

## DRILLING PLAN

KRAUSE WN FEDERAL NUMBER 3E  
NENW Section 33-T28N-R11W  
San Juan County, New Mexico

1. SURFACE FORMATION: Tertiary - Nacimiento

2. GEOLOGICAL MARKERS:

Kirtland	1169'	Upper Mancos	4424'
Fruitland	1518'	Gallup	5319'
Pictured Cliffs	1730'	Lower Mancos	5855'
Lewis	1814'	Greenhorn	6108'
Chacra	2669'	Graneros	6170'
Cliff House	3275'	Dakota	6289'
Point Lookout	4137'	Morrison	6515'

3. ANTICIPATED MINERAL BEARING FORMATIONS:

Fruitland	(Poss. Gas)
Pictured Cliffs	(Poss. Gas)
Cliff House	(Poss. Gas)
Gallup	(Poss. Gas)
Dakota	(Poss Oil/Gas)

4. CASING PROGRAM:

Surface to 710'	8-5/8" 24# K55 ST&C,
Production to T.D.	4-1/2" 10.5# K55, ST&C

5. CONTROL EQUIPMENT: Blowout Preventor - Ram Type, hydraulic operated  
Rams - Two: One blind ram and one pipe ram.  
Series - 900 (3000#WP, 6000#T)  
Manufacturer - Cameron or Shaffer  
Pressure test at 1000 psi prior to drilling out of casing string.  
Operational checks to be made daily and on trips.  
Sketch attached.

6. DRILLING FLUIDS:

0	to	710'	Gel and lime to drill surface hole and set casing.
710'	to	2370'	Treated water to support hole.
2370'	to	T.D.	Low solids, non-dispersed 9.0-9.1#/gal, 38-45 vis., WL 8cc or less

7. AUXILIARY EQUIPMENT: Kelly cock  
Sub on floor with full opening valve for use in drill pipe when Kelly is not in the string.

8. TESTING, LOGGING AND CORING: At this time no drill stem tests or cores are planned. However, hole conditions and information obtained while drilling may alter these plans.

9. ABNORMAL PRESSURES, TEMPERATURES, POTENTIAL HAZARDS: There are no abnormal pressures, temperatures or potential hazards in the area. The maximum anticipated pressure is 3600 psi. Weight material will be maintained on location at all times.

10. STARTING DATE - COMPLETION: Dirtwork and road work for this location will require 2 or 3 days. Moving in and rigging up 2 to 3 days. Drilling and completion will require approximately 30 days, for a total of 36 days. In the event of bad weather or other delays this time could be considerably extended.

NTL-6 indicates a minimum of 30 days are required to obtain District Engineer's approval, in which case operations on this well could not be commenced until approximately April 15, 1980. Depending upon rig availability, equipment, weather etc., this starting date could be extended.