UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

2001 NOV -2 PM 2:14

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work
DRILL

5. Lease Number
SF-078386-A
Unit Reporting Number

1b. Type of Well
GAS

6. If Indian, All. or Tribe

MAR 2002

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
Sunray G
9. Well Number
#3M

4. Location of Well
1500'FNL, 1965'FWL

Latitude 36° 53.2, Longitude 107° 47.2

10. Field, Pool, Wildcat
Blanco Mesaverde/Basin Dakota
11. Sec., Twn, Rge, Mer. (NMPM)
F Sec.21, T-31-N, R-9-W
API # 30-045- 30906

14. Distance in Miles from Nearest Town
16 miles from Aztec

12. County San Juan **13. State** NM

15. Distance from Proposed Location to Nearest Property or Lease Line
1500'

16. Acres in Lease

17. Acres Assigned to Well
317.01 W/2

18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease
900'

19. Proposed Depth
8215'

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

20. Rotary or Cable Tools
Rotary

21. Elevations (DF, FT, GR, Etc.)
6467'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: Peggy Cole
Regulatory/Compliance Supervisor

10-31-01
Date

PERMIT NO.

APPROVAL DATE 3/8/02

APPROVED BY /s/ Montoya **TITLE** AFM **DATE** 3/8/02

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

[1] API Number	[2] Pool Code	[3] Pool Name
30-045- 30906	72319/71599	Blanco Mesa Verde/Basin Dakota

[4] Property Code	[5] Property Name	[6] Well Number
7569	SUNRAY G	3M

[7] OGRID No.	[8] Operator Name	[9] Elevation
14538	BURLINGTON RESOURCES OIL & GAS COMPANY LP.	6467'

[10] Surface Location

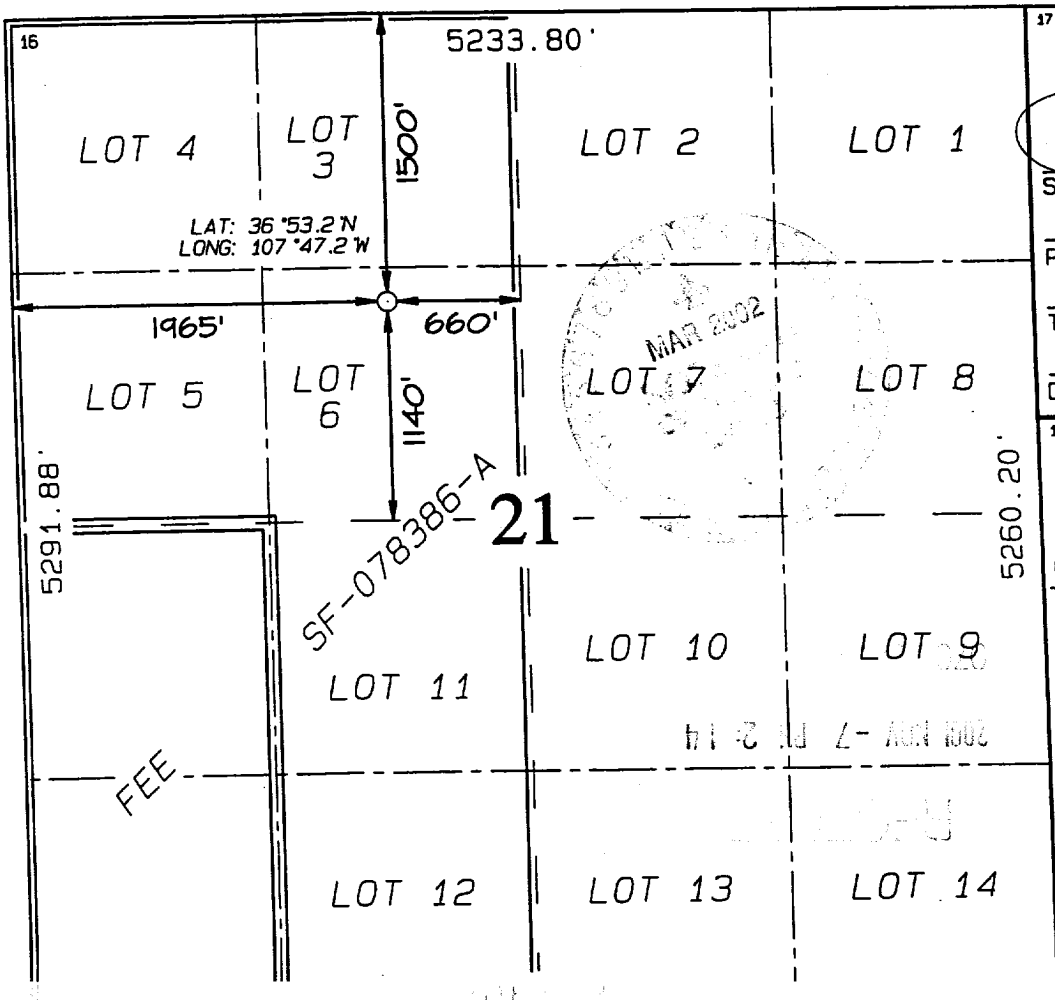
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	21	31N	9W		1500	NORTH	1965	WEST	SAN JUAN

[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

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
W/317.01			

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

Signature

Peggy Cole
Printed Name

Regulatory Supervisor
Title

10-31-01
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.

Date of Survey: AUGUST 10, 20

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS

BURLINGTON RESOURCES OIL & GAS COMPANY SUNRAY G #3M

1500' FNL & 1965' FWL, SECTION 21, T31N, R9W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO

OPERATIONS PLAN

Well Name: Sunray G #3M
Location: 1500'FNL, 1965'FWL, Sec 21, T-31-N, R-9-W
San Juan County, NM
Latitude 36° 53.2, Longitude 107° 47.2
Formation: Blanco Mesaverde/Basin Dakota
Elevation: 6467'GL

Formation Tops:	***Top***	***Bottom***	***Contents***
Surface	San Jose	1999'	
Ojo Alamo	1999'	2044'	aquifer
Kirtland	2044'	2794'	gas
Fruitland	2794'	3319'	gas
Pictured Cliffs	3319'	3449'	gas
Lewis	3449'	4029'	gas
Intermediate TD	**3549'**		
Mesa Verde	4029'	4404'	gas
Chacra	4404'	5129'	gas
Massive Cliff House	5129'	5204'	gas
Menefee	5204'	5559'	gas
Massive Point Lookout	5559'	5904'	gas
Mancos	5904'	6854'	gas
Gallup	6854'	7575'	gas
Greenhorn	7575'	7629'	gas
Graneros	7629'	7684'	gas
Dakota	7684'	8172'	gas
Morrison	8172'		gas
TD	**8215'**		

Logging Program:
Cased hole - CBL-CCL-GR - TD to surface
Open hole - Platform Express: GR/AIT from TD to 4000',
Rhob/Neutron from TD to minimum ops depth
Mudlog - 7475' to TD
Cores - none

Mud Program:

Interval	Type	Weight	Vis.	Fluid Loss
0- 300'	Spud	8.4-9.0	40-50	no control
300- 3549'	LSND	8.4-9.0	30-60	no control
3549- 7734'	Air/N2	n/a	n/a	n/a
7734- 8215'	LSND	8.4-9.0	30-60	no control

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

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

Hole Size	Depth Interval	Csg.Size	Wt.	Grade
12 1/4"	0' - 300'	9 5/8"	32.3#	H-40
8 3/4"	0' - 3549'	7"	20.0#	J-55
6 1/4"	3449' - 8215'	4 1/2"	10.5#	J-55

Tubing Program:

0' - 8215'	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 #3).

Completion Operations -
7 1/16" 3000 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 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 239 sx Class "B" cement with 1/4# celloflake/sx and 3% calcium chloride (282 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/369 sx 50/50 Class G/TXI lightweight w/2.5% sodium metasilicate, 2% calcium chloride, 10# gilsonite/sx and 1/2# celloflake/sx. Tail w/90 sx 50/50 Class "G" Poz w/2% calcium chloride, 2% gel, 1/4 pps celloflake, 5 pps gilsonite, 0.1% antifoam agent (1066 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.

See attached alternative intermediate lead slurry.

7" intermediate casing alternative two stage: Stage collar at 2694'. First stage: cement with 201 sx 50/50 Class "G" Poz w/2% calcium chloride, 2% gel, 1/4 pps celloflake, 5 pps gilsonite, 0.1% antifoam agent. Second stage: 314 sx 50/50 Class G/TXI lightweight w/2.5% sodium metasilicate, 2% calcium chloride, 10# gilsonite/sx and 1/2# celloflake/sx (1066 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 2044'. Two turbolating centralizers at the base of the Ojo Alamo at 2044'. 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 -
Cement to cover minimum of 100' of 4 1/2" x 7" overlap. Lead with 475 sx 50/50 Class "G" Poz with 5% gel, 0.25# celloflake/sx, 5# gilsonite/sx, 0.1% retardant and 0.25% fluid loss additive, 0.15% dispersant, 0.1% antifoam agent (685 cu.ft.), 40% excess to cement 4 1/2" x 7" overlap). WOC a minimum of 18 hrs prior to completing.

4 1/2" production casing alternative: Lead w/180 sx 9.5 PPG Litecrete Blend w/0.11% dispersant, 0.5% fluid loss. Tail w/194 sx Class G 50/50 poz w/5% gel, 0.25 pps celloflake, 5 pps gilsonite, 0.25% fluid loss, 0.15% dispersant, 0.1% retarder, 0.1% antifoam (733 cu.ft., 50% excess to cement 4 ½" x 7" overlap).

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

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

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.