

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 SF-079392 Unit Reporting Number 891000950
1b. Type of Well GAS	6. If Indian, All. or Tribe
2. Operator BURLINGTON RESOURCES Oil & Gas Company	7. Unit Agreement Name San Juan 27-5 Unit
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700	8. Farm or Lease Name San Juan 27-5 Unit 9. Well Number 114F
4. Location of Well 380' FNL, 2310' FWL Latitude 36° 34.8, Longitude 107° 23.0	10. Field, Pool, Wildcat Basin Dakota 11. Sec., Twn, Rge, Mer. (NMPM) C Sec. 17, T-27-N, R-5-W API # 30-039-26594
14. Distance in Miles from Nearest Town 9 miles from Gobernador	12. County Rio Arriba 13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 380'	
16. Acres in Lease	17. Acres Assigned to Well 311.82 N/2
18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease 1400'	
19. Proposed Depth 7815'	20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR, Etc.) 6591' GR	22. Approx. Date Work will Start
23. Proposed Casing and Cementing Program See Operations Plan attached	DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"
24. Authorized by: <u>Peggy Case</u> Regulatory/Compliance Supervisor	Date 10-23-00

PERMIT NO. \_\_\_\_\_ APPROVAL DATE 5/16/01

APPROVED BY /s/ Lee Otter TITLE \_\_\_\_\_ DATE \_\_\_\_\_

Archaeological Report to be submitted

Threatened and Endangered Species Report to be submitted

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.

NMOCD

District I  
PO Box 1980, Hobbs, NM 88241-1980

District II  
PO Drawer DD, Artesia, NM 88211-0719

District III  
1000 Rio Brazos Rd., Aztec, NM 87410

District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

Form C-102  
Revised February 21, 1994  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-26594		*Pool Code 71599	*Pool Name Basin Dakota
*Property Code 7454	*Property Name SAN JUAN 27-5 UNIT		*Well Number 114F
*GRID No. 14538	*Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY		*Elevation 6591'

<sup>10</sup> Surface Location

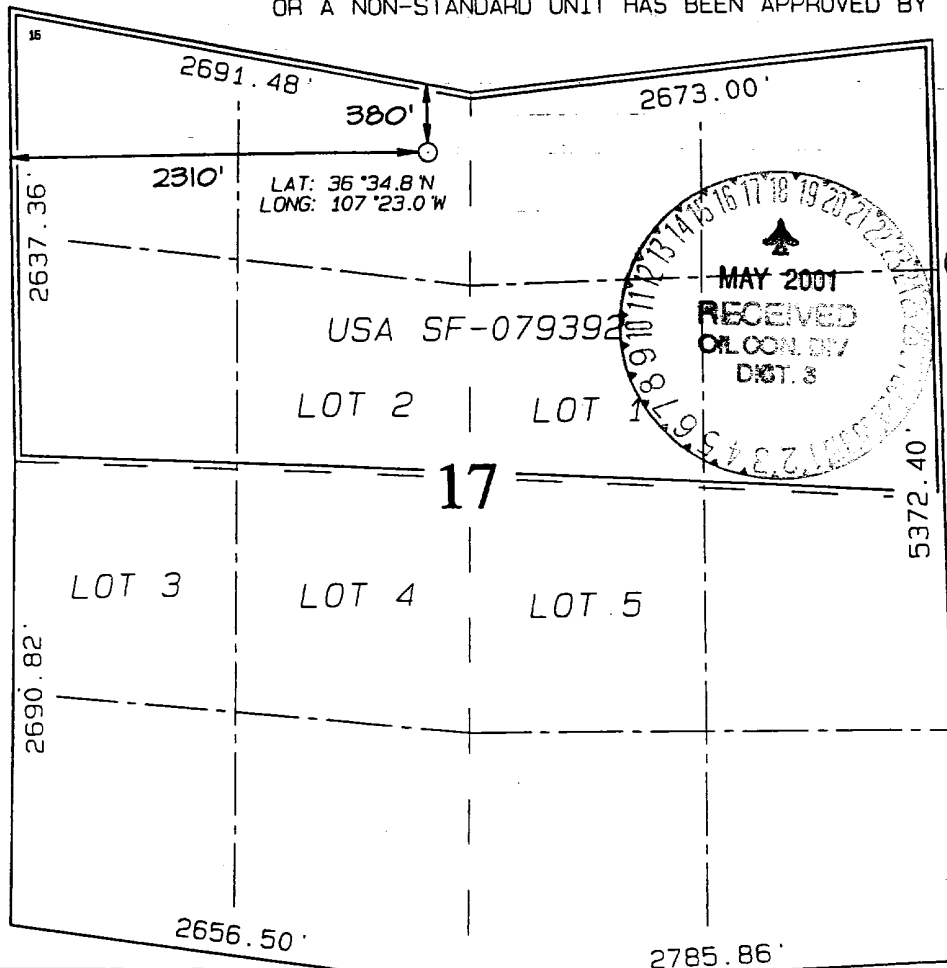
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	17	27N	5W		380	NORTH	2310	WEST	RIO ARriba

<sup>11</sup> 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

<sup>12</sup> Dedicated Acres DK-N/311.82	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No. R 11503
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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



<sup>17</sup> OPERATOR CERTIFICATION  
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Signature: *Peggy Cole*  
Printed Name  
Regulatory Supervisor  
Title:  
Date: 10-23-00

<sup>18</sup> 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.

SEPTEMBER 19, 2000  
Date of Survey  
Signature and Seal: *NEALE C. EDWARDS*

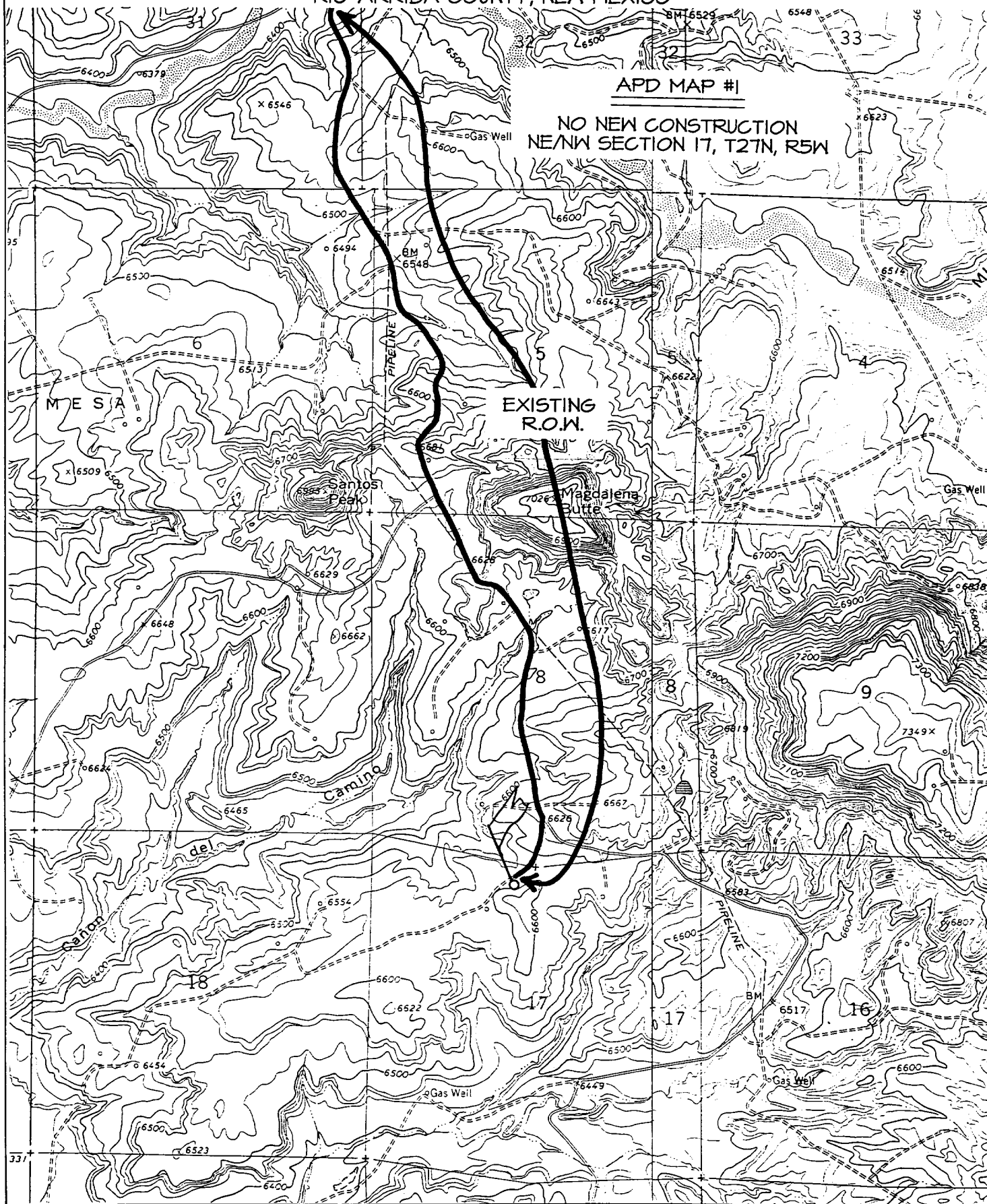
NEALE C. EDWARDS  
NEW MEXICO  
6857  
Professional Surveyor  
Certificate No. 6857

BURLINGTON RESOURCES OIL & GAS COMPANY SAN JUAN 27-5 UNIT #114F

380' FNL & 2310' FWL, SECTION 17, T27N, R5W, N.M.P.M.  
RIO ARriba COUNTY, NEW MEXICO

APD MAP #1

NO NEW CONSTRUCTION  
NE/NW SECTION 17, T27N, R5W



## OPERATIONS PLAN

**Well Name:** San Juan 27-5 Unit #114F  
**Location:** 380' FNL, 2310' FWL, Sec 17, T-27-N, R-5-W  
Rio Arriba County, NM  
Latitude 36° 34.8, Longitude 107° 23.0  
**Formation:** Basin Dakota  
**Elevation:** 6591' GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	2645'	
Ojo Alamo	2645'	2885'	aquifer
Kirtland	2885'	2954'	gas
Fruitland	2954'	3384'	gas
Pictured Cliffs	3384'	3470'	gas
Lewis	3470'	3880'	gas
Intermediate TD	3570'		
Mesa Verde	3880'	4335'	gas
Chacra	4335'	5039'	gas
Massive Cliff House	5039'	5197'	gas
Menefee	5197'	5541'	gas
Massive Point Lookout	5541'	6033'	gas
Mancos	6033'	6967'	gas
Gallup	6967'	7478'	gas
Greenhorn	7478'	7563'	gas
Dakota	7563'		gas
TD	7815'		

### Logging Program:

Cased hole - CBL-CCL-GR - TD to surface  
Cores - none

### Mud Program:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Vis.</u>	<u>Fluid Loss</u>
0- 200'	Spud	8.4-9.0	40-50	no control
200- 3570'	LSND	8.4-9.0	30-60	no control
3570- 7815'	Air/Mist/N2*	n/a	n/a	n/a

\*Nitrogen might be used in conjunction with or instead of air to prevent a down hole fire.

Pit levels will be visually monitored to detect gain or loss of fluid control.

### 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' - 200'	9 5/8"	32.3#	WC-50
8 3/4"	0' - 3570'	7"	20.0#	J-55
6 1/4"	3470' - 7815'	4 1/2"	10.5#	K-55

### Tubing Program:

0' - 7815'      2 3/8"      4.7#      J-55

### BOP Specifications, Wellhead and Tests:

#### Surface to Intermediate TD -

11" 3000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out surface casing, rams and casing will be tested to 600 psi for 30 minutes.

#### Intermediate TD to Total Depth -

11" 3000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out intermediate casing, rams and casing will be tested to 1500 psi for 30 minutes.

**Surface to Total Depth -**

2" nominal, 3000 psi minimum choke manifold (Reference Figure #2).

**Completion Operations -**

7 1/16" 3000 psi double gate BOP stack (Reference Figure #3). 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 2 3/8" x 3000 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 drilling crew.
- All BOP tests and 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 - cement with 159 sx Class "B" cement with 1/4# flocele/sx and 3% calcium chloride (188 cu.ft. of slurry, 200% excess to circulate to surface). WOC 8 hrs. 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 w/325 sx Class "G" cement 3% sodium metasilicate, 2% calcium chloride, 10 pps Gilsonite and 0.5 pps flocele. Tail w/90 sx Class "G" 50/50 poz w/2% gel, 2% calcium chloride, 5 pps Gilsonite, 0.25 pps Flocele (1074 cu.ft. of slurry, 100% excess to circulate to surface.) WOC minimum of 8 hours before drilling out intermediate casing. If cement does not circulate to surface, a CBL will be run during completion operations to determine TOC. Test casing to 1500 psi for 30 minutes.

7" intermediate casing alternative two stage: Stage collar at 2854'. First stage: cement with w/168 sx 50/50 Class "G" poz w/2% calcium chloride, 2% gel, 5 pps gilsonite, 0.25 pps Flocele. Second stage: 291 sx Class "G" with 3% sodium metasilicate, 2% calcium chloride, 10 pps Gilsonite, 0.5 pps Flocele (1074 cu.ft., 100% 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 at 3020'. Two turbolating centralizers at the base of the Ojo Alamo at 3020'. Bowspring centralizers spaced every fourth joint from the base of the Ojo Alamo to the base of the surface casing.

**4 1/2" Production Liner -**

Cement to cover minimum of 100' of 4 1/2" x 7" overlap. Lead with 434 sx 50/50 Class "G" Poz with 5% gel, 0.25 pps flocele, 5 pps Gilsonite 0.1% retardant and 0.25% fluid loss additive (624 cu.ft.), 40% excess to cement 4 1/2" x 7" overlap). WOC a minimum of 18 hrs prior to completing.

Cement float shoe on bottom with float collar spaced on top of shoe joint.

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

Note: To facilitate higher hydraulic stimulation completion work, no liner hanger will be used. In its place, a long string of 4 1/2" casing will be run and cemented with a minimum of 100' of cement overlap between the 4 1/2" x 7" casing strings. After completion of the well, a 4 1/2" retrievable bridge plug will be set below the top of cement in the 4 1/2" x 7" overlap. The 4 1/2" casing will then be backed off above the top of cement in the 4 1/2" x 7" overlap and laid down. The 4 1/2" bridge plug will then be retrieved and the production tubing will be run to produce the well.

- 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 (Gas/Mist Drilling):**

The following equipment will be operational while gas/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.
- Deduster equipment will be utilized.
- 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:**

- The Dakota formation will be completed.
- 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	2500 psi
- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered.
- The north half of Section 17 is dedicated to the Dakota in this well.
- This gas is dedicated.

John P. Hasford  
Drilling Engineer

10/24/00  
Date