

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

- [A] Location - Spacing Unit - Simultaneous Dedication
☒ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

- [D] Other: Specify _____

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply

- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
[B] ☐ Offset Operators, Leaseholders or Surface Owner
[C] ☐ Application is One Which Requires Published Legal Notice
[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
[F] ☐ Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] CERTIFICATION: I hereby certify that the information submitted with this application for administrative approval is accurate and complete to the best of my knowledge. I also understand that no action will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Print or Type Name

Signature

Title

Date

e-mail Address

BURLINGTON

RESOURCES

San Juan Division

Sent Federal Express

July 13, 2005

Mr. Michael Stogner
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87504

Re: Negro Canyon #103S
1395' FNL, 170' FEL, Section 2, T31N, R8W surface hole
2510' FSL, 2524' FEL, Section 1, T31N, R8W bottom hole
API #30-045-32937

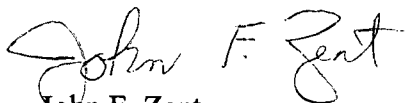
Dear Mr. Stogner:

Burlington Resources is applying for administrative approval of an unorthodox non-standard proposed gas well location for the Basin Fruitland Coal on the above referenced well, as shown on the attached plat.

The Non-Standard Location is due to the necessity of placing the surface location in the offset Section 2. To extend the wellbore further to the east, to obtain a standard bottom hole, requires additional expense and risk to the drilling and completion of the well. The bottom hole location is non-standard from the center section line, and since the entire Section is a 100% Burlington Resources lease, the requested NSL will not impact the rights of offset owners. Therefore, Burlington is requesting the 20 day notification to offset partners be waived on this particular well due to logistics of directional drilling equipment already in the area, as well as less equipment disturbance in the future.

We appreciate your consideration in this matter, and look forward to hearing from you in the near future.

Sincerely,



John F. Zent
General Manager, Compliance

2005 JUL 14 AM 9 46

Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 15, 2000

First, Artesia, N.M. 88210

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

AT III
Rio Brazos Rd., Aztec, N.M. 87410

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505

☐ AMENDED REPORT

ASTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-	² Pool Code 71629	³ Pool Name Basin Fruitland Coal
⁴ Property Code	⁵ Property Name NEGRO CANYON	⁶ Well Number 103S
⁷ GRID No. 14538	⁸ Operator Name BURLINGTON RESOURCES OIL AND GAS COMPANY LP	⁹ Elevation 6940'

¹⁰ Surface Location

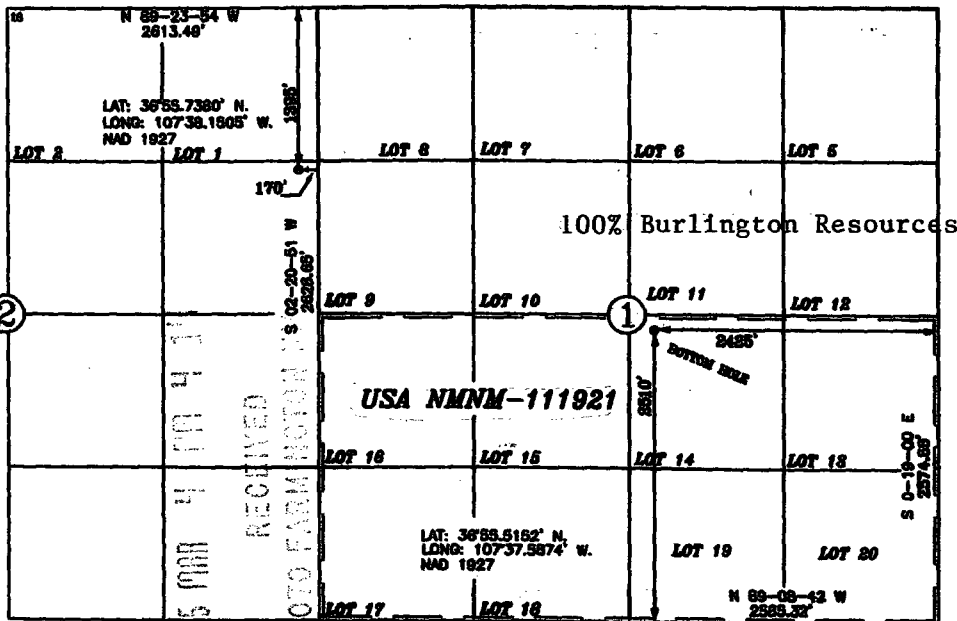
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	2	31-N	8-W		1395'	NORTH	170'	EAST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	1	31-N	8-W		2510'	SOUTH	2425'	EAST	SAN JUAN

¹² Dedicated Acres S/2 302.49 ac	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein
is true and complete to the best of my knowledge and
belief

Joni Clark
Signature

Joni Clark
Printed Name
Sr. Regulatory Specialist
Title

2-22-05
Date

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat
was plotted from field notes of actual surveys made by
me or under my supervision, and that the same is true
and correct to the best of my belief.

2-22-05
Date of Survey

Signature and Seal of Professional Surveyor

15703
LICENSED PROFESSIONAL SURVEYOR
Certificate Number 15703

BURLINGTON RESOURCES

San Juan Division

Sent Federal Express

July 13, 2005

Mr. Michael Stogner
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87504

Re: Negro Canyon #103S
1395' FNL, 170' FEL, Section 2, T31N, R8W surface hole
2510' FSL, 2425' FEL, Section 1, T31N, R8W bottom hole
API #30-045-32937

Dear Mr. Stogner:

Burlington Resources is applying for administrative approval of an unorthodox gas well location for the Basin Fruitland Coal.

The NSL directional drilling plan for the Negro Canyon #103S calls for a kick off point at 300 feet. At that point, angle will be built at six degrees per 100 feet until 1317 feet true measured depth (TMD). The angle at 1317 TMD will be 61.04 degrees and that angle will be held for 3056 feet TMD. The plan then calls for the angle to drop at 6 degrees per 100 feet unit reaching a zero degree angle at 5391 feet TMD. This results in a reach of approximately 3000 feet. The additional reach to have a Non NSL bottom hole location is over 500 feet. To increase the reach by an additional 500 feet would require either to significantly increase the build rate beyond six degrees per 100 feet or to significantly increase the maximum angle of the well bore above 61.04 degrees. Either of these would cause significant problems with the planned artificial lift system, rod pump. The NSL directional well bore already pushes the limit of prudently operating a rod pump system. Increasing the build rate beyond six degrees per 100 feet significantly increases the axial load on the rods during pumping unit operations. Increasing the maximum angle of the well bore significantly increases the wear on the tubing during pumping unit operations. Both result in pushing beyond the limit of prudent rod pump operations and reduces ultimate recovery of the well. Due to this, it is recommended that the well be drilled utilizing the NSL drilling plan.

The following attachments are for your review:

- Approved application for Permit to Drill and C-102 at referenced location
- Offset operators / owners plat
- 9 Section plat
- Standard Engineering Survey Report

Sincerely,



Joni Clark
Regulatory Specialist

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL	2005 MAR 4 PM 4 14 RECEIVED 070 FARMINGTON NM	5. Lease Number NMNM-111921 Unit Reporting Number MV-8910010510 DK-891001051B
1b. Type of Well GAS		6. If Indian, All. or Tribe
2. Operator BURLINGTON RESOURCES Oil & Gas Company		7. Unit Agreement Name
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700		8. Farm or Lease Name Negro Canyon 9. Well Number #103S
4. Location of Well 1395' FNL, 170' FEL surface 2510' FSL, 2425' FEL bottom hole Surface-Latitude 36°55.7380'N, Longitude 107°38.1505' W Bottom Hole-Lat. 36°55.5152'N, Longitude 107°37.5874' W		10. Field, Pool, Wildcat Basin Fruitland Coal 11. Sec., Twn, Rge, Mer. (NMPM) Sec. 1, T31N, R08W API # 30-045- <u>32937</u>
14. Distance in Miles from Nearest Town 30.2 miles to Blanco, NM Post Office	12. County San Juan	13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 170'		
16. Acres in Lease	17. Acres Assigned to Well 302.49 S/2	
18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease 2125'		
19. Proposed Depth 3914'	20. Rotary or Cable Tools Rotary	
21. Elevations (DF, FT, GR, Etc.) 6940' GR	22. Approx. Date Work will Start	
23. Proposed Casing and Cementing Program See Operations Plan attached		
24. Authorized by: <u>Joni Clark</u> Senior Regulatory Specialist	<u>3-3-05</u> Date	

PERMIT NO. _____ APPROVAL DATE _____
APPROVED BY [Signature] TITLE AFM DATE 6-15-05

Archaeological Report attached

Threatened and Endangered Species Report attached

NOTE: This format is issued in lieu of U.S. BLM Form 3160-3

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

This action is subject to technical and
procedural review pursuant to 43 CFR 3165.3
43 CFR 3165.4

OPERATOR

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED

Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 15, 2000

First, Artesia, N.M. 88210

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☐ AMENDED REPORT

STRICT IV
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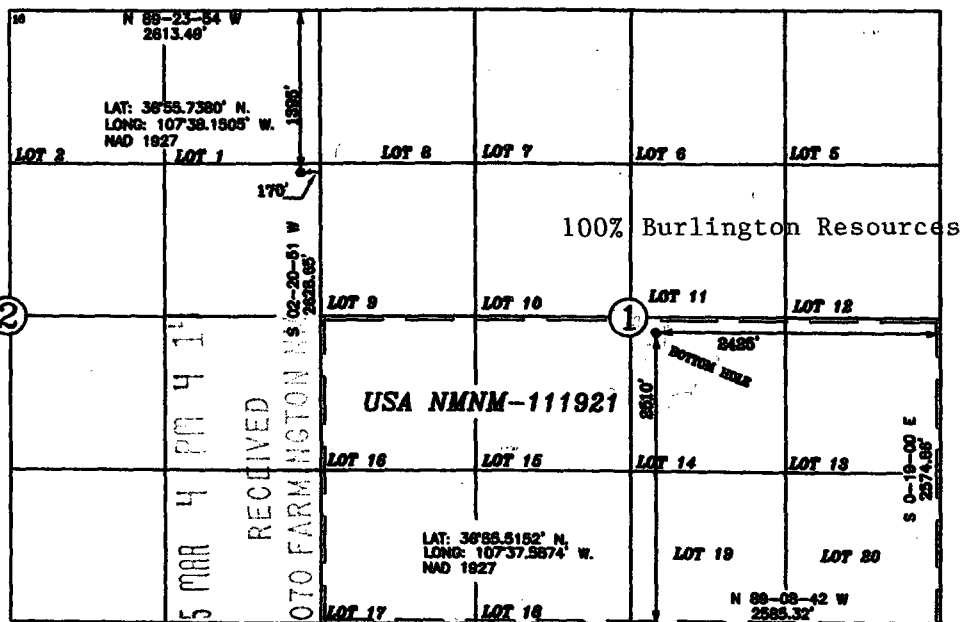
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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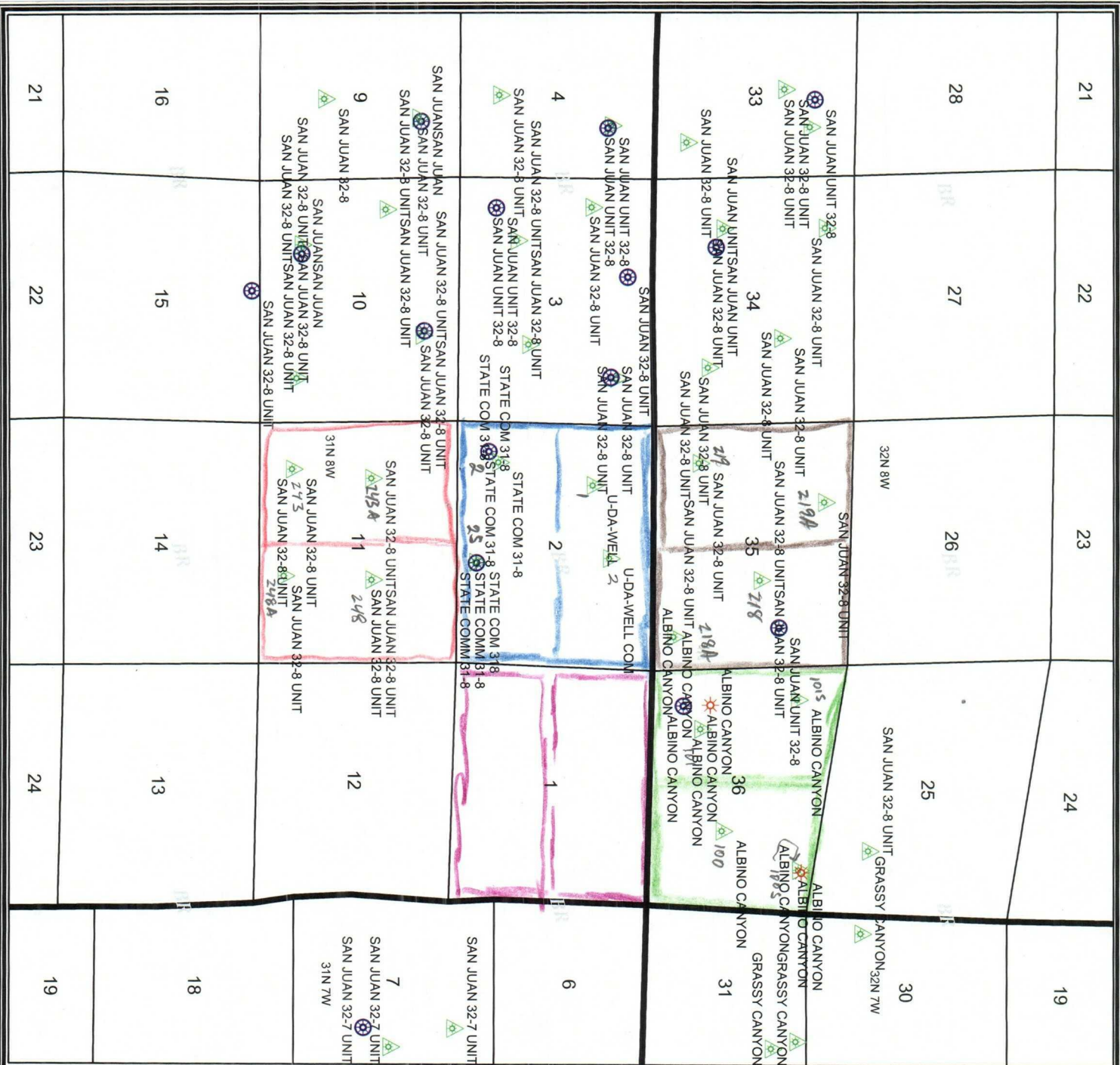
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Joni Clark
Signature
Joni Clark
Printed Name
Sr. Regulatory Specialist
Title
2-22-05
Date

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

2-29-05
Date of Survey
Signature and Seal of Professional Surveyor
15703
Certificate Number



Legend

<all other values>

FRUITLAND COAL

PICTURED CLIFFS

MESAVERDE

Sections

Townships

BURLINGTON
RESOURCES

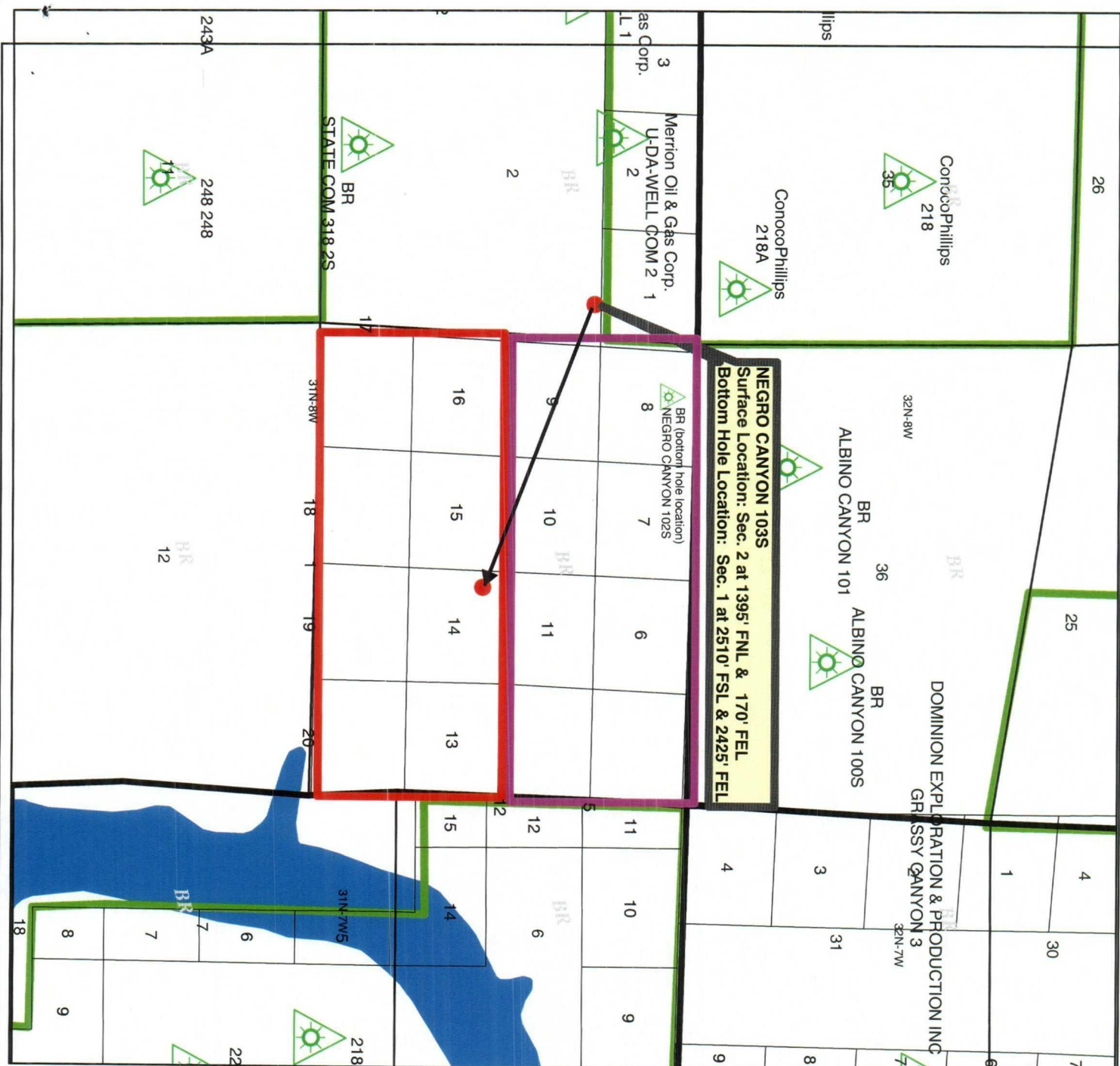


GCS North American 1927

BURLINGTON RESOURCES
San Juan

Negro Canyon #103S
9 Section Plat

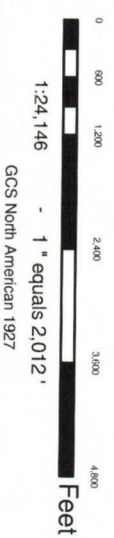
Prepared By: lec Date: 2/1/2005
 File Number: 2/1/2005
 File Name: New Project



NEGRO CANYON 103S
 Surface Location: Sec. 2 at 1395' FNL & 170' FEL
 Bottom Hole Location: Sec. 1 at 2510' FSL & 2425' FEL

Legend

- Fruitland Coal Well
- Sections_(SJD)
- Townships_(SJD)
- San Juan Federal Units
- Counties (SJD)
- U.S. Water Bodies (SJD)
- Proposed Well Bottom
- Hole Location & Dedication
- OFFSET OPERATOR:**
- 1. BURLINGTON - 100% WIO**
(see attached WIO list)



BURLINGTON RESOURCES
San Juan

NEGRO CANYON 103S NSL
 Secs 1 & 2 T31N R8W
 Directional Drill Well
 San Juan County, New Mexico

Prepared By: pgm1 Date: 7/13/2005
 File Number: 7/13/2005
 File Name: Negro Canyon 103S.mxd

JOINT INTEREST BILLING SCHEDULE

<u>Completion Number</u>	<u>Well Name</u>	<u>Well Number</u>	<u>Formation</u>
85666101	NEGRO CANYON	102S	FRUITLAND COAL

<u>Owner Number</u>	<u>Owner Name</u>	<u>Interest %</u>
999021	BURLINGTON RESOURCES O&G	100.000000
	<u>Total Interest</u>	100.000000

Burlington

Negro Canyon

Section 1

Negro 103S

103S Plan NSL

Plan: Jan Trial

Standard Survey Report

24 May, 2005

Burlington Resources Inc.

Survey Report

Database: EDM 2003.5 Single User Db
Company: Burlington
Project: Negro Canyon
Site: Section 1
Well: Negro 103S
Wellbore: 103S Plan NSL
Design: Jan Trial

Local Co-ordinate Reference: Well Negro 103S
TVD Reference: SITE @ 6950.0ft (Original Site Elev)
MD Reference: SITE @ 6950.0ft (Original Site Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Project Negro Canyon, San Juan, USA

Map System: US State Plane 1927 (Exact solution)

System Datum:

Ground Level

Geo Datum: NAD 1927 (NADCON CONUS)

Map Zone: New Mexico West 3003

Using geodetic scale factor

Site Section 1

Site Position: Northing: 657580.71 m Latitude: 36° 55' 043" N
From: Lat/Long Easting: 169999.87 m Longitude: 107° 38' 008" W
Position Uncertainty: 0.0 ft Slot Radius: 0.000 in Grid Convergence: 0.12°

Well Negro 103S, Top Pad

Well Position +N/-S 0.0 ft Northing: 657596.61 m Latitude: 36° 55' 044" N
 +E/-W 0.0 ft Easting: 169994.34 m Longitude: 107° 38' 009" W
Position Uncertainty 0.0 ft Wellhead Elevation: ft Ground Level: 6500.0 ft

Wellbore 103S Plan NSL

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	igrf2000	11/3/2004	10.92	63.87	51716

Design Jan Trial

Audit Notes:

Version: 1 Phase: PLAN Tie On Depth: 0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	111.68

Survey Tool Program Date 3/29/2005

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	5135.8	Jan Trial (103S Plan NSL)	MWD	MWD - Standard

Burlington Resources Inc.

Survey Report

Database: EDM 2003.5 Single User Db
Company: Burlington
Project: Negro Canyon
Site: Section 1
Well: Negro 103S
Wellbore: 103S Plan NSL
Design: Jan Trial

Local Co-ordinate Reference: Well Negro 103S
TVD Reference: SITE @ 6950.0ft (Original Site Elev)
MD Reference: SITE @ 6950.0ft (Original Site Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	111.68	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	111.68	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	111.68	200.0	0.0	0.0	0.0	0.00	0.00	0.00
9 5/8"									
300.0	0.00	111.68	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	6.00	111.68	399.8	-1.9	4.9	5.2	6.00	6.00	0.00
500.0	12.00	111.68	498.5	-7.7	19.4	20.9	6.00	6.00	0.00
600.0	18.00	111.68	595.1	-17.3	43.4	46.7	6.00	6.00	0.00
700.0	24.00	111.68	688.4	-30.5	76.7	82.6	6.00	6.00	0.00
800.0	30.00	111.68	777.5	-47.3	118.9	127.9	6.00	6.00	0.00
900.0	36.00	111.68	861.3	-67.4	169.5	182.4	6.00	6.00	0.00
1000.0	42.00	111.68	939.0	-90.6	227.9	245.3	6.00	6.00	0.00
1100.0	48.00	111.68	1009.7	-116.7	293.6	316.0	6.00	6.00	0.00
1200.0	54.00	111.68	1072.6	-145.4	365.8	393.6	6.00	6.00	0.00
1300.0	60.00	111.68	1127.0	-176.4	443.7	477.5	6.00	6.00	0.00
1317.3	61.04	111.68	1135.5	-182.0	457.6	492.5	6.00	6.00	0.00
1400.0	61.04	111.68	1175.6	-208.7	524.9	564.9	0.00	0.00	0.00
1500.0	61.04	111.68	1224.0	-241.0	606.2	652.4	0.00	0.00	0.00
1600.0	61.04	111.68	1272.4	-273.4	687.5	739.9	0.00	0.00	0.00
1700.0	61.04	111.68	1320.8	-305.7	768.8	827.4	0.00	0.00	0.00
1800.0	61.04	111.68	1369.3	-338.0	850.1	914.8	0.00	0.00	0.00
1900.0	61.04	111.68	1417.7	-370.3	931.4	1002.3	0.00	0.00	0.00
2000.0	61.04	111.68	1466.1	-402.7	1012.7	1089.8	0.00	0.00	0.00
2100.0	61.04	111.68	1514.5	-435.0	1094.0	1177.3	0.00	0.00	0.00
2200.0	61.04	111.68	1563.0	-467.3	1175.3	1264.8	0.00	0.00	0.00
2300.0	61.04	111.68	1611.4	-499.6	1256.6	1352.3	0.00	0.00	0.00
2400.0	61.04	111.68	1659.8	-532.0	1337.9	1439.8	0.00	0.00	0.00
2500.0	61.04	111.68	1708.3	-564.3	1419.2	1527.3	0.00	0.00	0.00
2600.0	61.04	111.68	1756.7	-596.6	1500.5	1614.8	0.00	0.00	0.00
2700.0	61.04	111.68	1805.1	-628.9	1581.8	1702.3	0.00	0.00	0.00
2800.0	61.04	111.68	1853.5	-661.3	1663.1	1789.8	0.00	0.00	0.00
2900.0	61.04	111.68	1902.0	-693.6	1744.4	1877.3	0.00	0.00	0.00
3000.0	61.04	111.68	1950.4	-725.9	1825.7	1964.7	0.00	0.00	0.00
3100.0	61.04	111.68	1998.8	-758.2	1907.0	2052.2	0.00	0.00	0.00
3200.0	61.04	111.68	2047.2	-790.6	1988.3	2139.7	0.00	0.00	0.00
3300.0	61.04	111.68	2095.7	-822.9	2069.6	2227.2	0.00	0.00	0.00
3400.0	61.04	111.68	2144.1	-855.2	2150.9	2314.7	0.00	0.00	0.00
3500.0	61.04	111.68	2192.5	-887.5	2232.2	2402.2	0.00	0.00	0.00
3600.0	61.04	111.68	2241.0	-919.9	2313.5	2489.7	0.00	0.00	0.00
3700.0	61.04	111.68	2289.4	-952.2	2394.8	2577.2	0.00	0.00	0.00
3800.0	61.04	111.68	2337.8	-984.5	2476.1	2664.7	0.00	0.00	0.00
3900.0	61.04	111.68	2386.2	-1016.8	2557.4	2752.2	0.00	0.00	0.00
4000.0	61.04	111.68	2434.7	-1049.2	2638.7	2839.7	0.00	0.00	0.00
4100.0	61.04	111.68	2483.1	-1081.5	2720.0	2927.2	0.00	0.00	0.00
4200.0	61.04	111.68	2531.5	-1113.8	2801.3	3014.6	0.00	0.00	0.00
4300.0	61.04	111.68	2579.9	-1146.1	2882.6	3102.1	0.00	0.00	0.00
4373.5	61.04	111.68	2615.5	-1169.9	2942.4	3166.4	0.00	0.00	0.00
4400.0	59.44	111.68	2628.7	-1178.4	2963.8	3189.5	6.00	-6.00	0.00
4465.7	55.50	111.68	2664.0	-1198.9	3015.2	3244.8	6.00	-6.00	0.00
Ojo Alamo									
4500.0	53.44	111.68	2683.9	-1209.2	3041.2	3272.7	6.00	-6.00	0.00
4600.0	47.44	111.68	2747.6	-1237.6	3112.8	3349.8	6.00	-6.00	0.00
4623.9	46.01	111.68	2764.0	-1244.1	3129.0	3367.2	6.00	-6.00	0.00

Burlington Resources Inc.

Survey Report

*Appended
top of Fruitland 3291' TVD*

Database: EDM 2003.5 Single User Db
Company: Burlington
Project: Negro Canyon
Site: Section 1
Well: Negro 103S
Wellbore: 103S Plan NSL
Design: Jan Trial

Local Co-ordinate Reference: Well Negro 103S
TVD Reference: SITE @ 6950.0ft (Original Site Elev)
MD Reference: SITE @ 6950.0ft (Original Site Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

*FC Feb
3491' TVD*

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Kirtland									
4700.0	41.44	111.68	2819.0	-1263.5	3177.8	3419.8	6.00	-6.00	0.00
4800.0	35.44	111.68	2897.3	-1286.5	3235.6	3481.9	6.00	-6.00	0.00
4900.0	29.44	111.68	2981.6	-1306.3	3285.4	3535.6	6.00	-6.00	0.00
5000.0	23.44	111.68	3071.1	-1322.7	3326.8	3580.1	6.00	-6.00	0.00
5100.0	17.44	111.68	3164.8	-1335.6	3359.2	3615.0	6.00	-6.00	0.00
5200.0	11.44	111.68	3261.6	-1344.8	3382.4	3639.9	6.00	-6.00	0.00
5300.0	5.44	111.68	3360.4	-1350.2	3396.0	3654.6	6.00	-6.00	0.00
5390.7	0.00	111.68	3451.0	-1351.8	3400.0	3658.9	6.00	-6.00	0.00

Targets

Target Name	Shape	TVD (ft)	Northing (m)	Easting (m)	+N/-S ft	+E/-W ft	Created	Updated
→ 103S NON NSL	Circle	3040.0	170821.50	656984.97	-1600464.1	1594554.0	2/3/2005	2/3/2005
103S NSL	Point	3451.0	657186.75	171031.43	-1351.8	3400.0	2/3/2005	5/10/2005

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
200.0	200.0	9 5/8"	9.625	12.250

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4465.7	2664.0	Ojo Alamo		0.00	
4623.9	2764.0	Kirtland		0.00	

surface =

Burlington Resources Inc.

Torque Drag Normal Analysis Summary Report

Case Name: T&D Aztec 673	Date: 5/24/2005	Time: 16:11:34	Page: 1
Description:			
Well Name: Negro 103S	Project Name: Negro Canyon		
Well Description: Top Pad	Project Description: San Juan		

OPERATING PARAMETERS

Cased Hole Friction	Hole Section defined	String Side	Annulus Side
Open Hole Friction	Hole Section defined	From Bit	From Bit
Measured Depth of Bit	4882.0 ft	Mud Weight	Mud Weight
Hoisting Equipment Weight	10.0 kip	4882.0	4882.0
Pump Flow Rate	350.0 gpm	8.50	8.50
String Surface Pressure	psi		

ANALYSIS OPTIONS

Buckling Calculations	Curvilinear Loading
Sheave Friction Calculations	OFF
Side Force Calculation	Soft String
Viscous Torque and Drag	OFF

Additional Data

	Use	WOB/Overpull	Torque at Bit
Rotating On Bottom	Y	30.0 kip	1500.0 ft-lbf
Slide Drilling	N	kip	ft-lbf
Back Reaming	N	kip	ft-lbf
Rotating Off Bottom	Y		

	Use	Speed	RPM
Tripping In	Y	60.0 ft/min	rpm
Tripping Out	Y	60.0 ft/min	rpm

DRILLSTRING

TYPE	LENGTH		BODY		STABILIZER / TOOL JOINT				WEIGHT	MTL GRADE	CLASS*
	COMPONENT	TOTAL	OD	ID	LENGTH	OD	ID	FISHNECK			
	ft	ft	in	in	ft	in	in	ft	ppf		
DP	3800.00	3800.00	4.500	3.826		5.594	3.000		18.88	CS_API 5D/7 G	P
HW	900.00	4700.00	4.500	2.750		6.250	2.875		41.00	CS_1340 MOD 1340 MOD	
DC	90.00	4790.00	6.750	2.500					105.06	CS_API 5D/7 4145H MOD	
DC	30.00	4820.00	6.750	2.250					107.13	SS_15-15LC 15-15LC MOD (1)	
BS	3.00	4823.00	6.000	2.160					82.69	CS_API 5D/7 4145H MOD	
MWD	30.00	4853.00	6.750	2.250					108.25	SS_15-15LC 15-15LC MOD (1)	
BS	3.00	4856.00	6.000	2.160					82.69	CS_API 5D/7 4145H MOD	
BS	3.00	4859.00	6.000	2.160					82.69	CS_API 5D/7 4145H MOD	
BS	3.00	4862.00	6.000	2.160					82.69	CS_API 5D/7 4145H MOD	
BHM	19.00	4881.00	6.750	2.250					108.25	CS_API 5D/7 4145H MOD	
BIT	1.00	4882.00	8.750						50.00		1

HOLE SECTION

TYPE	SECTION DEPTH	SECTION LENGTH	EFFECTIVE INSIDE DIAMETER	COEFFICIENT OF FRICTION	VOLUME EXCESS
	ft	ft	in		%
CAS	200.0	200.00	9.000	0.40	
OH	4882.0	4682.00	8.750	0.35	0.00

Wellpath

Tortuosity: None

Calculation Method: Minimum Curvature

Md	Incl	Direc	Tvd	Build	Walk	Dls
ft	°	°	ft	%/100ft	%/100ft	%/100ft
0.0	0.00	116.23	0.0	0.00	0.00	0.00
100.0	0.00	116.23	100.0	0.00	0.00	0.00
200.0	0.00	116.23	200.0	0.00	0.00	0.00
300.0	0.00	116.23	300.0	0.00	0.00	0.00
350.0	3.00	116.23	350.0	6.00	0.00	6.00
400.0	6.00	116.23	399.8	6.00	0.00	6.00
450.0	9.00	116.23	449.4	6.00	0.00	6.00
500.0	12.00	116.23	498.5	6.00	0.00	6.00
550.0	15.00	116.23	547.2	6.00	0.00	6.00
600.0	18.00	116.23	595.1	6.00	0.00	6.00

Burlington Resources Inc.

Torque Drag Normal Analysis Summary Report

Case Name: T&D Aztec 673 Description: Well Name: Negro 103S Well Description: Top Pad	Date: 5/24/2005 Time: 16:11:34 Page: 2 Project Name: Negro Canyon Project Description: San Juan
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Wellpath	Tortuosity: None	Calculation Method: Minimum Curvature
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Md ft	Incl °	Direc °	Tvd ft	Build °/100ft	Walk °/100ft	Dls °/100ft
650.0	21.00	116.23	642.2	6.00	0.00	6.00
700.0	24.00	116.23	688.4	6.00	0.00	6.00
750.0	27.00	116.23	733.5	6.00	0.00	6.00
800.0	30.00	116.23	777.5	6.00	0.00	6.00
850.0	33.00	116.23	820.1	6.00	0.00	6.00
900.0	36.00	116.23	861.3	6.00	0.00	6.00
950.0	39.00	116.23	901.0	6.00	0.00	6.00
1000.0	42.00	116.23	939.0	6.00	0.00	6.00
1050.0	45.00	116.23	975.2	6.00	0.00	6.00
1100.0	48.00	116.23	1009.7	6.00	0.00	6.00
1150.0	51.00	116.23	1042.1	6.00	0.00	6.00
1200.0	54.00	116.23	1072.6	6.00	0.00	6.00
1212.3	54.74	116.23	1079.7	6.00	0.00	6.00
1300.0	54.74	116.23	1130.3	0.00	0.00	0.00
1400.0	54.74	116.23	1188.1	0.00	0.00	0.00
1500.0	54.74	116.23	1245.8	0.00	0.00	0.00
1600.0	54.74	116.23	1303.5	0.00	0.00	0.00
1700.0	54.74	116.23	1361.3	0.00	0.00	0.00
1800.0	54.74	116.23	1419.0	0.00	0.00	0.00
1900.0	54.74	116.23	1476.7	0.00	0.00	0.00
2000.0	54.74	116.23	1534.4	0.00	0.00	0.00
2100.0	54.74	116.23	1592.2	0.00	0.00	0.00
2200.0	54.74	116.23	1649.9	0.00	0.00	0.00
2300.0	54.74	116.23	1707.6	0.00	0.00	0.00
2400.0	54.74	116.23	1765.4	0.00	0.00	0.00
2500.0	54.74	116.23	1823.1	0.00	0.00	0.00
2600.0	54.74	116.23	1880.8	0.00	0.00	0.00
2700.0	54.74	116.23	1938.5	0.00	0.00	0.00
2800.0	54.74	116.23	1996.3	0.00	0.00	0.00
2900.0	54.74	116.23	2054.0	0.00	0.00	0.00
3000.0	54.74	116.23	2111.7	0.00	0.00	0.00
3100.0	54.74	116.23	2169.5	0.00	0.00	0.00
3200.0	54.74	116.23	2227.2	0.00	0.00	0.00
3300.0	54.74	116.23	2284.9	0.00	0.00	0.00
3400.0	54.74	116.23	2342.6	0.00	0.00	0.00
3500.0	54.74	116.23	2400.4	0.00	0.00	0.00
3600.0	54.74	116.23	2458.1	0.00	0.00	0.00
3700.0	54.74	116.23	2515.8	0.00	0.00	0.00
3800.0	54.74	116.23	2573.6	0.00	0.00	0.00
3900.0	54.74	116.23	2631.3	0.00	0.00	0.00
3969.2	54.74	116.23	2671.3	0.00	0.00	0.00
4000.0	52.89	116.23	2689.4	-6.00	0.00	6.00
4050.0	49.89	116.23	2720.6	-6.00	0.00	6.00
4100.0	46.89	116.23	2753.8	-6.00	0.00	6.00
4150.0	43.89	116.23	2788.9	-6.00	0.00	6.00
4200.0	40.89	116.23	2825.8	-6.00	0.00	6.00
4250.0	37.89	116.23	2864.5	-6.00	0.00	6.00
4300.0	34.89	116.23	2904.7	-6.00	0.00	6.00
4350.0	31.89	116.23	2946.5	-6.00	0.00	6.00
4400.0	28.89	116.23	2989.6	-6.00	0.00	6.00
4450.0	25.89	116.23	3034.0	-6.00	0.00	6.00
4500.0	22.89	116.23	3079.5	-6.00	0.00	6.00
4550.0	19.89	116.23	3126.1	-6.00	0.00	6.00
4600.0	16.89	116.23	3173.5	-6.00	0.00	6.00
4650.0	13.89	116.23	3221.7	-6.00	0.00	6.00
4700.0	10.89	116.23	3270.5	-6.00	0.00	6.00
4750.0	7.89	116.23	3319.8	-6.00	0.00	6.00
4800.0	4.89	116.23	3369.5	-6.00	0.00	6.00
4850.0	1.89	116.23	3419.4	-6.00	0.00	6.00
4881.6	0.00	116.23	3451.0	-6.00	0.00	6.00

MECHANICAL LIMITATIONS

Burlington Resources Inc.

Torque Drag Normal Analysis Summary Report

Case Name: T&D Aztec 673	Date: 5/24/2005	Time: 16:11:34	Page: 3
Description:			
Well Name: Negro 103S	Project Name: Negro Canyon		
Well Description: Top Pad	Project Description: San Juan		

Overpull Margin During a tripping out operation	56.4 kip using 80.00 % of yield
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Minimum Weight on Bit to Sinusoidal Buckle During a rotating on bottom operation	0.6 kip at 4882.0 ft
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Minimum Weight on Bit to Helical Buckle During a rotating on bottom operation	0.6 kip at 4882.0 ft
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Explanation of Buckling & Stress Codes

Buckling: ~ = No Buckling S = Sinusoidal H = Helical L = Lockup Stress: T = Torque, F = Fatigue, X = Excess % of Yield, Y = Yield reached

LOAD CONDITION	STRESS / BUCKLING	TORQUE AT THE ROTARY TABLE ft-lbf	TOTAL WINDUP WITH/WITHOUT BIT TORQUE		MEASURED WEIGHT kip	TOTAL STRETCH ft	AXIAL STRESS=0 DISTANCE FROM SURFACE / BIT		NEUTRAL POINT DISTANCE FROM SURFACE / BIT	
			revs	revs			ft	ft	ft	ft
TRIPPING OUT	~~~ ~	0.0	0.0	0.0	157.5	2.63	4700.0	182.0	4882.0	0.0
ROTATING ON BOTTOM	~~F H	8831.5	2.3	1.7	62.2	0.80	3993.1	888.9	4251.1	630.9
TRIPPING IN	~~~ H	0.0	0.0	0.0	55.7	1.06	4700.0	182.0	4882.0	0.0
ROTATING OFF BOTTOM	~~F ~	11687.5	2.7	2.7	92.2	1.73	4700.0	182.0	4882.0	0.0

Grades in Use

GRADE	MINIMUM YIELD STRESS psi
G	105000.0
1340 MOD	55000.0
4145H MOD	110000.0
15-15LC MOD	110000.0

Burlington Resources Inc.

Well:Negro 103S
Wellbore:103S Plan NSL
Design:Jan Trial
Case:T&D Aztec 673

String Editor

	Section Type	Length (ft)	Depth (ft)	OD (in)	ID (in)	Weight (ppf)	Item Description
1	Drill Pipe	3800.00	3800.0	4.500	3.826	18.88	DP 4 1/2 in, 16.60 ppf, G, NC46(XH), P
2	Heavy Weight	900.00	4700.0	4.500	2.750	41.00	HW Grant Prideco, 4 1/2 in, 41.00 ppf
3	Drill Collar	90.00	4790.0	6.750	2.500	105.06	DC 6 3/4 in, 2 1/2 in, 4 1/2 H-90
4	Drill Collar	30.00	4820.0	6.750	2.250	107.13	NDC 6 3/4 in, 2 1/4 in, 4 1/2 H-90
5	Sub	3.00	4823.0	6.000	2.160	82.69	BS 6, 6 x2 1/4 in
6	MWD	30.00	4853.0	6.750	2.250	108.25	MWD 6 3/4 , 6 3/4 x2 1/4 in
7	Sub	3.00	4856.0	6.000	2.160	82.69	MSS 6, 6 x2 1/4 in
8	Sub	3.00	4859.0	6.000	2.160	82.69	XO 6, 6 x2 1/4 in
9	Sub	3.00	4862.0	6.000	2.160	82.69	FS 6, 6 x2 1/4 in
10	Mud Motor	19.00	4881.0	6.750	2.250	108.25	BHM 6 3/4 , 6 3/4 x2 1/4 in
11	Bit	1.00	4882.0	8.750		50.00	Tri-Cone Bit, 2x14
12							