



October 2, 2001

DEVIATION REPORT

Well Name: ROSA UNIT #32B
Location: G SEC 21 T31N R6W
County, State: RIO ARRIBA COUNTY, NEW MEXICO
Formation: BLANCO MV

DEVIATION	DEPTH
¼°	230'
1°	510'
¾°	942'
1°	1369'
½°	1777'
1°	2227'
1°	2655'
1°	3106'
1°	3652'
1°	5608'
1°	6064'
1 ¼°	6316'
1°	6891'
1°	7570'

Tracy Ross
Production Analyst

State of Oklahoma)
) ss:
County of Tulsa)

The foregoing instrument was acknowledged before me this 28th day of September, 2001, by Tracy Ross.

C. H₂S detection and monitoring equipment:

1. Two portable H₂S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H₂S levels of 10 ppm are reached.

D. Visual warning systems:

1. Wind direction indicators as shown on well site diagram.
2. Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used when appropriate. See example attached.

E. Mud program:

1. The mud program has been designed to minimize the volume of H₂S circulated to the surface. Proper mud weight, safe drilling practices, and the use of H₂S scavengers will minimize hazards when penetrating H₂S bearing zones.

F. Metallurgy:

1. All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.
2. All elastomers used for packing and seals shall be H₂S trim.

G. Communication:

1. Cellular telephone communications in company vehicles.

H. Well testing:

1. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill stem testing operations conducted in an H₂S environment will use the closed chamber method of testing.