006 AGWMR

04/15/2007

3 R 173



April 15, 2007

Hand-Delivered ED

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

APR 17 2007

Oil Conservation Division Environmental Bureau

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

Dear Mr. Von Gonten:

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

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

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

Sincerely,

cc:

hegg Win Gregg Wurfz

Sr. Environmental Representative

Attachments - Groundwater Investigation and Remediation Reports

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

Environmental Bureau

APR 17 2007 BURLINGTON RESOURCES 2006 ANNUAL GROUND WATER REPORT Oil Conservation Division

Flora Vista No. 1

SITE DETAILS

Location: Unit Letter F, Section 22, Township 30N, Range 12W; San Juan County, New Mexico Land Type: Fee

2003 ACTIVITIES

Historic petroleum contaminated soil was discovered at the Flora Vista #1 location during a routine production resetting activity in 2003. Approximately 49,986 cubic yards (cu. yds.) of contaminated soil were removed and 4,446 cu. yds. of clean soil were removed. The contaminated soil was taken to a commercial landfill facility located on Crouch Mesa in Farmington, New Mexico. The clean soil was backfilled into the excavation. Ground water was observed in the bottom of the excavation at approximately 25 feet below the ground surface. During excavation, field screening was conducted by collecting samples to determine extent of impacted soil. Soil headspace gas was monitored with a photoionization detector (PID). Soil samples were collected for laboratory analysis to document clean closure. Field notes of the excavation work are included in Attachment 1. To enhance the remediation of the remaining minor amounts of residual petroleum contamination in the soil of the excavation approximately 80 bbls of an oxidizer (potassium permanganate) solution was sprayed on the soils to breakdown the hydrocarbons.

A ground water source well (Monitoring Well #1) was installed slightly down gradient from the center of the excavation (Figure 1). The soil boring and well construction notes are found in Attachment 2. A general water quality characterization analysis was performed. Subsequent monitoring included more specific analyses for benzene, toluene, ethylbenze, and total xylenes (BTEX), as well as total petroleum hydrocarbons (TPH). The general ground water analysis did not detect any constituents of concern, except iron and manganese. The concentrations of iron and manganese could not be linked to the oil and gas operations conducted on location. The manganese concentration may be linked to the potassium permanganate (oxidizer) solution applied to the soil in the open excavation. The oxidizer solution will naturally break down in a short period of time. BTEX concentrations in the initial sample warranted further observation. Quarterly ground water monitoring for BTEX began in September, 2003.

2003 – 2006 GROUND WATER MONITORING

Monitoring Well #1 has been sampled quarterly for BTEX analysis through 2006. Results are shown in Table 1. Prior to sampling at monitoring wells, depth to ground water and total depth of wells is measured with a Keck oil/water interface probe. Presence of any free-phase crude oil is also investigated using the interface probe. The interface probe is decontaminated with Alconox[™] soap and rinsed with de-ionized water prior to each measurement. The volume of water in the wells is calculated, and a minimum of three casing volumes of water is purged from each well using a disposable bailer or a permanent decontaminated PVC bailer. As water is removed, pH, electric conductivity and temperature are monitored. Wells are purged until these properties stabilize, indicating that the purge water is

representative of aquifer conditions. Stabilization is defined as three consecutive stable readings for each water property (± 0.4 units for pH, ± 10 percent for electric conductivity and $\pm 2^{\circ}$ C for temperature). All purge water is disposed into tanks on site. Data is recorded on the attached *Well Development and Sampling Logs* (Attachment 3). Once each monitoring well is properly purged, groundwater samples are collected by filling at least two 40-milliliter (ml) glass vials. The pre-cleaned and pre-preserved (with hydrochloric acid or mercuric chloride) vials are filled and capped with no air inside to prevent degradation of the sample. Samples are labeled with the date and time of collection, well designation, project name, collector's name and parameters to be analyzed. They are immediately sealed and packed on ice. The samples are shipped to ACZ Laboratory in Steamboat Springs, Colorado in a sealed cooler via FedEx before designated holding times expire. Proper chain-of-custody (COC) procedures are followed with logs documenting the date and time sampled, sample number, type of sample, sampler's name, preservative used, analyses required and sampler's signatures.

ACZ analyzes the samples for BTEX by USEPA Method 8021. Laboratory reports are included as Attachment 4. 2006 sampling indicates ground water in MW-1 remains high in benzene, ethylbenzene and xylene concentrations. Toluene concentrations are below New Mexico Water Quality Control Commission (NMWQCC) standards.

CONCLUSIONS

The petroleum-contaminated soils were removed from this location to the extent practical. The soil samples collected for laboratory analysis were below New Mexico Oil and Gas Conservation Division (NMOCD) standards and confirm the affected soil was removed (Attachment 1, Field Excavation Work Log and Soil Excavation Analytical Results).

The ground water monitoring results through 2006 indicate that ground water quality is above the NMWQCC standards for benzene, ethylbenzene, and total xylenes (Table 1). Concentrations of these analytes tend to be higher during the winter months, concurrent with low-flow stage of the adjacent San Juan River and irrigation ditches (Figure 2). During the summer, ground water is more likely to be affected by higher flow rates in the nearby surface water and is probably recharged with additional fresh water.

RECOMMENDATIONS

- Burlington Resources proposes to continue quarterly sampling at this site to monitor progression of natural degradation of hydrocarbons.
- Burlington Resources will request official closure of this site when four quarters of ground water analysis demonstrate the water quality is below NMWQCC standards.

Attachments: Figure 1 - Site Map

Figure 2 - Graphical Presentation of Analytical Results Table 1 - Ground Water Sampling Results Summary Attachment 1 - Field excavation work log and soil excavation analytical results Attachment 2 - Drilling Logs and Wellbore Diagrams Attachment 3 - Well Development and Sampling Logs Attachment 4 - Laboratory Reports

Figure 1: Site Map of Flora Vista #1



Figure 2: Graphical Presentation of Analytical Results





Concentration (ppb)

Table 1: Ground Water Sampling Results

	Ground	l Water A	Analytica	al Result	S	
		Flora	Vista #1			
		N/	TT 7 1			
		_ IVI	. VV - I			
Sample Date	Benzene (ppb)	Toluene (ppb)	Ethyl- benzene (ppb)	Total Xylenes (ppb)	BTEX (ppb)	DTW (ft)
NMWQCC Standards	10	750	750	620	50	
6/20/2003	1700	300	490	5090	7580	standing
9/23/2003	7500	20 (J)	660	9220	17400	17.03
12/16/2003	7930	10 (J)	1180	864	9984	20.11
3/16/2004	6860	U	1160	8470	16490	23.69
6/21/2004	4140	U	430	3120	7690	19.92
9/30/2004	9080	30 (J)	1410	9980	20500	16.82
12/13/2004	8520	U	1340	9390	19250	20.40
3/22/2005	4550	U	850	5950	11350	24.32
6/22/2005					Lab data lost	21.88
10/24/2005	6390	U	1010	7416	14816	
12/13/2005	6170	U	1010	7570	14750	21.24
3/22/2006	3580	U	770	5840	10190	24.75
6/22/2006	3100	U	500	3500	7100	20.48
10/20/2006	6600	10 (J)	1220	8910	16740	19.13
12/13/2006	4230	10 (J)	1090	8130	13460	21.24
Notes:	•					

DTW is Depth to Water measured from top of well casing (J): analyte concentration detected at a value between Method Detection Limit and Pratical Quantitation Limit

U: denotes analyte was not detected

Attachment 1: Field Excavation Work Log and Soil Excavation Analytical Results

Burlington Resources

Field Notes

June 19:

This pit remediation was started at an earlier date with an original size of 40' x 47' x 16' for a total approximation of 1114 cubic yards. Beginning on this date – ramped down on west wall; hit water at 25'. Removed an additional 924 cubic yards of soil; 50% was contaminated and 50% was not.

16 feet – PID 1585 ppm 23 feet – PID 830 ppm 25 feet – water

June 20:

Obtained water sample and delivered to On-Site Lab. Continued digging on west wall. A four-point composite on this wall showed a head space reading of 98.8 ppm. This composite sample was also delivered to On-Site Lab. Of the approximated 1152 cubic yards removed on this day, 50% was estimated to be contaminated and 50% was not.

June 23:

Stripped out and moved gas line from wellhead to dehydrator. Stripped out farm tap line. Worked on north wall, stair-stepping to northeast. A four-point composite on this wall showed a head space reading of 20 ppm. This composite sample was taken to On-Site Lab. Of the approximated 296 cubic yards removed this day, 50% was contaminated and 50% was not.

Burlington Resources

June 24:

Started stripping overburden on south wall. Removed contaminated soil. A three-point composite reading showed a headspace reading of 56.6 ppm. Of the approximated 1167 cubic yards of soil removed this day, 40% was contaminated and 60% was not.

1.4

June 25:

Stripped overburden on east wall in a 25' \times 90' \times 12' strip. Ramped in on north wall. Found a highly contaminated small area (10' \times 10') running to surface. This area was located just to the west of Merrion Oil Company water tank.

Started removing contamination. East wall was still determined to be contaminated. Of approximated 1222 cubic yards removed this day, 20% was contaminated and 80% was not.

June 26:

Continued to remove contaminated soil from east side. On the west side of the Merrion Oil Company water tank, another old extremely contaminated pit was discovered. The contamination continued underneath the Merrion tank. Merrion Oil removed this tank and pipes to the tank. Of the approximated 713 cubic yards of soil removed this day, 100% was contaminated.

June 27:

Started ramping down to remove another 25' strip on east wall. Removed approximately 741 cubic yards of non-contaminated soil this day.

Burlington Resources

June 30:

Started removing contamination from strip – east wall began to appear less contaminated on the south end. Approximately 50' of east wall cleaned up, but a 4' x 30' strip on northeast corner did not. A sample of this contamination was delivered to On-Site Lab. Directed by Burlington representative to avoid row of large cottonwood trees on east side of excavation ; contamination was running northeast in the direction of these trees, so overburden was stripped. Of the approximated 1514 cubic yards of soil removed on this day, 80% was contaminated and 20% was clean.

July 1:

Overnight, a great deal of contaminated soil located on east wall fell out. Were able to remove most of it before overburden fell; however, a sample was not available to obtain from this area. Continued to strip overburden on northeast corner. Removed enough contaminated soil to assess this area as no longer being contaminated. Of the approximated 600 cubic yards of soil removed this day, 25% was contaminated, and 75% was not.

July 2:

Backfilled pit

July 7:

Backfilled pit and bladed location. Moved equipment.

Burlington Resources

SUMMARY:

June 19	924 cubic yards
June 20	1152 cubic yards
June 23	296 cubic yards
June 24	1167 cubic yards
June 25	1222 cubic yards
June 26	713 cubic yards
June 27	741 cubic yards
June 30	1514 cubic yards
July 1	600 cubic yards

8329 cubic yards

1114 previously removed

S.

9443 total cubic yards

277 truck loads contaminated soil @ 18 cubic yards / truckload = 4986 cubic yards taken to Eco-Systems' land farm.

247 truckloads uncontaminated soil @ 18 cubic yards / truckload = 4446 cubic yards taken to location to fill pit.

RECORD OF SUBSURFACE EXPLORATION

Lodestar Services, Inc

2.2	•							Pag	e	1 of 1
PO Box 3681 Exemination New			6				- 2			
(505) 334-2791	i kaga	CU 6/493			Project	Name	Burlin	gton Resc	urc	es Flora Vista 1
					Project	numper Incation		<u>AUS</u> F	mas	8 mm 510
					1 iojoet i				11111	0 mm 510
Elevation		<u></u>	553	4'	Well Log	ged By		M Nee		
Borehole Loo	ation	<u>1 cer</u>	nter of fo	ormer pit	Personn	el On-Site		K Padilla,	T.I	Benally
GWL Depth		MIN		-15.4/	Contract	tors On-Site		Envirótec	h.	
Drilled By		Envirot	ech	i, i, i, i, i,	Client Pr	ersonnel On	-Site	G Wurtz		
Date/Time S	itarte	d	Septer	nber 2, 2003	Orilligo 1	lathod	CME 7	5 Hollow	Ction.	· · · · ·
Date/Time C	omp	leted	Septer	nber 2, 2003	Air Moni	toring Meth	od od	Photo Va	c 20	n Auger 120
							··· ·			
			Sample			Depth			Υľ	and the second
Depth		Sample	Type &	Sample Description	USCS	Lithology	Air	Monitoring		Drilling Conditions
(1 4 2 4 7		nucial	(%)	Classification system: USCS	Symbol	Change	ں پر	nits: NOU		& Blow Counts
0						(ieed)	0		╧╋	
				0.18 'Backfill material in former excavated				7		
			:	prt. Brown clayey sand with grave and	8		-	1	ľ	
			:	coobles encountered at 8:13 ft:						
5										
							а 1		- È	,
				· · · ·) i				
<u></u>				· · ·					ľ	
- 10								t i		
· · · ·										
						·		j,		Obbles and small 9 4
										13 feet
									ľ	
10								e .		
			85	18-20.5' colar change to gray, old hc odor,		18	0	l.		
		18-20		sandy clay				Į.		
 		20.22	50	20.3-21.5 Clean well sorted sand; gray,		20.5	0	ŀ		
	i	20.22	80	21.5-22.0 clay, grav		21.5	. 0			
		22.24		22-28' Clayey sand, gray, sand is med-fine	r.		Ŭ			
25			• • •	gräined.]	N.	
			-					4		
					· ·					
	·		•						ł	
30					:				ŀ	
									-	
							·	a a		
							5		ſ	
35										
								ų,		
									1	
						1 I	1 · 1			

Comments:

Borehole logged on cuttings 0-18 feet. Water at 18.9' bgs @0928, 18,15' bgs @0933, 17,15'@ 0938, 17,55' @ 0943

Geologist Signature

Off: (505) 327-1072 FAX: (505) 327-1496

June 23, 2003

iiná bá

P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

1.4

Sample of free standing water in bottom of excavation.

Order No.: 0306038

Greg Wurtz Burlington Resources 3535 E. 30th Street P.O. Box 4289 Farmington, NM 87499 TEL: (505) 326-9700 FAX (505) 326-9725

RE: Burlington Resources

Dear Greg Wurtz:

lina ba, Ltd. received 1 sample on 6/20/2003 for the analyses presented in the following report.

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these test results, please feel free to call.

Sincerely,

David Cox

Off: (505) 327-1072 FAX: (505) 327-1496

Project:

Lab Order:

P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

- -

iiná bá. l	Ltd.			
CT TENT.	Durlingt	on Resource	 	

Burlington Resources

0306038

CASE NARRATIVE

Date: 23-Jun-03

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

iiná

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

Any quality control and/or data qualifiers associated with this laboratory order will be flagged in the analytical result page(s) or the quality control summary report(s).

Page 1 of 1



P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

, e

Off: (505) 327-1072 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 23-Jun-03

 Paramèter		Result	PQL	Qual	Units	DF	Date Analyzed
Project: Burlington Resources Lab ID: 0306038-001A			.,		Collection D Mat	ate: 6/20/2 rix: AQUE	003 8:42:00 AM 20US
CLIENT: Work Order:	Burlington Resources 0306038			Cli C	ent Sample I lient Sample	nfo: Burlin ID: 03062	gton Resources 00842

ADOMATIC VOLATILES BY GC/PID		SW8021	B		Analyst	: JEM
Banzana	1700	25	μġ/L	50	6/20/2003	
Toluone	300	25	µg/L	50	6/20/2003	
Fibuhanzaga	490	25	μg/L	50	6/20/2003	
m. n. Yvjena	4700	50	µg/L	50	6/20/2003	
o-Xylene	390	25	µg/L	50	6/20/2003	

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted precision limits

E - Value above Upper Quantitation Limit - UQL

Page 1 of 1

Purchase Order wu.	10.	RN O	me Greg WL	(rtz	
Name Gree Wartz		<u>า</u> ย(า.ยา เริ่	unpäny		
DU Company Righting to	Dept.	l≊ ∩r. ≊bc	alting Address		
E S T Address		ा S∃t	ty, State, Zip		
City, State, Zip		1 1	slephone.No.		Telefax No.
Sampling Location:				ANALYSIS REOL	UESTED
		ot ot			
Samoler.		nber Taline			
		nuN			
SAMPLE IDENTIFICATION	DATE TIME MATRIX PREV	s S			TABID
0326200542	52%, c842 14, 0 146	12			Carl Sold and - Tank
	. tr				
		· · ·			
		· · · · · ·			
				2	
				•	
				· · · · · ·	
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				1 1 1 1 22
Relinquished by K marcher 1 & Court	Date/Time / ~ 9.03.0-0	Hecelvec			
Relinquíshed by:	Date/Time	Received			
Relinquished by:	Date/Time	Received	lby:		Date/Time
Method of Shipment:		Rush	24-48 Hours	10.Working Days	Special Instructions:
Authorized by:	Date		Area -		
(Cilent:Signature <u>Must</u> Accompany H	laquest)				
	Distribution: White - On Site: Xellow - LAB	Pink - Samp	iler Goldenrod – Cilent		

.

Off: (505) 327-1072 FAX: (505) 327-1496

July 10, 2003

Greg Wurtz Burlington Resources 3535 E. 30th Street P.O. Box 4289 Farmington, NM 87499 TEL: (505) 326-9537 FAX (505) 599-4005

RE: Flora Vista 1

Dear Greg Wurtz:

Order No.: 0307002

P.O. Box 3788

Shiprock, NM 87420

Off: (505) 368-4065

- ¹ e

iiná bá, Ltd. received 1 sample on 7/1/2003 for the analyses presented in the following report.

tiná l

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these test results, please feel free to call.

Sincerely,

David Cox

Off: (505) 327-1072 FAX: (505) 327-1496



P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

. .

iiná bá. Lt	d	Date: 10-Jul-03	
CLIENT: Project:	Burlington Resources Flora Vista l	CASENARRAT	IVE
Lab Order:	0307002	CI IDII INI LINICE I	

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

Any quality control and/or data qualifiers associated with this laboratory order will be flagged in the analytical result page(s), the quality control summary report(s) or the sample receipt checklist.



P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

Off: (505) 327-1072 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 10-Jul-03

CLIENT: Work Order: Project: Lab ID:	Burlington Resources 0307002 Flora Vista 1 0307002-001A			Ċlì C	ent Sample Info lient Sample ID Collection Date Matrix	: East V : 03070 : 7/1/20 : SOIL	Wall 3pt. Comp)11155 003 11:55:00 AM
Parameter		Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE	ORGANICS ns: C10-C28	ŃĎ	SW(60.2	015B	mg/Kg-dry	1	Analyst: JEM 7/9/2003
GASOLINE RAI	NGE ORGANICS	ŇD	SW { 5.42	1015B	mg/Kg-dry	25	Analyst: JE M 7/9/2003
PERCENT MOIS	STURE	17	D2 0.1	216	wt%	1	Analyst: JEM 7/9/2003

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted precision limits.

E - Value above Upper Quantitation Limit - UQL

B - Analyte detected in the associated Method Blank * - Value exceeds Maximum Contaminant Level

Page 1 of 1

(for life's sake) 612 E. Murray Dr. • P. O. Box 2	Date: 2606:• Farmington NM 87499	111			Page / of /
A	AX:(505).327-1496				
Purchase Order No:		C	ame (the a bud	1.2.	Title
Name Stock Collection		TA DI S	ompany $Q_{M_{1}}^{m} = I_{M_{1}}^{m}$	the heave	and the second
280 company Entry from the chick of	Dept.	04: 170	lailing Address /	Par 4259	
	1.00 m	1538 18	Xiy, State, Zip	11	1
Sampling Location:	VI W - FAR S		elephone.No. 3 32	<u> </u>	Telefax No.
and the second		10 21:		ANALYSIS REQU	JESTED
- da i verso da i da la la cauta da ancada la sur cara - Sampler.		nber Maine			
the the free to		NUN			
	SAMPLE MATRIX PRES.				
02.77541155 Ersterht 3. 1 Comes 71	Warthes Souther				
		, , ,			100 Carlozo
		· · · · · · · · · · · · · · · · · · ·			
		(
		· · · ·		· · · · ·	
Construction of the Second Second	Date/Time 7///43 1458	Receive	aby: Mr. Con	X	Date/Time 21/1, 2, 2:00
Helinquished by:	Date/Time	Receive	1 by:		Date/Time
Relinquished by:	Date/Time	Received	by:		Date/Time
Method of Shipment:		Rush	24-48 Hours	10 Working Days	Special Instructions:
Authorized by: (Client Simature Must Accompany Reminest)	Date	ś		>	× «··· D. C C
	·····		j.		
Distribution	n: White - On Site Yellow - LAB Pit	nk - Samp	ler Goldenrod - Client		

Off: (505) 327-1072 FAX: (505) 327-1496

June 25, 2003

Greg Wurtz Burlington Resources 3535 E. 30th Street P.O. Box 4289 Farmington, NM 87499 TEL: 505-326-9700 FAX 505-326-9725

RE: Flora Vista 1

Dear Greg Wurtz:

Order No.: 0306043

iina ba, Ltd. received 2 samples on 6/23/2003 for the analyses presented in the following report.

tiná

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these test results, please feel free to call.

Sincerely,

David Cox

MAINTAINING HARMONY BETWEEN MAN AND HIS ENVIRONMENT

P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

1.

Off: (505) 327-1072 FAX: (505) 327-1496

iiná bá. Ltd.

 _		_	_
 	^		

MAINTAINING HARMONY BETWEEN MAN AND HIS ENVIRONMENT

CLIENT:	Burlington Resources		
Project: Lab Order:	Flora Vista 1 0306043	CASE NA	RRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

Any quality control and/or data qualifiers associated with this laboratory order will be flagged in the analytical result page(s), the quality control summary report(s) or the sample receipt checklist.

P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

÷ 4

Date: 25-Jun-03





P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

- ¹⁴ ev:

Off: (505) 327-1072 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 25-Jun-03

CLIENT: Work Order: Project: Lab ID:	Burlington Resources 0306043 Flora Vista I 0306043-001A	· · ·	ĊII C	ent Sample Info: Client Sample ID: Collection Date: Matrix:	West 03062 6/20/2 SOIL	Wall 3pt. Comp. 201423 2003 2:23:00 PM
Parameter		Result	PQL Qual	Units	DF	Date Analyzed
DIESEL RANGE	E ORGANICS ns: C10-C28	ND	SW8015B 25.0	mg/Kg	1	Analyst: JEM 6/24/2003
GASOLINE RAI	NGE ORGANICS	NĎ	SW8015B 4.50	mg/Kg	25	Analyst: JEM 6/23/2003

Qualifiers:

ND - Not Detected at the Practical Quantitation Limit J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted precision limits

E - Value above Upper Quantitation Limit - UQL

Page 1 of 2

612 E. Murray Farmington, NM Off: (505) 327-	Drive 1 87499 1072	îîn	â	bá		P.O. Box 3788 Shiprock, NM 87420 Off: (505) 368-4065
ANALYTI	CAL REPORT	· · · · · · · · · · · · · · · · · · ·	1 2.2	Date:	25-Jun-03	- ⁴ .
CLIENT: Work Order: Project: Lab ID:	Burlington Resources 0306043 Flora Vista 1 0306043-002A			Client Sample Info: Client Sample ID: Collection Date: Matrix:	North Wa 03062311 6/20/2003 SOIL	II 3pt. Comp. 30 11:30:00 AM
Parameter		Result	PQL	Qual Units	DF]	Date Analyzed

DIESEL RANGE ORGANICS T/R Hydrocarbons: C10-C28	ND	SW8015B 25.0	mg/Kg	1	Analyst: JEM 6/24/2003
GASOLINE RANGE OR GANICS	ŇD	SW80,15B	mg/Kg	25	Analyst: JEM 6/23/2003

Qualifiers:

ND- Not Detected at the Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted precision limits

E - Value above Upper Quantitation Limit - UQL

Page 2 of 2

á bá, Ltd.

Sample Receipt Checklist

nt Name: BUR1001		Date and Tir	ne Received:	6/23/2003
K Order Number: 0306043		Received by	: HNR	
sklist completed by April 2 6 2 Signature Date	23/03	Reviewed by	Jan Januals	<i>4/23/03</i>
ix: Carrier name:	Courier			
ping container/cooler in good condition?	Yes 🔽	No	Not Present	
ody seals intact on shippping container/cooler?	Yes	No	Not Present ⊻	
ody seals intact on sample bottles?	Yes	No	Not Present 🖌	
n of custody present?	Yes 🗹	No		
n of custody signed when relinquished and received?	Yes ⊻	Nõ		
n of custody agrees with sample labels?	Yes 🖌	No		•
ples in proper container/bottle?	Yes 💆	No		
ple containers intact?	Yes ⊻	No		
cient sample volume for indicated test?	Yes Ϋ	No		
amples received within holding:time?	Yes 🔽	No		
ainer/Temp Blank temperature in compliance?	Yes 🗹	No 🔛		
r - VOA vials have zero headspace? No VOA vials subm	litted 🗹	Yes .	No .	
r - pH acceptable upon receipt?		No 🛄		
Adjusted?	Che	cked by:	······································	
No and/or NA (not applicable) response must be detailed in the c	omments section	below.		

ار المحاصر الله الجريب المراقبة المحاجرة والمحاجرة المحاجر المحاجر المحاجر المحاجر المحاجر المحاجر المحاجر المح المحاجر المحاجر المحاجر المحاجرة المحاجرة المحاجرة المحاجر المحاجر المحاجر المحاجر المحاجر المحاجر المحاجر المحا Date contacted: Person contacted: it contacted: ÷., --ويستبي كمسجور بمعقق وقارع وتصب Regarding: acted by: . بايروندوا دانوراره كانكاناتورهاندما بالمتحافظات المانامتساميد 4 4 market in the day the ments the second second والانهر والأنبه -- <u>1</u> sclive Action: بيهك فتدريش مراجع فالمستابية المستس

	Date:	6/3	yas	ļ				Page.	l of l	
(for life's sake) 612 E. Murray Dr P. O. Box 26((505) 327-1072 - FAX	06 • Farmington NM 87499 (: (505) 327-1496,		· · ·	· ·	· .) 		
Purchase Order No.: Job No.		C	lame 🖒	121	Junt			Ţitle		Γ
Name Great With TE		TR DT S	ompany	Ď	2+4 2/1	j				Ī
200 Company Burlington Resources	Dept.	O45 ULT	Aailing Ado	lress	7	2				
BISE Address PO. 80 4289		Sar Sar	City, State,	Zip						<u> </u>
City, State, Zp Frithen view the William &	02499- 40,857	J	elephone	No.			<u> </u>	efax No.		1
Sampling Location:					A	IALYSIS F	JEQUE	STED		T
FTORN District	:	it of		10						
Sampler.		Numbe Numbe	No.							
	CAMPLE)			~	- 				1
SAMPLE IDENTIFICATION	TIME MATRIX PRES		00					×,		 -
330620 1423 West whill 30t Co-p 429	62 1425 Soul Tec	×		. 			\	Ļ	Present which an	
0206231130 4 WWW 3 24 Company	67 1130 Soil Lee	~	X		<u></u>					
47.4	4 0					:				<u>.</u>
		, , , , ,			,		· · ·			<u></u>
	2	- - - -					-	 		
	2 2 2 2	•					•			Ī
						, <u>, , , , , ,</u> , , , , , , , , , , , , , ,		ii.		<u>r.s</u>
			;		. <u></u>					<u>, , ,</u>
							.	3		
					*					<u> </u>
										1
								· · · ·	, , , ,	
Relinquished by: K Cherry & Low Wex X	Date/Time 73/// SC	Receive	h v h	10VDI				Date/T	ا بنداختا مامه	<u></u>
.Relinquished by:	Date/Time	Receive	d by:					Date/T	Шe	
Relinquished by:	Date/Time	Receive	ď by:					Date/T	me	
Method of Shipment:		Rush		24-48 H	ours	10 Working	Days S	pecial Instr	uctions:	<u></u>
Authorized by:	Date			Х	i l			an a C		
(Cilent Signature Must Accompany Request)		•			/		<u> </u>			
Pistribution: V	White - On Site Yellow - LAR	Pink – Sam	Mar Gold	anna – Cli	-					ר

Date 6/2 403

Off: (505) 327-1072 FAX: (505) 327-1496

July 02, 2003

Greg Wurtz Burlington Resources 3535 E. 30th Street P.O. Box 4289 Farmington, NM 87499 TEL: 505-326-9700 FAX 505-326-9725

RE: Flora Vista 1

Dear Greg Wurtz:

Order No.: 0306050

iina ba, Ltd. received 2 samples on 6/25/2003 for the analyses presented in the following report.

iiná bá

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these test results, please feel free to call.

Sincerely,

David Cox

MAINTAINING HARMONY BETWEEN MAN AND HIS ENVIRONMENT

P.O. Box 3788 Shiprock, NM 87420.

Off: (505) 368-4065

. .

Off: (505) 327-1072 FAX: (505) 327-1496



P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

-1 er -

iiná bá. Lí	d.	Date: 02-Jul-03	
CLIENT:	Burlington Resources		
Project:	Flora Vista 1	CASE NARRATIVE	
Lab Order	0306050		

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition.

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

Any quality control and/or data qualifiers associated with this laboratory order will be flagged in the analytical result page(s), the quality control summary report(s) or the sample receipt checklist.



P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

Off: (505) 327-1072 FAX: (505) 327-1496

ANALYTICAL REPORT

Date: 02-Jul-03

CLIENT: Work Order: Project:	Burlington Resources 0306050 Flora Vista 1		Čļi C	ent Sample Info: lient Sample ID: Collection Date:	South 03062 6/24/2	Wall 3pt. Comp. 24 1634 20 03 4:34:00 PM
Lab ID:	0306050-001A			Matrix:	SOIL	
Parameter		Result	PQL Qual	Ųnits	DF	Date Analyzed
DIESEL RANGE	SORGANICS ns: C10-C28	ŅD	SW8015B 25.0	mg/Kg	1	Analyst: JEN 6/26/2003
GASOLINE RAI	NGE ORGANICS ns: C6-C10	ND	SW8015B 4.50	mġ/Kg	25	Analyst: JEN 6/30/2003

Qualifiers:

-] Analyte detected below Practical Quantitation Limit
- B Analyte detected in the associated Method Blank

*- Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted precision limits

E - Value above Upper Quantitation Limit - UQL

Page 1 of 2

Off: (505) 327-1072

FAX: (505) 327-1496

o-Xylene

Toluene



P.O. Box 3788 Shiprock, NM 87420

Off: (505) 368-4065

- . .

ANALYTICAL REPORT

Date: 02-Jul-03

25

25

6/26/2003

6/26/2003

Burlington Resources Client Sample Info: East Wall Grab **CLIENT:** Client Sample ID: 0306251611 Work Order: 0306050 Collection Date: 6/25/2003 4:11:00 PM Flora Vista 1 **Project:** Matrix: SOIL Lab ID: 0306050-002A Result DF Parameter **PQL** Qual Units **Date Analyzed** AROMATIC VOLATILES BY GC/PID SW8021B Analyst: JEM ND 25 6/26/2003 Benzene 25 µg/Kg 170 25 25 6/26/2003 Ethylbenzene µg/Kg 1400 6/26/2003 50 25 m,p-Xylene µg/Kg

25

50

160

ND

µg/Kg

µg/Kg

Qualifiers:

- J Analyte detected below Practical Quantitation Limit
- B Analyte detected in the associated Method Blank

* Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted precision limits

E - Value above Upper Quantitation Limit - UQL

Page 2 of 2

a server u	Date: 5	500	23	l		В <mark>Д</mark>	ge /	of (
(for life's sake) 612 E. Murray Dr. • P. C (505) 327-107): Box 2606 • Farmington NM 87499 2. • FAX: (505) 327-1496	• • •	:			3	,	· · ·
Purchase Order No.: Job No.		C	Name (a War	2	THE .		
Name Cries & Wartz		TA ST C	Company	2				
DCO Company (Such 12.1 -	Dept.	ULT TJU	Mailing Addre:	SS				
Address		S31 31	City, State, Zi	ä		2		
City, State, Zip		3	Telephone No			Telefa	x,No.	
					ANALYSIS RI	EQUEST	ED	-
- parts 2) 37 a 1		ir of ners	d.					
Sampler.		Numbe	No.	Kt /				
SAMPLE-IDENTIFICATION	SAMPLE MATRIX PRES.							
1.2.2.6 24 16.34 Junkter 301 301 Com	1 Kindoz Versu Kovel 200	-				Ļ	1.20	2
La 25104 Enter with the	= 1 1 201 Tec	-	4					20-0014
							.	11 2 22
			·					
			· · ·					
		-		 		a		() () ()
			• •			1	1 2 1 1	
			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		· · ·	- 		
							. I	
			5 					
			•					
Relinquished by Jan 16 18 Darley Ka	Date/Time //2/7/22/22/25/	Receiv	od by: (1 %)	1220		,	Date/Time//25	<u>10:21 EG</u>
Relinquished by:	Date/Time	Receiv	ed by:				Date/Time	
Relinquished by:	Date/Time	Receiv	ad by:			•	Date/Time	
Method of Shipment:		Rush	<u> </u>	4-48 Hours	10 Working Da	ays Spec	al Instructions:	
Authorized by:	Date		<u></u>			<u>. na 1</u>		
(Client Signature Must Accompany Request		•		, j		<u>. 1 - 41</u>		<u>. :</u>
Die	trithi dion: White = On Site Vellow =) AR Dir	ink – San	mlar Golrianr	nd _ Citant:	-	_		

Attachment 2: Drilling Logs and Wellbore Diagrams
MONITORING WELL INSTALLATION RECORD

Lodestar Services, Inc PO Box 3861 Farmington, New Mexico 87499 (505) 334-2791

Elevation	5534'					
Well Location	Center of former pit 17.55 beneath ground surface					
GWL Depth						
Installed By	Envirotech					
Date/Time Started	1 9/2/03 0700					
Date/Time Compl	leted 9/2/03 1230					

	Page 1 of 1
Project Name	Burlington Resources Flora Vista 1
Project Number	30003.0 Cost Code
Project Location	US Highway 516 MM 8
On-Site Geologist	M. Nee
Personnel On-Site	K. Padilla, T. Benally
Contractors On-Site	Envirotech
Client Personnel On-Site	G. Wurtz

Borehole # Well #

Depths in Reference	to Ground Surface					
Item	Material	Depth (feet)			Top of Protective Casing	0.0
Top of Protective Casing Boitom of Protective Casing Top of Permanent Borehole Casing	Flush to grade vault	Ďa Na			Top of Riser Ground Surface	. <u>-0.33</u> 0.0
Bottom of Permanent Borchole Casing		na				
Top of Concrete Bottom of Concrete	2 bags quickcrete	0.0 -0.5				
Top of Grout Bottom of Grout	4.96# bags portland with 5% hole plug	-0.5 -7.0				
Top of Well Riser Bottom of Well Riser	2" flush threaded schedule 40 pvc	-:33 ≈11.02				
Top of Well Screen Bottom of Well Screen	10 slot schedule 40 flush threaded pvc	-11.02		000 000	Top of Seal	<u>7.0</u>
Top of Peltonite Seal Bottom of Peltonite Seal	1 bag 3/8 bentonite chips	-7.0 -9.6		00 00 00	Top of Gravel Pack	-9.6
Top of Gravel Pack Bottom of Gravel Pack	8 #50 bags 10-20 silica sand	-9.6 -23.2			Top of Screen	_=11.02
Top of Natural Cave-In		-23.2				2
Bottom of Natural Cave-In		-28 -15.8			Bottom of Screen	26.02
Total Depth of Borehole		-28'	-	стратот 1. бу 1.	Bottom of Borehole	28.0_

Comments:

Water level is 15.47 beneath top of casing:

Geologist Signature

Attachment 3: Ground Water Monitoring Well Development and Sampling Logs

Project No.: 300	0003.0 Projec	t Name: <u>Burlinc</u>	aton Groundwater Sampli	ng Client:	Burlington Resources
Location: Flor	<u>ra Vista No.1</u>	Well No.:	<u>MW-1</u>	Development:	Sampling
Project Manager:	MJN	Date: <u>03220</u>	<u>6</u> Time: <u>1319</u>	Weather: Clea	ar <u>50s</u>
Depth to Water:2	24.75' Depth to P	roduct: <u>na</u>	Product Thickness: na	<u>a</u> Measuring	Point: <u>TOC</u>
Water Column Heig	ht: <u>0.45'</u>	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_____

	Water Volum	ne in Well		
Gal/ft x ft of water	Gallons	Ounces	Gal/oz to be removed	
.45 x .16		9.22 x 3	27.65	

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
1320	6.49	2150	57.4				12	Gray, HC odor
	6.50	1970	56.4				24	Gray, HC odor
	6.50	1940	57.0				36	Gray, HC odor
1333	6.50	1930	56.9				48	Gray, HC odor
				- <u>-</u> .				

Final: Time	рН	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow Rate
<u>1333</u>	6.50	1930	56.9			4 4		48	Gray, HC odor

COMMENTS:

INSTRUMENTATION:	pH Meter	X	Τ	emperature Meter x
	 DO Monito 	or	(Other
Cor	ductivity Meter	x		
Water Disposal	onsite	_ Sample <u>ID</u>	Flora Vista 1 MW-1	Sample Time <u>1340</u>
Analysis: <u>BTEX</u>				
MS/MSD	BD	· · · · · · · · · · · · · · · · · · ·	BD Name/Time	TB
Water Disposal Analysis: <u>BTEX</u> MS/MSD	onsite BD	_ Sample <u>ID</u>	Flora Vista 1 MW-1 BD Name/Time	Sample Time <u>1340</u>

Project No.:	300003.0	_Project Name:_	Burlington Grour	ndwater Sampling	Client: Burlington Resour	ces
Location:	Flora Vista No.	L Well No	o.: <u>MW-1</u>	D	evelopment: Sampling	
Project Manage	er: <u>MJN</u>	_ Date:	06/22/06 Time	e:0858	Weather: <u>Clear</u>	
Depth to Water	: <u>20.48'</u> Dep	oth to Product:	na Product	Thickness: <u>na</u>	_ Measuring Point: <u>TOC</u>	
Water Column	Height: 4.72'	_ Well Di	a.: <u>2"</u>			

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____

	Water Volum		
Gal/ft x ft of water	Gallons	Ounces	Gal/oz to be removed
4.72 x .16	0.75		2.27

Time (military)	pH (su)	SC (umhos/cm)	Temp (°F)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
0858	6.95	912	63.8				.5	clear
	7.01	874	61.9				.75	clear
	7	876	61.2				1	clear
	7	883	60.9				1.5	grey, slight hydrocarbon odor
	7.02	912	60.7				2	grey, slight hydrocarbon odor
<u>0925</u>	7.01	920	60.7				2.5	grey, slight hydrocarbon odor
							,	

Final			
Time pm			Grav HC odor
<u>1032</u> 0.94	• 099 10.3	J.23	Glay, TC OUD

COMMENTS:

-
_

Project No.: 300003.0 Project Name: Burlington Groundwater Sampling Client: Burlington Resources
Location: Flora Vista No.1 Well No.: MW-1 Development: Sampling
Project Manager: MJN Date: 102006 Time: 1608 Weather: Clear
Depth to Water: <u>19.13</u> Depth to Product: <u>na</u> Product Thickness: <u>na</u> Measuring Point: <u>TOC</u>
Water Column Height: 6.07' 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_____

	Water Volum		
Gal/ft x ft of water	Gallons	Ounces	Gal/oz to be removed
6.07x .16	0.97		2.91

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
1615	6.87	1024	18.9				.25	clear, HC odor
	6.85	927	17.2				.5	Gray, HC odor
	6.88	916	17.1				.75	Gray, HC odor
	6.93	906	16.5				2	Gray, HC odor
	6.92	898	16.4				3	Gray, HC odor
<u>1632</u>	6.94	899	16.3				3.25	Gray, HC odor
	•							

inal: pH SC	Temp Eh-ORP	D.O. Turbidity	Ferrous	Comments/Flow Rate
<u>632</u> 6.94 899	10.3		3.2 5	Gray, HC.odor

COMMENTS:

INSTRUMENTATION:	pH Meter	x	Т	emperature Meter x
2	DO Monito	or	C	Other
Con	ductivity Meter	x		
Water Disposal	onsite	_ Sample <u>ID</u>	Flora Vista 1 MW-1	Sample Time 1634
Analysis: <u>BTEX</u>				
				· · · · · · · · · · · · · · · · · · ·
MS/MSD	BD		BD Name/Time	ТВ
	·		•	

Project No Proj	ect Name Burlington Groun	d Water Sampling	Client:_ <u>Burlington</u>
Location: Flora Vista	Well No: MW-1	Development	Sampling
Project Manager MJN	Date	12/13/06 Start T	ime <u>1257</u> Weather <u>clear 40</u>
Depth to Water21.24	Depth to Product <u>na</u>	Product Thickness:	na Measuring Point <u>TOC</u>
Water Column Height 4.11	_ Well Dia. <u>2"</u>	_	

Sampling Method: Submersible Pump Centrifugal Pump Peristaltic Pump Other

Bottom Valve Bailer X Double Check Valve Bailer 1 Stainless-Steel Kemmerer

Criteria: 3 to 5 Casing Volumes of Water Removal X stabilization of Indicator Parameters X Other_or bail_dry

	Water Volu		
Gal/ft x ft of water	Gailons	Ounces	Gal/oz to be removed
4.11 x .16		84.2 x 3	252.5

Time (military)	pH (su)	SC (umhos/cm)	Temp (°C)	ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (oz)	Comments/ Flow rate
1302	6.92	13830	60.3				32	black, sandy, strong odor, sheen
	6.89	12120	60.2				64	
	6.85	12600	59.9				96	
	6.83	12630	60.3	i			128	
	6.81	12500	60.1				192	
·	6.80	12520	60.0				224	bailing down
	6.80	13050	60.1				256	
	6.82	13110	60.1				288	·

Final:				Ferrous		
Time	SC	Temp Eh-OF	RP D.O. Turbid	lity Iron	Vol Evac.	Comments/Flow Rate
<u>1320</u> 6	81 13090	60.0		and the second	320 oz	and the second of the second o
	يورية رائد من بينة من المعلق المالية. مورية ومعتقدين الجبر	الم من الم	արությունների անհանձներ արդան են հայտների հետեր հայտներին։ Յանցուն է հայտներ անցանում ինչպես է հետեր հայտներին։ Յունի Դուս էջնելու Արագեստուի հայտներին։ Դուս է հետեր հայտներին։	and a contract of the second s	هاند. به از مجرد او می اور کنی میکند کنی مورد کم به این مراجعه او این میکند کنی میکند کنی می	ان این آنها برگیری از باری بر این

COMMENTS:			
INSTRUMENTATION:	pH Meter X	Temperature	e Meter x
	DO Monitor	Other	
Cond	luctivity Meter X		
Water Disposal <u>onsite</u>	Sample	ID Flora Vista MW-1 Sample Time_	1325
<u>BTEX</u> VOCs Diesel			
MS/MSD	BD	BD Name/Time	TB 12122006TB01

Attachment 4: Laboratory Analytical Reports

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

Analytical Report

March 31, 2006

Report to:

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

cc: Martin Nee

Project ID: FLORA VISTA ACZ Project ID: L55783 Bill to: Gregg Wurtz Burlington Resources, Inc. P.O. Box 4289 Farmington, NM 87499

Gregg Wurtz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 23, 2006. This project has been assigned to ACZ's project number, L55783. 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 L55783. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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

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

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

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

31/Mar/06

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





REPAD.01.06.05.01

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

Burlington Resources, Inc.

Project ID: FLORA VISTA Sample ID: FLORA VISTA MW-1

Organic Analytical Results

ACZ Sample ID:	L55783-01
Date Sampled:	03/22/06 0:00
Date Received:	03/23/06
Sample Matrix:	Ground Water

Benzene, Toluene, Ethylbenzene & Xylene

Analysis Method: M8021B GC/PID Extract Method: Method

Workgroup: **WG204013** Analyst: *km* Extract Date: 03/27/06 20:09 Analysis Date: 03/27/06 20:09

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene Ethylbenzene	000071-43-2	3580 770		50	*	ug/L	20 10	50 50
m p Xylene o Xylene Toluene	01330 20 7 00095-47- 6 000108-88-3	5830 10	J U	50 50 50 50		ug/L ug/L ug/L	20 10 10	100 50 50
Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Bromofluorobenzene	000460-00-4	101.4		50		%	83	117



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

Re	port Header	Explanations									
	Batch	A distinct set of samples analyzed at a specific til	me								
	Found	Value of the QC Type of interest									
	Limit	Upper limit for RPD, in %.									
	Lower	Lower Recovery Limit, in % (except for LCSS, m	g/Kg)								
	LCL	Lower Control.Limit									
	MDL	Method Detection Limit. Same as Minimum Repo	orting Limit. Allows for	instrument and annual fluctuations.							
	PCN/SCN	A number assigned to reagents/standards to trac	e to the manufacturer's	certificate of analysis							
	PQL	Practical Quantitation Limit									
	QC	True Value of the Control Sample or the amount a	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	a man a san ann a								
QC	Sample Typ	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							
Q	Sample Ty	pe Explanations	an in direct of the second	an une facendine freedor (1990) de tradición (1990) a construction (1990) de tradición (1990) a construction (1 A constructive freedor (1990) de tradición (1990) de tradición (1990) de tradición (1990) de tradición (1990) de							
	Blanks	Verifies that there is no	or minimal contamination	on in the prep method procedure.							
	Control San	nples Verifies the accuracy of	the method, including t	he prep procedure.							
	Duplicates	Verifies the precision of	the instrument and/or r	nethod.							
_	Spikes/Fort	ified Matrix Determines sample mat	rix interferences, if any	•							
AC	Z Qualifiers	(Qual)									
	В	Analyte detected in daily blank									
	Н	Analysis exceeded method hold time.	·								
	J	Analyte concentration detected at a value betwee	en MDL and PQL								
	R	Poor spike recovery accepted because the other	spike in the set fell with	hin the given limits.							
	Т	High Relative Percent Difference (RPD) accepted	because sample conc	entrations 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 conce	entration is 10 times hig								
	vv	Poor recovery for Sliver quality control is accepte	d because Sliver often	precipitates with Chionde.							
	~ 7	Quality contreol sample is out of control.	concentration is four t	imag grapter than anike concentration							
	2	Applyte concentration different from cocond detect	ar by more than 40%	ines greater than spike concentration.							
		Analyte concentration is estimated due to result of	or by more than 40 %.								
		Analyte concentration is estimated due to result e	interferences	ange.							
M	thod Refere	Analyte concentration is estimated due to matrix	menerences.								
THE P		EPA 600/1-83-020 Methods for Chemical Analy	sis of Water and Waste	as March 1983							
	(1)	EPA 600/4-90/020 Methods for the Determination	an of Organic Compour	ads in Drinking Water (I) July 1990							
	(2)	EPA 600/R-92/129 Methods for the Determination	on of Organic Compour	nds in Drinking Water (I), July 1990.							
	(5)	EPA SW-846 Test Methods for Evaluating Solid	Waste Third Edition w	with Lindate III. December 1996							
	(3) (6)	Standard Methods for the Examination of Water	and Wastewater 10th	adition 1995							
C	mments										
<u>o</u> t	(1)	OC results calculated from raw data. Results ma	av vary slightly if the rou	inded values are used in the calculations							
		and a second s		an and a second							

Organic analyses are reported on an "as received" basis. (2)

REPIN03.11.00.01

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

Organic Extended Qualifier Report

Burlington Resources, Inc.

ACZ Project ID: L55783

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L55783-01	WG204013	Benzene	M8021B GC/PID	V8	Calibration verification recovery was below the method control limit for this analyte, however the average % difference or % drift for all the analytes met method criteria.
		· .			
					· · · ·
		. · · · · · · · · · · · · · · · · · · ·			
		• .			
		·			
		;			
					,

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

Certification Qualifiers

Burlington Resources, Inc.

ACZ Project ID: L55783

No certification qualifiers associated with this analysis

AGZ Laboratories, Inc. 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493		Sa Re	mple ceipt		
Burlington Resources, Inc. FLORA VISTA	ACZ Pro Date Re Recei	oject ID: eceived: ved By:	3/	L55783 23/2006	
Receipt Verification	Date	Printea:	3/	23/2006	
		YES	NO	NA	
1) Does this project require special handling procedures such as CLP protocol?				X	
2) Are the custody seals on the cooler intact?		X			
3) Are the custody seals on the sample containers intact?				X	
4) Is there a Chain of Custody or other directive shipping papers present?		Х		1997 - 1997 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	
5) Is the Chain of Custody complete?		Х			
6) Is the Chain of Custody in agreement with the samples received?		Х			
7) Is there enough sample for all requested analyses?		Х			
8) Are all samples within holding times for requested analyses?		Х			
9) Were all sample containers received intact?		Х			
10) Are the temperature blanks present?				X	
11) Are the trip blanks (VOA and/or Cyanide) present?				У.	
12) Are samples requiring no headspace, headspace free?					
13) Do the samples that require a Foreign Soils Permit have one?				X	

N/A

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

N/A

Cooler Id	Temp (°C)	Rad (µR/hr)	Client must contact ACZ Project Manager if analysis should not proceed for
293	8.3	15	samples received outside of thermal preservation acceptance criteria.
		·	

ACZ Laboratories, Inc. 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493										Sample Receipt			
Burlingtor FLORA VI	n Resources, Inc. STA							AC Di	CZ Proj ate Rec Recei	ect ID: ceived: ved By		L5 3/23,	55783 /2006
Sample Co	ontainer Preservation		North Constant		W re ge	e en et de seu	a fi a vi		en andrese Stevenser	ded to be to be to	*****		
SAMPLE	CLIENT ID	R < 2 ⁻	G < 2	BK < 2	Y< 2	YG< 2	B< 2	0<2	T >12	N/A	RAD	ID .	
L55783-01	FLORA VISTA MW-1									Х			
Sample Co	ontainer Preservation L	egend							and and a second se				
Abbreviatio	on Description	Contai	ner Typ	e Pro	eservat	ive/Lim	its			2011 04 00 0 0 0 0			
R	Raw/Nitric	RED		pН	must be	< 2							
В	Filtered/Sulfuric	BLUE		pН	must be	e < 2							
BK	Filtered/Nitric	BLACK		pН	must be	e < 2							
G	Filtered/Nitric	GREEN	GREEN pH must be < 2		e < 2								
0	Raw/Sulfuric	ORANG	θE	pН	must be	e < 2							
Р.	Raw/NaOH	PURPLE	Ξ.	- pH	must be	e > 12 *							

pH must be > 12

pH must be < 2

pH must be < 2

must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Raw/NaOH Zinc Acetate

No preservative needed

Gamma/Beta dose rate

Raw/Sulfuric

Raw/Sulfuric

TAN

YELLOW

YELLOW GLASS

Not applicable

Not applicable

Sample IDs Reviewed By:

Т

Y

YG

N/A

RAD

REPAD.03.11.00.01

	·			F	$\overline{\mathbb{S}}^{p}$	$ \forall 1 $	Ø	3				
ACZ Labo	ratorios	s Inc							CI	IAIN	of	
2773 Downhill Drive Steamboat S	prinas. CO 804), 1110. 87 (800) 334	-5493						CŬ	ISTC	DY	:
Report to:												
Name: Greg & Wu	12			Addre	ess:	ΡŌ	41	S^{c}	7			
Company: Burting	for				Ese	mu	nyl	Fan	NN	1 4	574	49
E-mail:				Telep	hone:	50	513	26	,95	3-	7	
Copy of Report to:			-									
Name: 121	2			E-ma	il: na	120	ê lod	est	2.30	NIL	231	on
Company: Lodest	×		1	Telep	hone:	50	53	34-	27	91		
Invoice to:		-	-									
Name: Cares I	1urtz			Addre	ISS'							
Company: Runnin	e tron	· · · · · · · · · · · · · · · · · · ·	4									
E-mail:	<u>J</u>	*** 	1	Telep	hone:							
If sample(s) received past holdir	ig time (HT), or	if insufficien	it HT rem	nains to	compl	ete				YES	X	
analysis before expiration, shall If "NO" then ACZ will contact of	ACZ proceed v	vith requeste	d short l f neither	HT ana '''YE S''	yses?	0 "				NO		
is indicated, ACZ will proceed w	ith the request	ad analyses,	even if H	T is ex	pired, a	nd data	a will be	ə qualif	ied.			
PROJECT INFORMATION				AN	ALYSES	REQU	ESTED	(attaci	h list or	use qu	ote nun	iber)
Quote #:												
Project/PO #: Flona Vie	sta			ers								
Shipping Co.: Fld Z	*		4	tain	1							
Tracking #: 877982	59204	0	1	Con	$ \Lambda $							
Reporting State for compliance	e testing: 1	m		t of	N							
SAMPLE IDENTIFICATION	DATE	TIME	Matrix	-	Ø							
Fling Vistamus-1	22201-		wo	2	2		+		<u> </u>			
		£										
·····			ļ	ļ			·	ļ	_			
·			_				· ·					
							<u> </u>					
									1			
<u></u>		·····										
· · · · · · · · · · · · · · · · · · ·												
		14041 041 - 1 - 14							<u> </u>			
Matrix SW (Surface Water) · GV	(Ground Water)	ww (Waste W	ater) · DW	(Drinkir	ig Water)	· SL (Slu	udge) · S	O (Soil)	· OL (Oil)	• Other (Specify)	
RELINQUISHED BY	(:	DATE:T	ME		REC	EIVED	BY:		DA	ATE:TI	ME	PAGE
Ma	22206	1600	?)	(G				27	S.MAI	እ	1
									1200		<u></u> 7	Of
······································									1		····	1
FRMQA021.06.03.05				W	hite - Re	turn wit	h sampl	e. `	Yellow	Rotain f	or your I	ecorda.
									L5	5783:	Page 8	of 8
4 y		• • • • • • • • • • • • • • • • • • • •		····.			· · · ·		· • ····	··· ·,	· ·	

.

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

Analytical Report

July 12, 2006

Report to:

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

cc: Martin Nee

Project ID: FLORA VISTA #1 ACZ Project ID: L57330 Bill to: Gregg Wurtz Burlington Resources, Inc. P.O. Box 4289 Farmington, NM 87499

Gregg Wurtz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 23, 2006. This project has been assigned to ACZ's project number, L57330. 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 L57330. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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

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

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

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

12/Jul/06

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



REPAD.01.06.05.01



L57330: Page 1 of 8

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

Burlington Resources, Inc.

Project ID: FLORA VISTA #1 Sample ID: FLORA VISTA MW 1

Organic Analytical Results

ACZ Sample ID:	L57330-01
Date Sampled:	06/22/06 9:27
Date Received:	06/23/06
Sample Matrix:	Ground Water

Bénzene, Toluene, Ethylbenzene & Xylene,

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

Workgroup: **WG208951** Analyst: *ccp* Extract Date: Analysis Date: **07/05/06 15:13**

Compound	CAS	Result	QUAL	Dilution	XQ)	Units	MDL	PQL
Benzene	71-43-2	3100		50	*	ug/L	20	50
Ethylbenzene	100-41-4	500		50	*	ug/L	10	50
m p Xylene	1330 20 7	3500		50	*	ug/L	20	100
o Xylene	95-47- 6		U	50		ug/L	10	50
Toluene	108-88-3		U	50	*	ug/L	10	50
Surrogate Recoveries	CAS	% Recovery		Dilution	XQ	Units	LOL	UGL
· · ·								
Bromofluorobenzene	460-00-4	104.6		50		%	83	117



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

leport Header	Explanations			
Batch	A distinct set of samples a	analyzed at a specific time		
Found	Value of the QC Type of it	nterest		
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 rea	gents/standards to trace to t	the manufacturer's	s certificate of analysis
PQL	Practical Quantitation Lim	it		
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 LC	SS, mg/Kg)
RPD	Relative Percent Difference	e, calculation used for Dupl	icate QC Types	
Upper	Upper Recovery Limit, in	% (except for LCSS, mg/Kg)	
UCL	Upper Control Limit			
Sample	Value of the Sample of inf	erest		
Sample Ty	pes			
SURR	Surrogate		LFM	Laboratory Fortified Matrix
INTS	Internal Standard		LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate		LŔB	Laboratory Reagent Blank
LCSS	Laboratory Control Sampl	e - Soil	MS/MSD	Matrix Spike/Matrix Spike Duplicate
LCSW	Laboratory Control Sampl	e - Water	PBS	Prep Blank - Soil
LFB	Laboratory Fortified Blank		PBW	Prep Blank - Water
Sample Tv	pe Explanations			
Blanks	\ \	/erifies that there is no or mi	nimal contaminati	on in the prep method procedure.
Control Sa	nples	/erifies the accuracy of the r	nethod, including t	the prep procedure.
Duplicates		/erifies the precision of the i	nstrument and/or i	method
Spikes/For	ified Matrix	Determines sample matrix in	terferences, if any	r.
Z Qualifiers	(Qual)			
В	Analyte detected in daily I	plank		
н	Analysis exceeded metho	d hold time.		
J	Analyte concentration det	ected at a value between MI	DL and PQL	
R	Poor spike recovery acce	pted because the other spike	e in the set fell wit	hin the given limits.
т	High Relative Percent Diff	erence (RPD) accepted bec	ause sample cond	centrations are less than 10x the MDL.
U.	Analyte was analyzed for	but not detected at the indic	ated MDL	
v	High blank data accepted	because sample concentrat	ion is 10 times hig	her than blank concentration
w	Poor recovery for Silver g	uality control is accepted be	cause Silver often	precipitates with Chloride.
х	Quality contreol sample is	out of control.		
Z	Poor spike recovery is ac	cepted because sample con	centration is four t	imes greater than spike concentration.
Р	Analyte concentration diff	ers from second detector bv	more than 40%.	
E	Analyte concentration is e	stimated due to result excee	eding calibration ra	ange.
М	Analyte concentration is e	stimated due to matrix inter	ferences.	-
thod Refere	nces		nte Majalara	
(1)	EPA 600/4-83-020. Meth	ods for Chemical Analysis o	f Water and Waste	es, March 1983.
(2)	EPA 600/4-90/020. Meth	ods for the Determination of	Organic Compour	nds in Drinking Water (I), July 1990.
(3)	EPA 600/R-92/129. Meth	ods for the Determination of	Organic Compou	nds in Drinking Water (II), July 1990.
(5)	EPA SW-846. Test Meth	ods for Evaluating Solid Wa	ste, Third Edition v	with Update III, December, 1996.
(6)	Standard Methods for the	Examination of Water and V	Vastewater. 19th	edition, 1995.
omments				
(1)	QC results calculated from	n raw data. Results may va	ry slightly if the rou	unded values are used in the calculations
(2)	Organic analyses are ren	orted on an "as received" ha	isis	
1-1				

REPIN03.11.00.01

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

Organic Extended Qualifier Report

Burlington Resources, Inc.

ACZ Project ID: L57330

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L57330-01 WG208951	WG208951	Benzene	M8021B GC/PID	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
		Ethylbenzene	M8021B GC/PID	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
		m p Xylene	M8021B GC/PID	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
		Toluene	M8021B GC/PID	, ,	Target analyte in prep / method blank at or above the acceptance criteria. Data is useable because analyte concentration in client sample is less than the MDI

REPAD.15.06.05.01

.

L57330: Page 4 of 8



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

Certification Qualifiers

Burlington Resources, Inc.

ACZ Project ID: L57330

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc. 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493		Sa Re	imple ceip	
Burlington Resources, Inc. FLORA VISTA #1	ACZ Pro Date Re Receiv	ject ID: ceived: /ed By:	6/	L57330 '23/2006
	Date F	Date Printed:		23/2006
Receipt Verification			2000 - 2000 1000 1000	
· · ·		YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?				X
2) Are the custody seals on the cooler intact?		Х		
3) Are the custody seals on the sample containers intact?				X
4) Is there a Chain of Custody or other directive shipping papers present?		Х		6.55
5) Is the Chain of Custody complete?		Х		開いた
6) Is the Chain of Custody in agreement with the samples received?		Х		C44
7) Is there enough sample for all requested analyses?		X		
8) Are all samples within holding times for requested analyses?		Х		
9) Were all sample containers received intact?		Х		
10) Are the temperature blanks present?				X
11) Are the trip blanks (VOA and/or Cyanide) present?				X
12) Are samples requiring no headspace, headspace free?		Х		
13) Do the samples that require a Foreign Soils Permit have one?				X
Exceptions: If you answered no to any of the above questions, please describe		1465 - C.M.M		

N/A

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

N/A

Cooler Id	Temp (°C)	Rad (µR/hr)	Client must contact ACZ Project Manager if analysis should not proceed for
410	0.5	17	samples received outside of thermal preservation acceptance criteria.
	<u> </u>		
		†	
	+ +	·••	

ACZ Laboratories, Inc. 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493										Sample Receipt			
Burlington FLORA VI	n Resources, Inc. STA #1	·						AC Da	Z Proj ate Rec Receiv	ect ID: ceived: ved By	:	L£ 6/23	57330 /2006
Sample Co	ontainer Preservation							63 A.Q.		the the	1 74 - 1942 1 9		nicaia n 'a
SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	0<2	T >12	N/A	RAD	ID	
L57330-01	FLORA VISTA MW 1									Х			
Sample Co	ontainer Preservation Lege	nd											
Abbreviatio	on Description	Contair	ner Typ	e Pr	eservat	ive/Limi	its						
R	Raw/Nitric	RED		pН	must be	< 2							
В	Filtered/Sulfuric	BLUE		pН	must be	< 2							
BK	Filtered/Nitric	BLACK		pН	must be	< 2							
G	Filtered/Nitric	GREEN		pН	must be	< 2							
0	Raw/Sulfuric	ORANG	E	pН	must be	< 2							
Р	Raw/NaOH	PURPLE		pН	must be	> 12 *							
Т	Raw/NaOH Zinc Acetate	TAN		pН	must be	> 12							
Υ.	Raw/Sulfuric	YELLOV	٧	pН	must be	< 2							
YG	Raw/Sulfuric	YELLOV	V GLAS	S pH	must be	< 2							
N/A	No preservative needed	Not appl	icable										
RAD	Gamma/Beta dose rate	 Not appl 	icable	mu	st be < 2	50 μR/h	r ·						

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By:

REPAD.03.11.00.01

Report to:									
Name: Greas W	untz		Addres	is: P.O.	Box	428	7		
Company: Bunlin	yton		1- A	mmin	gton,	Nm	874	199	
E-mail:	J 		Teleph	ione: 50	5-3	26-	753	>	
Copy of Report to:									
Name: 🚺 . Nex	ع		E-mail	min	@100	destar	serv	ices . C	om
Company: Lode.	star		Teleph	one:					
Invoice to:								· -	
Name: Graggi	Wurtz		Addres	s:					
Company: 74 s	Above								
E-mail:			Teleph	one:				7777	
If sample(s) received past analysis before expiration.	holding time (HT), or if shall ACZ proceed wit	insufficient HT re h requested short	mains to c t HT analv:	omplete ses?			YES NO	X	
If "NO" then ACZ will conta	act client for further ins	truction. If neithe	er "YES" n	or "NO"					
is indicated, ACZ will proc	eed with the requested	analyses, even if	HT is expl	red, and da	ta will be	qualified.		oto numb	ov)
							-or-use-qu		
Quote #:	Dieta #1		ers						
Reporting state for compl	liance testing	N	tain	\mathbf{X}	j.				
Sampler's Name:	lance testing. 70		Col	40					
Are any samples NRC lic	ensable material?		t of	F					
SAMPLE IDENTIFICA	TION DATE:	TIME Matr	ix +=	U					
Florg Uista Mu) 62206	0927 WG	52	2					
haung-ang-ang-ang-ang-ang-ang-ang-ang-ang-a		<u></u>							
·······									
• ··· - ··· · · · · · · · · · · · · · ·	······								
			_					+	
								+	
Matrix SW (Surface Wat	er) · GW (Ground Water) · W	W (Waste Water) · D	W (Drinking	Water) · SL (S	iludge) · SO	(Soil) · OL (O	I) · Other (S	pecify)	
REMARKS									
		,							
Falfx	847982	59426	2						
Ted OX			د						•
P	lease refer to ACZ's te	erms & conditions	s located	on the reve	rse side o	of this COC			
RELINQUISH	ED BY:	DATE: IME	فما	REC	EIVED BY	(:		DATE: IM	12
	6	220616	4	-c	-6_		62	30610):20
110000	ſ								

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

December 22, 2006

Report to:

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

cc: Martin Nee

Project ID: FLORA VISTA 1 ACZ Project ID: L59605

Gregg Wurtz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on October 24, 2006. This project has been assigned to ACZ's project number, L59605. 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 L59605. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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

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

All samples and sub-samples associated with this project will be disposed of after January 22, 2007. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

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

22/Dec/06

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



REPAD.01.06.05.01



L59605: Page 1 of 8

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

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

Burlington Resources, Inc.

Project ID: FLORA VISTA 1 Sample ID: FLORA VISTA 1 MW-1

Organic Analytical Results

ACZ Sample ID:	L59605-01						
Date Sampled:	10/20/06 16:34						
Date Received:	10/24/06						
Sample Matrix:	Ground Water						

Benzene, Toluene, Ethylbenzene & Xylene,

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

Workgroup: **WG215778** Analyst: *ccp* Extract Date: Analysis Date: **11/02/06 13:37**

Compound	GAS	Result	QUAL	Dilution	XQ: Units	MDL	PQL
Benzene	71-43-2	6600		50	ug/L	20	50
Ethylbenzene	100-41-4	1220		50	ug/L	10	50
m p Xylene	1330 20 7	. 8880		50	ug/L	20	100
o Xylene	95-47- 6	30	J	50	ug/L	10	50
Toluene	108-88-3	10	J	50	ug/L	10	50
Sürrogate Recoveries	CAS	% Recovery		Dilution	XQ Units	LCL	UGL
Bromofluorobenzene	460-00-4	107.7		50	%	70	130



Laboratories, Inc.

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

Organic Reference

eport Header	Explanations	and the second second	an a
Batch	A distinct set of samples analyzed at a specific time	e	
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 Report	ting Limit. Allows for	instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace	to the manufacturer's	s certificate of analysis
PQL	Practical Quantitation Limit		
QC	True Value of the Control Sample or the amount ac	ded to the Spike	
Rec	Amount of the true value or spike added recovered	l, in % (except for LC	SS, mg/Kg)
RPD	Relative Percent Difference, calculation used for D	uplicate QC Types	
Upper	Upper Recovery Limit, in % (except for LCSS, mg/	/Kg)	
UCL	Upper Control Limit		
Sample	Value of the Sample of interest		-
Sample Ty	pes		
SURR	Surrogate	LFM	Laboratory Fortified Matrix
INTS	Internal Standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
LCSS	Laboratory Control Sample - Soil	MS/MSD	Matrix Spike/Matrix Spike Duplicate
LCSW	Laboratory Control Sample - Water	PBS	Prep Blank - Soil
LFB	Laboratory Fortified Blank	PBW	Prep Blank - Water
Sample Ty	vpe Explanations		
Blanks	Verifies that there is no or	minimal contaminati	on in the prep method procedure.
Control Sa	mples Verifies the accuracy of the	ne method, including	the prep procedure.
Duplicates	Verifies the precision of the	ne instrument and/or i	method.
Spikes/For	tified Matrix Determines sample matrix	interferences, if any	<u>.</u>
Z Qualifier	s (Qual)		
В	Analyte detected in daily blank		
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 recovery accepted b	pike in the set fell wit	hin the given limits.
Т	High Relative Percent Difference (RPD) accepted t	because sample cond	centrations are less than 10x the MDL.
U.	Analyte was analyzed for but not detected at the in	dicated MDL	
V	High blank data accepted because sample concent	tration is 10 times hig	pher than blank concentration
W	Poor recovery for Silver quality control is accepted	because Silver often	precipitates with Chloride.
Х	Quality contreol sample is out of control.		
Z	Poor spike recovery is accepted because sample of	concentration is four t	imes greater than spike concentration.
Р	Analyte concentration differs from second detector	by more than 40%.	
E	Analyte concentration is estimated due to result ex	ceeding calibration ra	ange.
M	Analyte concentration is estimated due to matrix in	terferences.	own in the statement of the second statement (second) in the statement statement of the second statement is a s
ethod Refer	ences		
(1)	EPA 600/4-83-020. Methods for Chemical Analysis	s of Water and Waste	es, March 1983.
(2)	EPA 600/4-90/020. Methods for the Determination	of Organic Compour	nds in Drinking Water (I), July 1990.
(3)	EPA 600/R-92/129. Methods for the Determination	n of Organic Compou	nds in Drinking Water (II), July 1990.
(5)	EPA SW-846. Test Methods for Evaluating Solid V	Waste, Third Edition v	vith Update III, December, 1996.
(6)	Standard Methods for the Examination of Water an	nd Wastewater, 19th	edition, 1995.
omments			
(1)	QC results calculated from raw data. Results may	vary slightly if the roo	unded values are used in the calculations.
(2)	Organic analyses are reported on an "as received"	basis.	

REPIN03.11.00.01

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

Organic Extended Qualifier Report

Burlington Resources, Inc.

ACZ Project ID: L59605

QUAL DESCRIPTION

ACZ ID WORKNUM PARAMETER METHOD

No extended qualifiers associated with this analysis

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

Certification Qualifiers

Burlington Resources, Inc.

ACZ Project ID: L59605

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc. 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493		Sa Re	imple ceip	
Burlington Resources, Inc. FLORA VISTA 1	ACZ Pro Date Re Receiv	ject ID: ceived: /ed By:	10/	L59605 24/2006
	Date F	Printed:	10/	24/2006
Receipt Verification	understation			i ding
		YES	NO	NĄ
1) Does this project require special handling procedures such as CLP protocol?				X
2) Are the custody seals on the cooler intact?		X		
3) Are the custody seals on the sample containers intact?				X
4) Is there a Chain of Custody or other directive shipping papers present?		Х		
5) Is the Chain of Custody complete?		Х		
6) Is the Chain of Custody in agreement with the samples received?		Х		
7) Is there enough sample for all requested analyses?		Х		
8) Are all samples within holding times for requested analyses?		Х		
9) Were all sample containers received intact?		Х		
10) Are the temperature blanks present?				X
11) Are the trip blanks (VOA and/or Cyanide) present?				X
12) Are samples requiring no headspace, headspace free?				X
13) Do the samples that require a Foreign Soils Permit have one?				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 Con	tainers				
Cooler Id		Temp (°C)	Rad (µR/hr)	Client must contact ACZ Proied	ct Manager if analysis should not proceed for
1019		4.1	15	samples received outside of th	ermal preservation acceptance criteria.
· · · · · · · · · · · · · · · · · · ·					
Notes	a Tabaraj Man				

ACZ Laboratories, Inc. 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493									Sample Receipt					
Burlingto FLORA VI	ington Resources, Inc. ACZ F RA VISTA 1 Date F Re						Z Proj ate Rec Receiv	ect ID: ceived: ved By	L596 10/24/20					
Sample Co	ontainer Preservation	anni stataire	14 - Ju	1.7.90 y 190		and and su							1. 4.7	
SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	0 < 2	T >12	N/A	RAD	D		
L59605-01	FLORA VISTA 1 MW-1									Х				
Sample Co	ontainer Preservation Lege	nd	d starte	ann agus a	t 100 (100)		ML .						def in and	
Abbreviatio	on Description	Contai	ner Typ	e Pre	servat	ive/Limi	its			- to a second	an a shi ana san an	1.00.000		
R	Raw/Nitric	RED		pН	must be	< 2								
В	Filtered/Sulfuric	BLUÈ		pН	must be	< 2								
BK	Filtered/Nitric	BLACK		pН	must be	< 2								
G	Filtered/Nitric	GREEN		pН	must be	< 2								
0	Raw/Sulfuric	ORANG	Ε	pН	must be	< 2								
Р	Raw/NaOH	PURPLE	Ξ	pН	must be	> 12 *			·		•			
Т	Raw/NaOH Zinc Acetate	TAN		pН	must be	> 12								
Y	Raw/Sulfuric	YELLO	N	pН	must be	< 2								
YG	Raw/Sulfuric	YELLO	W GLAS	S pH	must be	< 2								
N/A	No preservative needed	Not app	licable											
RAD	Gamma/Beta dose rate	Not app	licable	mu	st be < 2	250 µR/h	r							

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By:

ACZ Labo	ratories, Inc.	}	\approx	76	r F		СН	AIN	of C	UST	ODY
2773 Downhill Drive Steamboat Sp. Report to:	rings, CO_80487 (800) 334	-5493			\mathcal{V}						
Name: Gread Wurtz	<u> </u>		Addre	ss: E	Box	428	9				
Company: Butlington	Conoco Phillips		F	am	ingt	Dn.	NM				
E-mail: <u>GWURTZBBR</u>	-inc.com		Telep	none: <u>/</u>	505	82	69	537	<u>}</u>		
Copy of Report to:								i i			
Name: M Nee			E-mai	mi	nØl	ode	star	ser	riles	. <u></u> 01	m
company: Locustar S	ervices] [Telepl	none:	505	33	3-1:	27	11		
nvoice to:			-								
Jame: Greona Wurtz			Addre	ss:			_			_	
company: as above.]									
-mail:] [Telepł	none:							
sample(s) received past holding	time (HT), or if insufficier	t HT rema	ins to	comple	te				YES	~	
nalysis before expiration, shall A "NO" then ACZ will contact clier	CZ proceed with requestent for further instruction	d short H' f neither "	T analy 'YES'' r	ses? Ior "NΩ	.				NO	L	J
indicated, ACZ will proceed with	h the requested analyses,	even if HT	is exp	ired, an	d data	will be	qualifie	d			
ROJECT INFORMATION			AN	LYSES	S REQU	ESTED	(attach	list or	use quo	oté num	ber)
luote #:			ŵ	m					1	-	
roject/PO #: Flora Vista	a [iner	.it							
eporting state for compliance to	esting:	4	onta	202					ĺ		
ampler's Name: MJN		4	ŭ	3							
				1.14							
re any samples NRC licensable	e material?	Matrix	0 #	HE.							
re any samples NRC licensable SAMPLE IDENTIFICATION	e material? DATE:TIME	Matrix	0 # ~	BTE							
re any samples NRC licensable SAMPLE IDENTIFICATION Flora Vista I MW	e material? DATE:TIME 102006 1634	Matrix GW	°# 3	< BTE	 						
re any samples NRC licensable SAMPLE IDENTIFICATION Flora Vista I MW	e material? DATE:TIME 102006 1634	Matrix GW	* 3	ABTE.						· ·	
re any samples NRC licensable SAMPLE IDENTIFICATION Flora Vista I MW	e material? DATE:TIME	Matrix GW	3	A BIE			· ·				
re any samples NRC licensable SAMPLE IDENTIFICATION Flora Vista I MW	e material? DATE:TIME 102006 1634	Matrix GW	3	BEE		-	· · ·				
re any samples NRC licensable SAMPLE IDENTIFICATION Flora Vista I MW	e material? DATE:TIME 102006 1634	Matrix GW	3	BIE			· · · · · · · · · · · · · · · · · · ·				
re any samples NRC licensable SAMPLE IDENTIFICATION Flor a Vista 1 MW	e material? DATE:TIME 102006 1634	Matrix GW	* 3	BIE		-					
re any samples NRC licensable SAMPLE IDENTIFICATION Flora Vista I MW	e material? DATE:TIME 102006 1634	Matrix GW	3	A BIE							
re any samples NRC licensable SAMPLE IDENTIFICATION Flor a Vista 1 MW	e material? DATE:TIME	Matrix ÂW	3	A BIE							
re any samples NRC licensable SAMPLE IDENTIFICATION Flora Vista I MW	e material? DATE:TIME	Matrix GW	* 3	ABE							
re any samples NRC licensable SAMPLE IDENTIFICATION Flor a Vista I MW Matrix SW (Surface Water) · GW	e material? DATE:TIME 102006 1634	Matrix GW	o # 3	1218	SL (Sludy	ge) · SO ((Soil) · Ol	(Oii) · C	ther (Spe	ecify)	
Matrix SW (Surface Water) - GW	e material? DATE:TIME 102006 1634 Ground Water) WW (Waste W	Matrix GW	o # 3 Drinking	218 V	SL (Sludy	ge) · SO	(Soil) - OI	(Oil) · C	Diher (Spo	ecify)	
Matrix SW (Surface Water) - GW (REMARKS	e material? DATE:TIME 102006 1634	Matrix ÂW	o # 3 Drinking	218 V	SL (Slud	ge) - SO ((Soil) · Ol	(Oii) · C	Dither (Spe	ecify)	
Matrix SW (Surface Water) - GW (Surface Water) - GW (Surface Water) - GW (Surface Water) - GW (Strength of the surface Water) - GW (Strengt of the surface Wate	e material? DATE:TIME 102006 1634 Ground Water) WW (Waste W	Matrix GW ater) · DW (1	Drinking	218 Water) ·	SL (Sludy	ge) - SO	(Soil) · Ol		Diher (Spa	ecify)	
Matrix SW (Surface Water) - GW (REMARKS	e material? DATE:TIME 102006 1634 (Ground Water) WW (Waste W	Matrix GW ater) - DW (1 8 2.5	Drinking	218 Water) -	SL (Slud	ge) - SO	(Soll) O		Sther (Spi	ecify)	
Matrix SW (Surface Water) - GW (REMARKS	e material? DATE:TIME 102006 1634 Ground Water) WW (Waste W dEX 8479	Matrix GW ater) DW (1	Prinking Prinking	218 V Water) ·	SL (Slud	ge) · SO			Diher (Spi	ecify)	
Are any samples NRC licensable SAMPLE IDENTIFICATION Flor A Vista I MW Matrix SW (Surface Water) GW REMARKS FC Please re RELINQUISHED BY	e material? DATE:TIME 102006 1634 (Ground Water) WW (Waste W d EX 8479 efer to ACZ's terms & con	Matrix GW ater) - DW (I 8 2.5 nditions Io	Prinking Prinking	Water) ·		ge) - SO	(Soil) O		Dither (Spa	ecify)	
Are any samples NRC licensable SAMPLE IDENTIFICATION Flor A Vista I MW Matrix SW (Surface Water) - GW (REMARKS Flease re RELINQUISHED BY:	e material? DATE:TIME 102006 1634 Ground Water) WW (Waste W CFX 8479 efer to ACZ's terms & con DATE:	Matrix GW ater) · DW (I 8 2.5 nditions lo IME	Drinking	Water) ·	SL (Slud	ge) · SO	(Soll) · Ol	- (Oil) · C	D/her (Spa		
Matrix SW (Surface Water) - GW SEMARKS Flora Vista I MW SEMARKS Flora RELINQUISHED BY	e material? DATE:TIME 102006 1634 (Ground Water) WW (Waste W d EX 8479 efer to ACZ's terms & con DATE:T	Matrix GW ater) · DW (I 8 2.5 nditions lo IME	Prinking Prinking	Water)		ge) · SO	(Soil) O				
re any samples NRC licensable SAMPLE IDENTIFICATION Flor a Vista I MW Matrix SW (Surface Water) - GW (EMARKS Flease re RELINQUISHED BY:	e material? DATE:TIME 102006 1634 Ground Water) WW (Waste W CGround Water) WW (W CGround Water) WW (W CGround Water) WW (W CGround Water) W	Matrix GW ater) · DW (I 8 Z 5 · nditions lo IME	Drinking	Water)		ge) · SO	(Soll) OI	:OC.			

L59605: Page 8 of 8

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

Analytical Report

January 09, 2007

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

cc: Martin Nee

Project ID: FLORA VISTA 1 ACZ Project ID: L60373

Gregg Wurtz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 14, 2006. This project has been assigned to ACZ's project number, L60373. Please reference this number in all future inquiries.

Bill to:

Gregg Wurtz

P.O. Box 4289

Burlington Resources, Inc.

Farmington, NM 87499

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60373. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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

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

All samples and sub-samples associated with this project will be disposed of after February 09, 2007. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

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

09/Jan/07

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



REPAD.01.06.05.01



L60373: Page 1 of 8

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

Burlington Resources, Inc.

Project ID: FLORA VISTA 1 Sample ID: FLORA VISTA 1 MW-1

Organic Analytical Results

ACZ Sample ID:	L60373-01
Date Sampled:	12/13/06 13:25
Date Received:	12/14/06
Sample Matrix:	Ground Water

Benzene, Toluene, Ethylbenzene & Xylene,

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

Workgroup: **WG218465** Analyst: *ccp* Extract Date: Analysis Date: **12/22/06 1:57**

Gompound	CAS	Result	QUAL	Dilution	XO	Units	MDL.	Pel
Benzene	71-43-2	4230		50	*	ug/L	20	50
Ethylbenzene	100-41-4	1090		50		ug/L	10	50
m p Xylene	1330 20 7	8100		50		ug/L	20	100
o Xylene	95-47- 6	30	J	50		ug/L	10	50
Toluene	108-88-3	10	J	50		ug/L	10	50
Surrogate Recoveries	GAS	👻 🎤 % Recovery 🕈	₩. ¥¥. \$	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	110.5		50		%	70	130



AGIZ Laboratories, Inc. 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)						
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	In % (except for LCSS, mg/Kg) It. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations. reagents/standards to trace to the manufacturer's certificate of analysismit rol Sample or the amount added to the Spike ue or spike added recovered, in % (except for LCSS, mg/Kg) ence, calculation used for Duplicate QC Types in % (except for LCSS, mg/Kg) interest I I I I LEFM Laboratory Fortified Matrix LFM Laboratory Fortified Matrix Duplicate LRB Laboratory Reagent Blank mple - Soil MS/MSD Matrix Spike/Matrix Spike/Duplicate mple - Water PBS Prep Blank - Soil ank PBW Prep Blank - Soil Verifies that there is no or minimal contamination in the prep method procedure. Verifies the accuracy of the method, including the prep procedure. Verifies the accuracy of the method, including the prep procedure. Verifies the average of the instrument and/or method. Determines sample matrix interferences, if any. I y blank thod hold time. detected at a value between MDL and PQL scepted because the other spike in the set fell within the given limits. Difference (RPD) accepted because Silver offen precipitates with Chloride. a is out of control					
Sample	Value of the Sample of interest						
QC Sample Ty	pes <u>e la se as a la la se</u>		an a				
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 Ty	pe Explanations						
Blanks	Verifies that there is n	o or minimal contaminatio	n in the prep method procedure.				
Control Sar	nples Verifies the accuracy	of the method, including the	ne prep procedure.				
Duplicates	Verifies the precision	of the instrument and/or n	nethod.				
Spikes/For	Infied Matrix Determines sample m	atrix interferences, if any.					
ACZ Qualifiers	(Qual)	an an an an air an an Sairt ann Dao	an denna a serie a den a serie de la compañía de la				
в	Analysis accessed a method hold time						
	Analysis exceeded method noid time.						
B	Analyte concentration detected at a value between MDL and PQL						
т	Four spike recovery accepted because the other spike in the set reli within the given limits.						
, U	Analyte was analyzed for but not detected at the indicated MDI						
v	manyle was analyzed for but not detected at the indicated MDL. High blank data accepted because sample concentration is 10 times bigher than blank concentration.						
Ŵ	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride						
×	Quality control 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.						
М	Analyte concentration is estimated due to matri	ix interferences.	-				
Method Refere	inces		an and the second se				
(1)	EPA 600/4-83-020. Methods for Chemical Ana	lysis of Water and Waste	s, 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 Wate	r and Wastewater, 19th e	dition, 1995.				
Comments	Inte Value of the Control Sample of the amount addee to the spike Anount of the true value or spike added recovered, in % (except for LCSS, mg/Kg) Relative Percent Difference, calculation used for Duplicate QC Types Upper Recovery Limit, in % (except for LCSS, mg/Kg) Upper Control Limit Upper Control Limit Sample of interest S Surogate LFM Laboratory Fortified Matrix Duplicate LFM Laboratory Fortified Matrix Duplicate LFM Laboratory Fortified Matrix Duplicate Laboratory Control Sample - Soil MS/MSD Matrix Spike/Matrix Spike Duplicate Laboratory Control Sample - Soil MS/MSD Matrix Spike/Matrix Spike Duplicate Laboratory Control Sample - Soil MS/MSD Matrix Spike/Matrix Spike Duplicate Laboratory Control Sample - Water PBS Verifies that there is no or minimal contamination in the prep method procedure. Verifies the accuracy of the method, including the prep procedure. Verifies the accuracy of the method, including the prep procedure. Verifies the accuracy of the method, including the prep procedure. Verifies the accuracy of the method, including the prep procedure. Verifies the accuracy of the method, including the prep procedure. Verifies the accuracy of the method, including the prep procedure. Verifies the accuracy of the method, including the prep procedure. Verifies the accuracy of the method, including the prep procedure. Verifies the accuracy of the method, including the prep procedure. Verifies the accuracy of the method, including the prep procedure. Verifies the accuracy of the method accuracy is accepted because sample concentrations are less than 10x the MDL. Analyte accepted because sample concentration is four times greater than spike concentration. Analyte concentration detected at the indicated MDL High blank data eacepted because sample concentration is four times greater than spike concentration. Analyte concentration is estimated due to result exceeding calibration range. Analyte concentration is estimated due to matrix interferences.						
(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 receiv	ed" basis.					

REPIN03.11.00.01

Organic Reference

ACZ Laboratories, Inc. 2773 Downhill Drive Steamboat Springs, CO 80487 (

(800) 334-5493

Organic Extended **Qualifier Report**

Burlington Resources, Inc.

ACZ Project ID: L60373

	TORRIVUM			QUAL	DESCRIPTION
_60373-01	WG218465	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 criteri
			•		
				,	
	-				
					·
			•		
					•
		ڼ			
		•			
	06.05.01		· · · · · · · · · · · · · · · · · · ·		



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

Certification Qualifiers

Burlington Resources, Inc.

ACZ Project ID: L60373

No certification qualifiers associated with this analysis
ACZ Laboratories, Inc. 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493	() () () () () () () () () () () () () (Sa Re	imple ceip	t and	
Description Does this project require special handling procedures such as CLP protocol? Are the custody seals on the cooler intact? Is there a Chain of Custody or other directive shipping papers present? Is the Chain of Custody or other directive shipping papers present? Is the Chain of Custody in agreement with the samples received? Is there enough sample for all requested analyses? Are the temperature blanks present? Are the temperature blanks present? Are the temperature blanks present? Are the trip blanks (VOA and/or Cyanide) present? Are samples requiring no headspace, headspace free? Do the samples that require a Foreign Soils Permit have one?	ACZ Pro Date Re Recei Date	oject ID: ceived: ved By: Printed:	L60373 12/14/2006 12/14/2006		
Receipt Verification.		nga gertê Lista da dî	ann a' de Aladi ann		
		YES	NO	NA	
1) Does this project require special handling procedures such as CLP protocol?				<u> </u>	
2) Are the custody seals on the cooler intact?				<u> </u>	
3) Are the custody seals on the sample containers intact?				X	
4) Is there a Chain of Custody or other directive shipping papers present?		X		i an	
5) Is the Chain of Custody complete?		X		a. A a	
6) Is the Chain of Custody in agreement with the samples received?		Х			
7) Is there enough sample for all requested analyses?		Х			
8) Are all samples within holding times for requested analyses?		Х			
9) Were all sample containers received intact?	,	X			
10) Are the temperature blanks present?				X	
11) Are the trip blanks (VOA and/or Cyanide) present?				X	
12) Are samples requiring no headspace, headspace free?		X		1	
13) Do the samples that require a Foreign Soils Permit have one?	,			X	

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

N/A

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

N/A .

ooler Id	Temp (°C)	Rad (µR/hr)	Client must contact ACZ Project Manager if analysis should not proceed for					
1244 5.9 22		22	samples received outside of thermal preservation acceptance criteria.					
	 	+						
	+	<u> </u>						

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

Burlington Resources, Inc.

FLORA VISTA 1

Sample Receipt

ACZ Project ID: L60373 Date Received: 12/14/2006 Received By:

Sample Container Preservation

SAMPLE		R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	0<2	T >12	N/A	RAD	ID	
L60373-01	FLORA VISTA 1 MW-1									Х			
Sample Co	ontainer Preservation Lege	nd)	andar yan y					per a la composita	in standarda		else April des se		
Abbreviatio	on Description	Contai	ner Typ	e Pre	eservat	ive/Lim	its						
R	Raw/Nitric	RED		pН	pH must be < 2								
В	Filtered/Sulfuric	BLUE			pH must be < 2								
BK .	Filtered/Nitric	BLACK			pH must be < 2								
G	Filtered/Nitric	GREEN		pН	pH must be < 2								
0	Raw/Sulfuric	ORANG	θE	рН	must be	< 2							
Р	Raw/NaOH	PURPLE			pH must be > 12 *								
т	Raw/NaOH Zinc Acetate	TAN			pH must be > 12								
Y	Raw/Sulfuric	YELLO	W	pН	pH must be < 2								
YG	Raw/Sulfuric	YELLO	W GLAS	S pH	pH must be < 2								
N/A	No preservative needed	Not app	licable									•	
RAD	Gamma/Beta dose rate	Not app	licable	mu	st be < 2	250 µR/h	r						

* pH check performed by analyst prior to sample preparation

l

Sample IDs Reviewed By:

REPAD.03.11.00.01

	ratories. Inc.	4	11	12:	12	0	HAIN	of CUS	ΤΟΠΥ		
2773 Downhill Drive Steamboat Spr	ings, CO 80487 (800) 334-	5493	U/L	50	1/	`		01000			
Report to:											
Name: Gregy Wurtz	0 (th)	-	Addre	ss: B	<u>ox 47</u>	289					
Company: Burlington (-	Farmineton NM 87499									
E-mail: <u>gwurtzlobsk</u> -	inc.com		Telep	hone: 5	505	326	953	4			
Copy of Report to:		· · · ·	,								
Name: M Nel		-	E-mai	<u>I: mjn</u>	@lod	estar	Servi	us.con	-		
Company: Lodestar Sc	Telephone: 50 5 334 2791										
Invoice to:		,		1	_						
Name: GNUN-12			Addre	SS							
Company: as above		1									
E-mail:			Telep	hone:				····	4		
If sample(s) received past holding	time (HT), or if insufficient CZ proceed with requester	HT remi	ains to T analy	complet /ses?	9				4		
If "NO" then ACZ will contact clien	t for further instruction. If	neither	"YES" ı	nor "NO	,			-			
is indicated, ACZ will proceed with PROJECT INFORMATION	i the requested analyses, e	even if H1	T is exp An	ired, an ALYSES	d data w REQUE	ill be qua STED <i>(at</i> i	l ified. lach list or	· use quote n	umber)		
Quote #:											
Project/PO #: Flor a Vista	1	1	lers								
Reporting state for compliance te	əsting:]	ntair								
Sampler's Name: ALA]	Ö	an	•						
Are any samples NRC licensable	material?		4 *	22							
SAMPLE IDENTIFICATION	DATE:TIME	Matrix									
Florg Vistal MW-1	121306 1325	C7W	3						_		
							· ·	┿╍╌┤──			
								· · · · · · · · · · · · · · · · · · ·			
								+			
								+			
								+			
		1						<u> </u>			
								+			
								<u> </u>			
Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Wa	iter) · DW ((Drinking	Water) · S	SL (Sludge) SO (Soil) · OL (OII) ·	Other (Specify)			
REMARKS											
Find the car											
revex 84-	1982594300										
	•										
Please re	fer to ACZ's terms & con	ditions lo	ocated	on the r	everse :	side of th	is COC.				
RELINQUISHED BY:	DATE:TI	ME		R	ECEIVE	ED BY:		DATE:	TIME		
Ashley I agen	121306	1530									
0-0-											
FRMAD050.03.05.02	White - Return with sample.	Yello	w - Reta	ain for yo	ur record	is.					