

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 NM-4453 Unit Reporting Number
1b. Type of Well GAS	6. If Indian, All. or Tribe
2. Operator <b>BURLINGTON RESOURCES</b> 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 Carson SRC 9. Well Number 4
4. Location of Well 1380' FNL, 660' FWL Latitude 36° 50.7, Longitude 107° 20.0	10. Field, Pool, Wildcat Basin Dakota 11. Sec., Twn, Rge, Mer. (NMPM) Sec. 2, T-30-N, R-5-W API # 30-039-26461
14. Distance in Miles from Nearest Town 10 miles from Gobernador	12. County Rio Arriba 13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 660'	17. Acres Assigned to Well 318.79 W/2
16. Acres in Lease	
18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease 2000'	
19. Proposed Depth 8200'	20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR, Etc.) 6483' GR	22. Approx. Date Work will Start
23. Proposed Casing and Cementing Program See Operations Plan attached	

24. Authorized by *Donna Cole*  
Regulatory/Compliance Supervisor

DEVELOPMENT OPERATIONS AUTHORIZED ARE  
SUBJECT TO COMPLIANCE WITH ATTACHED  
"GENERAL REQUIREMENTS"

5-3-00  
Date

PERMIT NO. \_\_\_\_\_

APPROVAL DATE \_\_\_\_\_

APPROVED BY JL

TITLE \_\_\_\_\_

DATE 8-9-00

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.

NMOCB

submitted in lieu of Form 3160-5

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

1. Type of Well  
GAS

2. Name of Operator

**BURLINGTON  
RESOURCES**

OIL & GAS COMPANY

3. Address & Phone No. of Operator

PO Box 4289, Farmington, NM 87499 (505) 325-9700

4. Location of Well, Footage, Sec., T, R, M

1380' FNL, 660' FWL, Sec. 2, T-30-N, R-5-W, NMPM

5. Lease Number  
nm-4453

6. If Indian, All. or  
Tribe Name

7. Unit Agreement Name

8. Well Name & Number

Carson SRC #4

9. API Well No.

30-039-26461

10. Field and Pool

Basin Dakota

11. County and State

Rio Arriba Co, NM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission

☒ Notice of Intent  
☐ Subsequent Report  
☐ Final Abandonment

Type of Action

☐ Abandonment  
☐ Recompletion  
☐ Plugging Back  
☐ Casing Repair  
☐ Altering Casing  
☒ Other -  
☒ Change of Plans  
☐ New Construction  
☐ Non-Routine Fracturing  
☐ Water Shut off  
☐ Conversion to Injection

13. Describe Proposed or Completed Operations

It is intended to change the cement slurries for the intermediate and production casing in the subject well as follows:

7" intermediate casing - Lead w/360 sx Class "B" cement w/3% sodium metasilicate, 10 pps Gilsonite, 0.5 pps Flocele. Tail with 95 sx Class "B" 50/50 poz w/2% gel, 2% calcium chloride, 0.25 pps Flocele, 5 pps Gilsonite (1164 cu.ft.).

7" intermediate casing alternative two stage: Stage collar at 3202'. First stage: cement w/197 sx Class "B" 50/50 poz w/2% gel, 2% calcium chloride, 0.25 pps Flocele, 5 pps Gilsonite. Second stage: 316 sx Class "B" cement w/3% sodium metasilicate, 10 pps Gilsonite, 0.5 pps Flocele (1164 cu.ft.).

14. I hereby certify that the foregoing is true and correct.

Signed Jim Lovato (JH) Title Regulatory Supervisor Date 7/14/00  
no

(This space for Federal or State Office use)

APPROVED BY /s/ Jim Lovato Title Team Lead, Petroleum Management Date - 9

CONDITION OF APPROVAL, if any:

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- 26461		*Pool Code 71599	*Pool Name Basin Dakota
*Property Code 18492	*Property Name CARSON SRC		*Well Number 4
*GRID No. 14538	*Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY		*Elevation 6483'

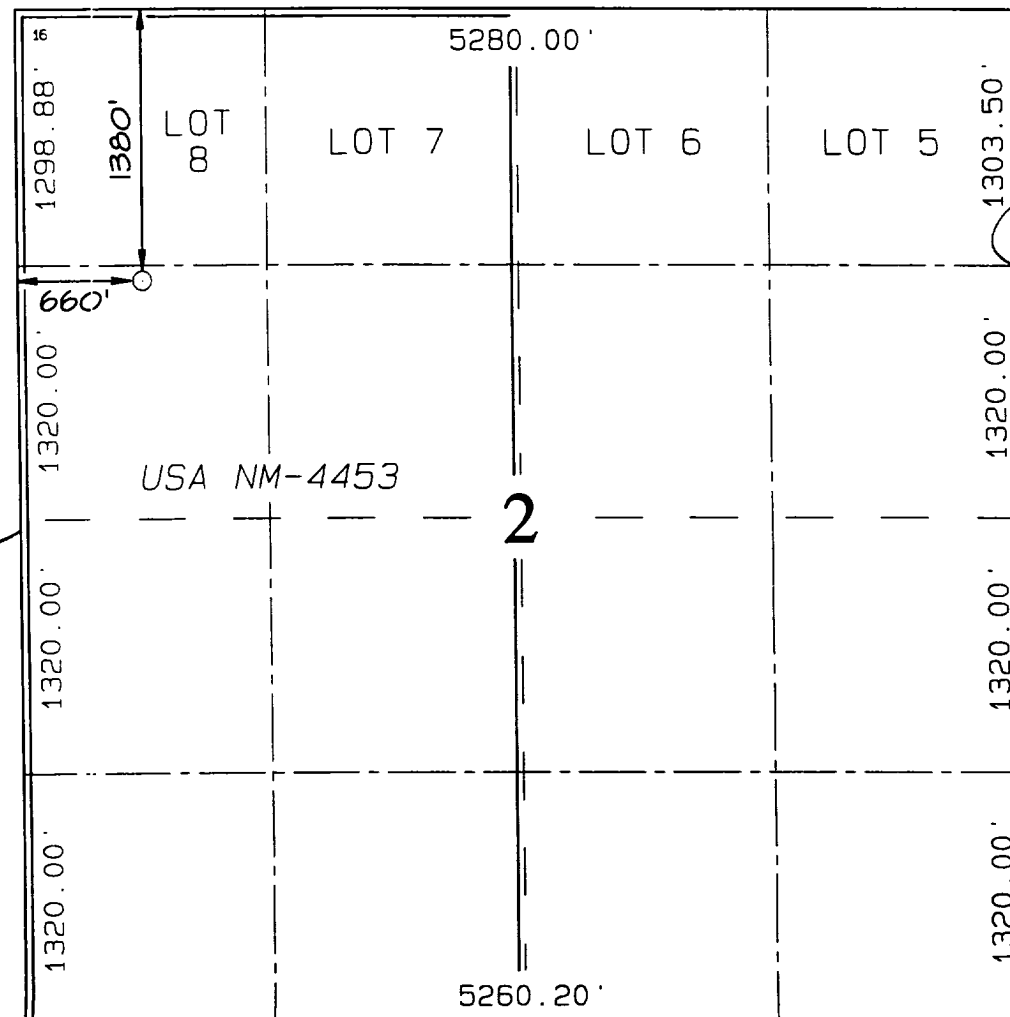
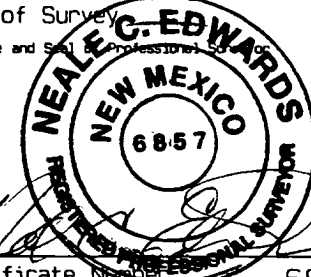
#### <sup>10</sup> Surface Location

U. or Lot no. E	Section 2	Township 30N	Range 5W	Lot Idn	Feet from the 1380	North/South line NORTH	Feet from the 660	East/West line WEST	County RIO ARriba
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#### <sup>11</sup> Bottom Hole Location If Different From Surface

U. 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 W/318.79		<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> 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

	<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: <i>Peggy Cole</i> Printed Name: Peggy Cole Title: Regulatory Supervisor Date: 5-3-00
	<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.  FEBRUARY 15, 2000 Date of Survey Signature and Seal of Professional Surveyor  Certificate Number: 6857

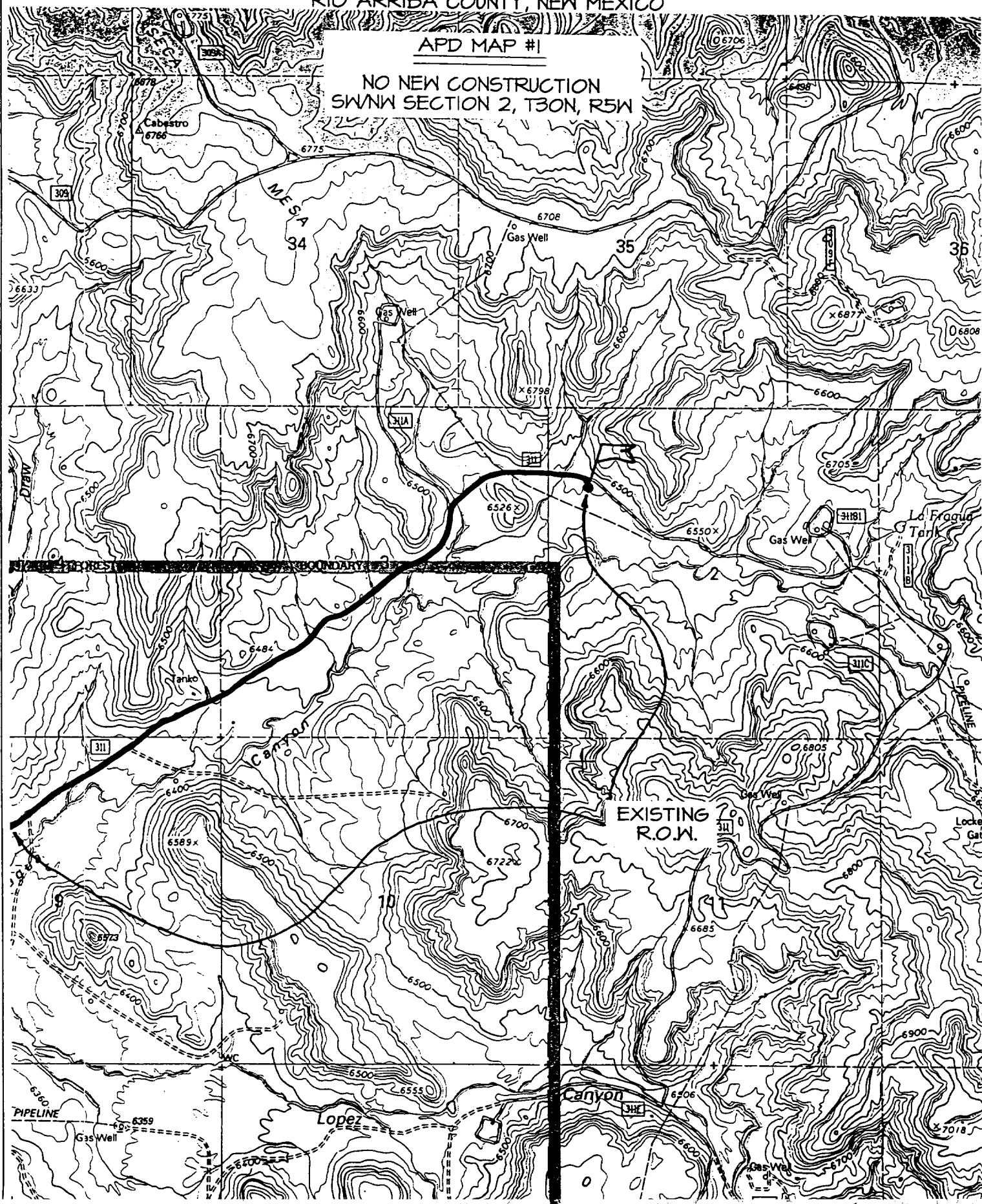
BURLINGTON RESOURCES OIL & GAS COMPANY CARSON SRC #4

1380' FNL & 660' FNL, SECTION 2, T30N, R5W, N.M.P.M.

RIO ARriba COUNTY, NEW MEXICO

APD MAP #1

NO NEW CONSTRUCTION  
SWNW SECTION 2, T30N, R5W



## OPERATIONS PLAN

Well Name: Carson SRC #4  
Location: 1380' FNL, 660' FWL, Sec 2, T-30-N, R-5-W  
Rio Arriba County, NM  
Latitude 36° 50.7, Longitude 107° 20.0  
Formation: Basin Dakota  
Elevation: 6483' GL

<u>Formation Tops:</u>	<u>Top</u>	<u>Bottom</u>	<u>Contents</u>
Surface	San Jose	2597'	
Ojo Alamo	2597'	2793'	aquifer
Kirtland	2793'	3146'	gas
Fruitland	3146'	3292'	gas
Pictured Cliffs	3292'	3772'	gas
Lewis	3772'	4270'	gas
Intermediate TD	3872'		
Mesa Verde	4270'	4380'	gas
Chacra	4380'	5430'	gas
Massive Cliff House	5430'	5520'	gas
Menefee	5520'	5763'	gas
Massive Point Lookout	5763'	6066'	gas
Mancos	6066'	6983'	gas
Gallup	6893'	7747'	gas
Greenhorn	7747'	7805'	gas
Graneros	7805'	7936'	gas
Dakota	7936'	8144'	gas
Morrison	8144'		
TD	8200'		

### Logging Program:

Open hole - AIT, CNL, CDL - TD to intermediate casing  
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- 3872'	LSND	8.4-9.0	30-60	no control
3872- 8200'	Air/N2	n/a	n/a	n/a

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>Csq. Size</u>	<u>Wt.</u>	<u>Grade</u>
12 1/4"	0' - 200'	9 5/8"	32.3#	WC-50
8 3/4"	0' - 3872'	7"	20.0#	J-55
6 1/4"	3772' - 8200'	4 1/2"	10.5#	K-55

### Tubing Program:

0' - 8200'      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/348 sx Class "B" w/6% gel, 2% calcium chloride, 5# gilsonite/sx and 1/4# flocele/sx. Tail w/70 sx Class "B" w/2% sodium metasilicate, 1/4# flocele/sx, 5# gilsonite/sx, (1164 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 3046'. First stage: cement with w/145 sx Class "B" w/2% sodium metasilicate, 2% calcium chloride, 5# gilsonite/sx, 1/4# Flocele. Second stage: 305 sx Class "B" with 6% gel, 2% calcium chloride, 5# gilsonite/sx, 1/4 pps Cellophane (1164 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 2793'. Two turbolating centralizers at the base of the Ojo Alamo at 2793'. 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 451 sx 50/50 Class "B" Poz with 4% gel, 0.25# flocele/sx, 5# gilsonite/sx, and 0.3% fluid loss additive, 0.3% dispersant, 0.25% retarder (636 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: 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 west half of Section 2 is dedicated to the Dakota in this well.
- This gas is dedicated.

  
Drilling Engineer

5/16/00  
Date