

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL	5. Lease Number NMSF-078049-A Unit Reporting Number	
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 Bolin-Hardie 9. Well Number #1M	
4. Location of Well Unit E (SWNW), 2130' FNL, 670' FWL Latitude 36° 41.0328'N Longitude 107° 40.1974'W	10. Field, Pool, Wildcat Basin Dakota/ Blanco Mesaverde 11. Sec., Twn, Rge, Mer. (NMPM) E Sec. 34, T29N, R8W API # 30-045-33922	
14. Distance in Miles from Nearest Town 24 miles to Bloomfield, NM	12. County San Juan	13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 670'	17. Acres Assigned to Well 320 W2	
16. Acres in Lease	18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease 1076' - Bolin A #1A	
19. Proposed Depth 7551'	20. Rotary or Cable Tools Rotary	
21. Elevations (DF, FT, GR, Etc.) 6510' GL	22. Approx. Date Work will Start	
23. Proposed Casing and Cementing Program See Operations Plan attached		
24. Authorized by: <u>Armando Sanchez</u> Regulatory Analyst	8-29-06 Date	

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

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 and appeal pursuant to 43 CFR 3165.4

NWOC

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
PERMIT AND INSTRUMENTS.

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 15, 2000

DISTRICT II
811 South First, Artesia, N.M. 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045- <u>33922</u>		*Pool Code 72319 / 71599	*Pool Name MESA VERDE/DAKOTA
*Property Code 6839	*Property Name BOLIN-HARDIE		*Well Number 1 M
*OGEID No. 14538	*Operator Name BURLINGTON RESOURCES O&G CO LP		*Elevation 6510'

¹⁰ Surface Location

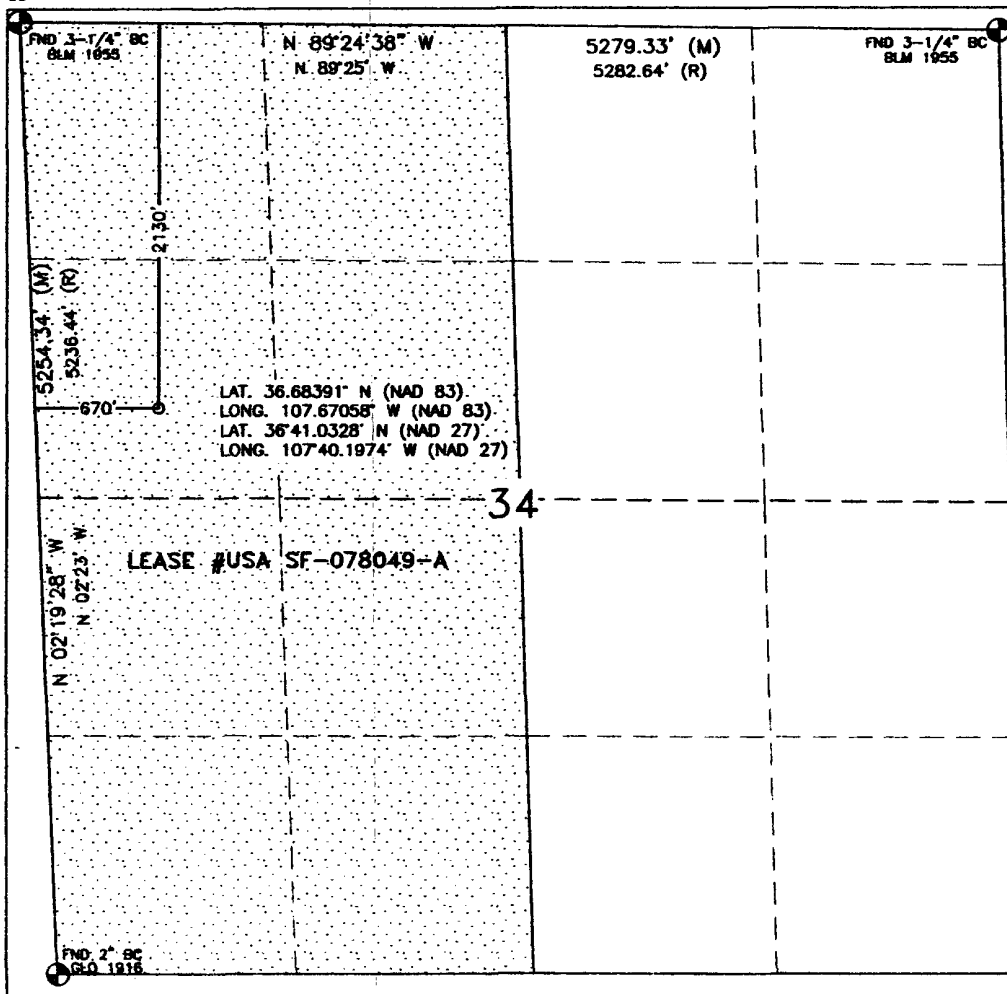
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	34	29N	8W		2130'	NORTH	670'	WEST	SAN JUAN

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
E									
*Dedicated Acres <u>320</u> 344.76 Acres - (W/2)			** Joint or Infill		** Consolidation Code		** Order No.		

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

16



17 OPERATOR CERTIFICATION

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

Patsy Clugston
Signature

Patsy Clugston
Printed Name

Sr. Regulatory Specialist
Title

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.

JUNE 23, 2006

Date of Survey

Signature and Seal of Professional Surveyor:

David R. Russell

DAVID RUSSELL

Certificate Number 10201

May 27, 2004

Office

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Ave., Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

WELL API NO.

30-045- 33922

5. Indicate Type of Lease

STATE ☐FEE ☐

6. State Oil & Gas Lease No.

NMSF-078049-A

7. Lease Name or Unit Agreement Name

Bolin-Hardie

8. Well Number

1M

9. OGRID Number

14538

10. Pool name or Wildcat

Mesaverde / Dakota

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well:

Oil Well ☐Gas Well ☒

Other

2. Name of Operator

BURLINGTON RESOURCES OIL & GAS COMPANY LP

3. Address of Operator

3401 E. 30TH STREET, FARMINGTON, NM 87402

4. Well Location

Unit Letter E

2130'

feet from the

North

line and

670'

feet from the

West

line

Section 34

Township 29N

Rng 8W

NMPM

County

San Juan

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

Pit or Below-grade Tank Application

☐ or Closure ☐

Pit type New Drill

Depth to Groundwater

<100

Distance from nearest fresh water well

<1000

Distance from nearest surface water

<1000

Pit Liner Thickness:

n/a

mil

Below-Grade Tank:

Volume

bbls;

Construction Material

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐PLUG AND ABANDON ☐TEMPORARILY ABANDON ☐CHANGE PLANS ☐PULL OR ALTER CASING ☐MULTIPLE COMPL ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ALTERING CASING ☐COMMENCE DRILLING OPNS. ☐P AND A ☐CASING/CEMENT JOB ☐

OTHER:

New Drill ☒OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

New Drill. Unlined:

Burlington Resources proposes to construct a new drilling pit and an associated vent/flare pit. Based on Burlington's interpretation of the Ecosphere's risk ranking criteria, the new drilling pit and vent/flare pit will be an unlined pit as detailed in Burlington's Revised Drilling / Workover Pit Construction / Operation Procedures dated November 11, 2004 on file at the NMOCD office. A portion of the vent/flare pit will be designed to manage fluids, and that portion will be unlined, as per the risk ranking criteria. Burlington Resources anticipates closing these pits according to the Drilling / Workover Pit Closure Procedure dated August 2, 2004 on file at the NMOCD office.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☒ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE

Amanda Sanchez

TITLE

Regulatory Analyst

DATE

7/19/2006

Type or print name

Amanda Sanchez

E-mail address:

asanchez@br-inc.com

Telephone No.

505-326-9700

For State Use Only

APPROVED BY

[Signature]

TITLE

DEPUTY OIL & GAS INSPECTOR, DIST. #8

DATE

SEP 21 2006

Conditions of Approval (if any):

BURLINGTON RESOURCES O&G CO LP

BOLIN-HARDIE #1 M

2130' FNL & 670' FWL

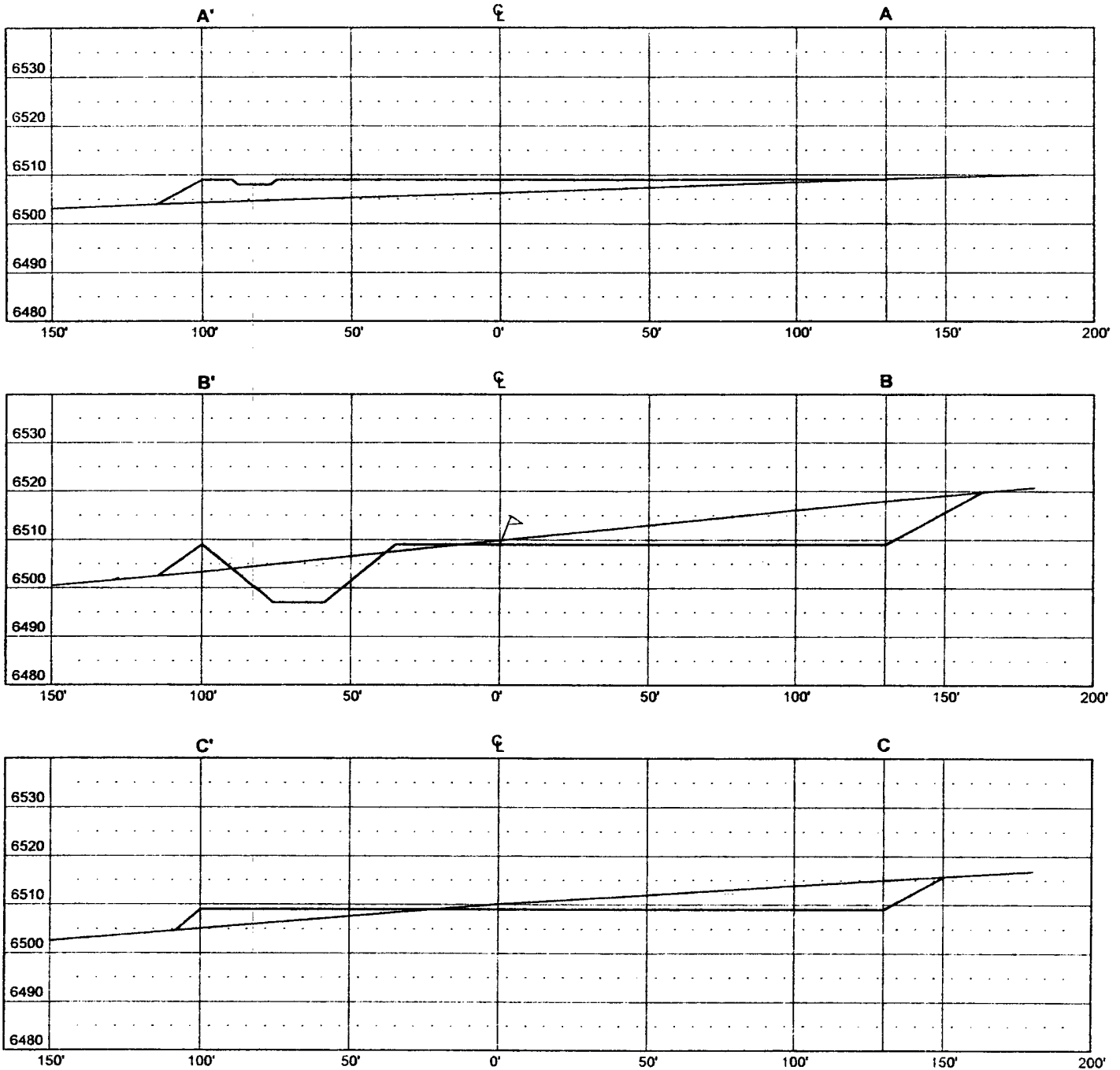
LOCATED IN THE SW/4 NW/4 OF SECTION 34,

T29N, R8W, N.M.P.M.,

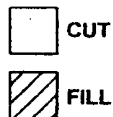
SAN JUAN COUNTY, NEW MEXICO

GROUND ELEVATION: 6510', NAVD 88

FINISHED PAD ELEVATION: 6509.0', NAVD 88



VERT. SCALE: 1" = 30'
HORZ. SCALE: 1" = 50'
JOB No.: COP012
DATE: 06/23/06



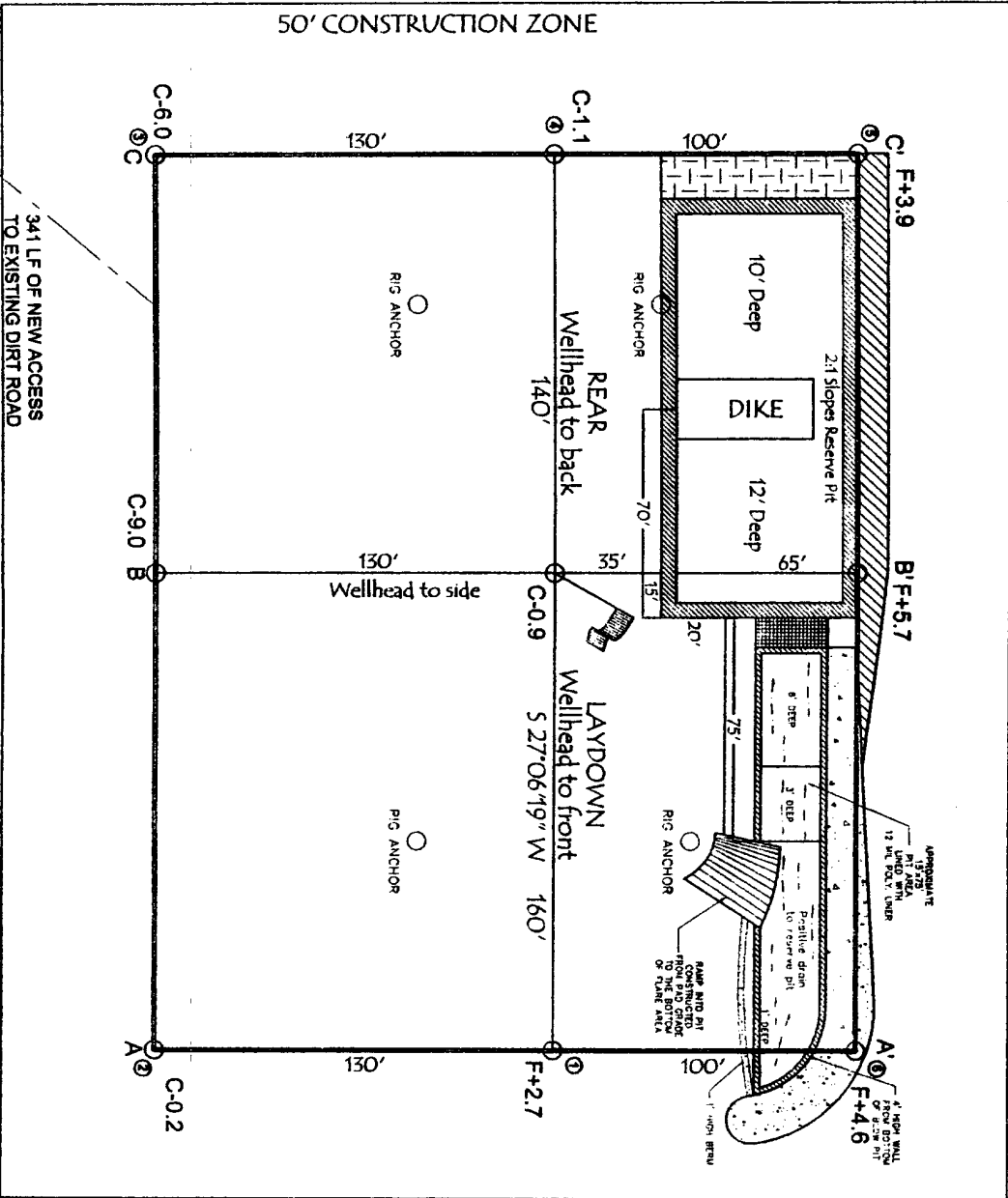
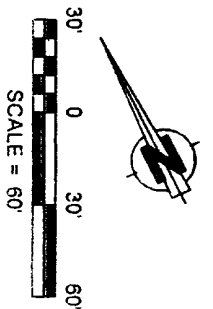
Russell Surveying
1409 W. Aztec Blvd. #5
Aztec, New Mexico 87410
(505) 334-8637

LATITUDE: 36:68391°N
 LONGITUDE: 107:67058°W
 DATUM: NAD 83

BURLINGTON RESOURCES O&G CO LP

BOLINHARDIE #1 M
 2130' FNL & 670' FWL

LOCATED IN THE SW/4 NW/4 OF SECTION 34,
 T29N, R8W, N.M.P.M.,
 SAN JUAN COUNTY, NEW MEXICO
 GROUND ELEVATION: 6510', NAVD 88
 FINISHED PAD ELEVATION: 6509.0', NAVD 88



1 FOOT CONTOUR INTERVAL SHOWN
 SCALE: 1" = 60'
 JOB No.: COP012
 DATE: 06/22/06

NOTE:
 RESERVE PIT DIKE: TO BE 8' ABOVE DEEP SIDE (OVERFLOW - 3' WIDE AND 1' ABOVE SHALLOW SIDE).
 RUSSELL SURVEYING, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.
 CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED, BURIED PIPELINES OR
 CABLES ON WELL PAD, IN CONSTRUCTION ZONE AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR
 TO CONSTRUCTION.

Russell Surveying
 1409 W. Aztec Blvd. #5
 Aztec, New Mexico 87410
 (505) 334-8637

OPERATIONS PLAN

Well Name: BOLIN-HARDIE 1M
Location: 2130' FNL & 670' FWL, Section Sec 34 T29N R08W
San Juan County, New Mexico
Formation: Blanco Mesaverde/Basin Dakota
Elevation: 6510' GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	2072'	
Ojo Alamo	2072'	2192'	aquifer
Kirtland	2192'	2877'	gas
Fruitland Coal	2877'	3022'	gas
Pictured Cliffs	3022'	3187'	gas
Lewis	3187'	3617'	
Huerfanito Bentonite	3617'		
Chacra	4002'	4654'	gas
Massive Cliff House	4654'	4819'	gas
Menefee	4819'	5254'	gas
Massive Point Lookout	5254'	5704'	gas
Mancos Shale	5704'	6479'	
Upper Gallup	6479'	7212'	gas
Greenhorn	7212'	7273'	gas
Graneros	7273'	7322'	gas
Two Wells	7322'	7414'	gas
Paguate	7414'	7453'	gas
Upper Cubero	7453'	7483'	gas
Lower Cubero	7483'	7536'	gas
Encinal	7536'	7551'	gas
Total Depth:	7551'		gas

Logging Program:

Mud Logs/Coring/DST

Mud logs - none
Coring - none
DST - none
Open hole - none
Cased hole - Gamma Ray, CBL - surface to TD

Mud Program:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Vis.</u>	<u>Fluid Loss</u>
0 - 120'	Spud MUD/Air/Air Mist	8.4 - 9.0	40 - 50	no control
120' - 3287'	LSND	8.4 - 9.0	30 - 60	no control
3287' - 7551'	Air/Air Mist/Nitrogen	n/a	n/a	n/a

Casing Program (as listed, the equivalent, or better):

<u>Hole Size</u>	<u>Depth Interval</u>	<u>Csg.Size</u>	<u>Wt.</u>	<u>Grade</u>
12 1/4"	0' - 120'	9 5/8"	32.3#	H-40
8 3/4"	0' - 3287'	7"	20	J-55
6 1/4"	0' - 7551'	4 1/2"	10.5#/11.6#	J-55

Tubing Program:

<u>Depth Interval</u>	<u>Csg.Size</u>	<u>Wt.</u>	<u>Grade</u>
0' - 7551'	2 3/8"	4.7#	J-55

BOP Specifications, Wellhead and Tests:

Surface to Intermediate TD -

11" 2000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out surface casing, BOPE and casing will be tested to 600 psi for 30 minutes.

Intermediate TD to Total Depth -

11" 2000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out intermediate casing, BOPE and casing will be tested to 1500 psi for 30 minutes.

Surface to Total Depth -

2" nominal, 2000 psi minimum choke manifold (Reference Figure #3).

Completion Operations -

7 1/16" 2000 psi double gate BOP stack (Reference Figure #2). After nipple-up prior to completion, pipe rams, casing and liner top will be tested to 2000 psi for 15 minutes.

Wellhead -

9 5/8" x 7" x 4 1/2" x 2 3/8" x 2000 psi tree assembly.

General -

- Pipe rams will be actuated once each day and blind rams will be actuated once each trip to test proper functioning.
- An upper kelly cock valve with handle available and drill string valves to fit each drill string will be available on the rig floors at all times.
- BOP pit level drill will be conducted weekly for each drill crew.
- All BOP tests & drills will be recorded in daily drilling reports.
- Blind and pipe rams will be equipped with extension hand wheels.

Cementing:

9 5/8" surface casing -

Pre-Set Drilled - Cement with 23 sx Type I, II cement with 20% flyash mixed at 14.5 ppg, 1.61 cu ft per sack yield. (38 cu ft of slurry, bring cement to surface) Wait on cement for 24 hours for pre-set holes before pressure testing or drilling out from under surface.

Conventionally Drilled - Cement with 88 sx Type III cement with 0.25 pps Celloflake, 2% CaCl. (113 cu ft of slurry, 200% excess, bring cement to surface) Wait on cement for 8 hrs for conventionally set holes before pressure testing or drilling out from under surface. Wait on cement appropriate time until cement achieves 250 psi compressive strength at 60 degrees F. prior to nipple up of BOPE. Wait on cement for 8 hrs for conventionally set holes before pressure testing or drilling out from under surface. Test casing to 600 psi for 30 minutes.

Saw tooth guide shoe on bottom. Bowspring centralizers will be run in accordance with Onshore Order #2.

7" intermediate casing -

Lead with 287 sacks Premium Lite cement with 3% calcium chloride, 0.25 pps Celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate. Tail w/90 sacks Type III cmt w/1% calcium chloride, 0.25 pps Celloflake, 0.2% fluid loss (124 cu ft 50% excess to circulate to surface). WOC minimum of 8 hours before drilling out intermediate casing. If cement does not circulate to surface, a CBL or a temperature survey will be run to determine TOC. Test casing to 1500 psi for 30 minutes.

7" intermediate casing alternative two stage -

Stage collar set 300' above the top of the Fruitland. First stage: Lead w/17 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss. Tail w/90 sxs Type III cmt w/1% calcium chloride, 0.25 pps Celloflake, 0.2% fluid loss. Second stage: 270 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate (735 cu ft - 50% excess to circulate to surface).

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. Bowspring centralizers spaced every other joint off bottom, to the base of the Ojo Alamo @ 2192'. Two turbolating centralizers at the base of the Ojo Alamo @ 2192'. Bowspring centralizers spaced every fourth joint from the base of the Ojo Alamo to the base of the surface casing.

4 1/2" Production Casing -

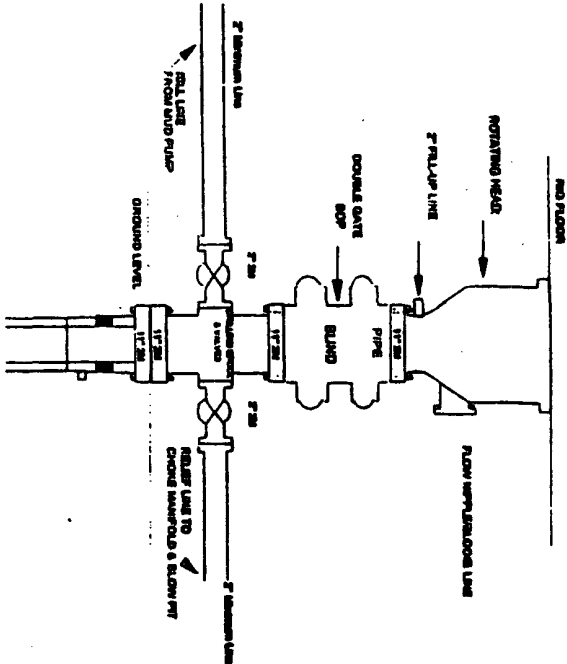
Pump 279 sxs Premium Lite HS FM w/0.25 pps celloflake, 0.3% CD-32, 6.25 pps LCM-1, 1% fluid loss, 6% gel, 7 pps CSE (553 cu.ft., 30% excess to achieve 100' overlap in 4-1/2" x 7" annulus). WOC a minimum of 18 hrs prior to completing.

Drilling Engineer

Date

Burlington Resources

Drilling Rig 2000 psi System



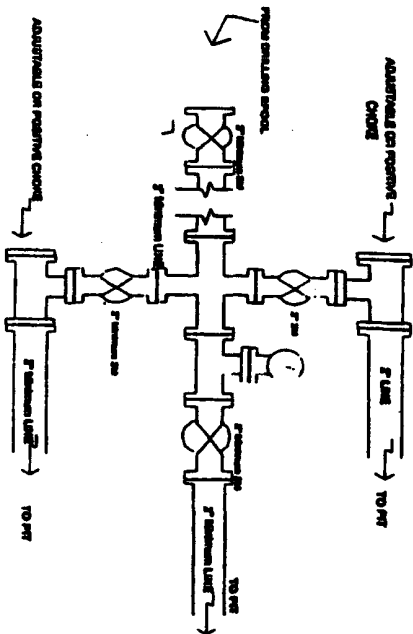
BCP installation from Surface Casing Point to Total Depth. 17\"/>

Figure #1

4-20-01

BURLINGTON RESOURCES

Drilling Rig Choice Manifold Configuration 2000 psi System



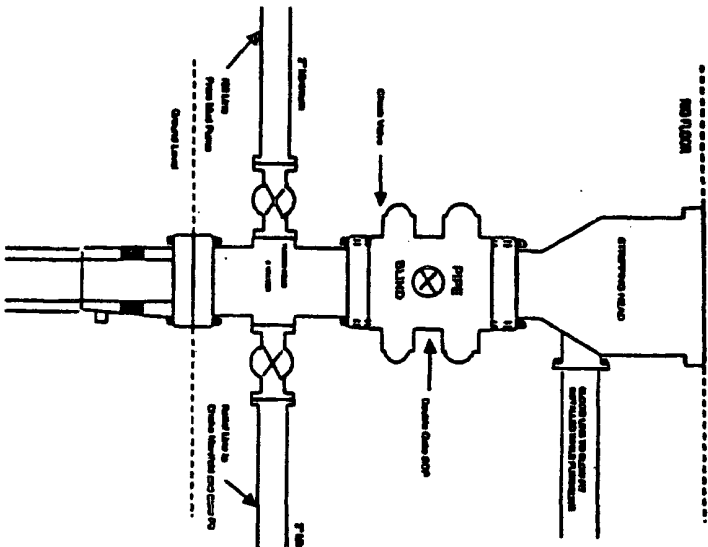
Choice manifold installation from Surface Casing Point to Total Depth. 2,000psi working pressure equipment with two choices.

Figure #3

4-20-01

BURLINGTON RESOURCES

Completion/Workover Rig BCP Configuration 2000 psi System



Minimum BCP installation for all Completion/Workover Operations. 7-1/16\"/>

Figure #2

Cementing: Continued

Cement float collar stacked on top of float shoe.

Note: If open hole logs are run, cement volumes will be based on 25% excess over caliper volumes.

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. The liner hanger will have a rubber packoff.

- If hole conditions permit, an adequate water spacer will be pumped ahead of each cement job to prevent cement/ mud contamination or cement hydration.

Special Drilling Operations (Air/Mist Drilling):


The following equipment will be operational while air/mist drilling:

- An anchored blooie line will be utilized to discharge all cuttings and circulating medium to the blow pit a minimum of 100' from the wellhead.
- The blooie line will be equipped with an automatic igniter or pilot light.
- Compressors will be located a minimum of 100' from the wellhead in the opposite direction from the blooie line.
- Engines will have spark arresters or water cooled exhaust.
- The rotating head will be properly lubricated and maintained.
- A float valve will be utilized above the bit.
- Mud circulating equipment, water, and mud materials will be sufficient to maintain control of the well.

Additional Information:

- This will be a Mesaverde and Dakota well.
- No abnormal temperatures or hazards are anticipated.
- Anticipated pore pressures are as follows:

Fruitland Coal	300 psi
Pictured Cliffs	600 psi
Mesa Verde	700 psi
Dakota	2000 psi
- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered below the top of the Pictured Cliffs.
- The west half of Section 34 is dedicated to the Mesaverde and Dakota formation.
- This gas is dedicated.


Drilling Engineer

7/24/06
Date