

DRILLING PROGNOSIS

I. Well Identification:

Lease Name: El Paso Ruby Federal
Well No.: 1
Location: 1880 FEL and 660 FSL Section 8, T-25-S, R-37-E
County: Lea
State: New Mexico
Elevations: 3152 G. L. (3162 RKB)

II. Drilling Objective:

Zone: Yates-Seven Rivers
Total Depth: 3300
Pool Name: Jalmat Gas Pool
Productive Interval: 2950-3130

III. Formation Tops:

Zone	Tops		Gross Interval Drilled	Probable Fluid Production
	Drilling Depth	Subsea Depth		
Ogallala (Surface)	----	----	----	----
Santa Rosa	480	+2682	265	
Dewey Red Beds	745	+2417	380	
Rustler Anhydrite	1125	+2037	95	
Salado Salt	1220	+1942	1445	
Tansil	2665	+ 497	165	
Yates	2830	+ 332	310	Hydrocarbons
Seven Rivers	<u>3140</u>	<u>+ 22</u>	<u>160</u>	<u>Hydrocarbons</u>
TOTAL DEPTH	<u>3300</u>	<u>- 138</u>	<u>3300</u>	<u>----</u>

IV. Hole Size:

<u>Hole</u>	<u>Bit Size</u>	<u>T. D.</u>	<u>Gross Interval</u>
Conductor	15	40	40
Surface	12 1/4	800	760
Production	7 7/8	3300	2500

V. Casing Program:

A. Casing Design

<u>String</u>	<u>Casing Size</u>				<u>Amount</u>	<u>Cond.</u>
	<u>O. D.</u>	<u>Wt.</u>	<u>Grade</u>	<u>Threads</u>		
Conductor	12 3/4	33	B	8 Rd	30	New
Surface	8 5/8	28	B	8 Rd	800	New
Production	5 1/2	17.0	J-55	8 Rd	3300	New

B. Float Equipment:

Surface Casing: 8 5/8-inch guide-shoe and 8 5/8-inch insert float.

Production Casing: 5 1/2-inch guide-shoe and 5 1/2-inch float collar with automatic fill.

C. Centralizers:

Surface Casing: One Centralizer at the float collar and one centralizer two joints above float collar.

Production Casing: Run a total of 8 centralizers. Place one centralizer at the guide shoe and one centralizer at the float collar with the remaining being placed 80 to 90 feet apart or every other joint.

D. Wellhead Equipment:

Larkin 8 5/8 x 5 1/2 Fig 92 Casinghead. Larkin 5 1/2 x 2 3/8

Type TH tubinghead complete with slips and bell nipple.

VI. Mud Program

A. Surface Hole:

Drill surface hole with a fresh-water gel (approximately 8.5 lb/gal) while maintaining a high enough viscosity to adequately clean hole. Add paper as needed to control excess seepage.

Before drilling below surface pipe, jet cuttings out of working pit into reserve pit and then switch from circulating through working pit to circulating through reserve pit.

B. Production Hole:

Before entering salt section, switch mud system to a saturated salt system (10.1 lb/gal). At 2800', switch back out of reserve pit and back into working pit. Also at this point, start adding starch and brine gel to lower water loss and raise viscosity.

The mud shall have a water loss of 10 cc/30 min and a viscosity of 34 to 36 sec. before reaching 2930' (top of Yates pay).

In order to protect the drill string, sufficient lime shall be added to the mud to maintain a safe PH level.

VII. Cementing Program

A. Surface Pipe:

Cement surface pipe with approximately 400 sacks (or as required) of API Class-C cement containing 2% Calcium Chloride. Before resuming drilling operations, allow cement to set for a sufficient time to gain a 500-psi compressive strength (18 hours). Also before drilling plug, the pipe shall be tested to 700 psi for 30 minutes.

B. Production String:

Cement long string with approximaely 350 sacks API Class-C cement containing 3% Halliburton Econolite mixed to a slurry weight of 11.3 lb/gal followed by 250 sacks of a 50-50 blend of Pozmix "A" and API Class-C containing 18% salt and 2% gel and having a slurry weight of 14.1 lb/gal. Pump 30 barrels of water ahead of the cement to help remove the mud filter cake.

Once top plug is bumped, pressure test casing to 1500 psi.

The total specified cement volume of 600 sacks provides for an excess that should be sufficient to bring the cement top back to the surface. Before the cement job is actually performed, the required cement volume will be checked against the open hole caliper log to determine the actual amount of cement necessary to bring the cement back to the surface.

VIII. Formation Evaluation:

A. Drilling Rate:

1. The drilling rate shall be monitored with a geolograph from the surface to total depth.
2. As part of their farmout agreement, El Paso Natural Gas Company requires that the penetration rate be tabulated in 10-foot increments over the entire hole.

B. Well Cutting Samples:

One set of well cutting samples shall be gathered every 10 feet from the surface to total depth. Each sample is to be cleaned, bagged, and tagged and then grouped into bundles of ten samples per bundle with one bundle representing each 100-feet drilled.

After the drill cuttings have been reviewed by the well site geologist, they shall be delivered to Midland Sample Cut, 704 S. Pecos Street, Midland, Texas.

C. Mud Logging: None
D. Drill-Stem Testing: None
E. Coring: None
F. Well Logging:

Open-Hole Logs

Log	Interval	
	2" = 100'	5" = 100'
CDL-Neutron-GR	T.D. - Surface	T. D. - 2400
Guard-Forxo	T. D. - 2400	T. D. - 2400

Cased-Hole Logs

Log	Interval	
	2" = 100'	5" = 100'
GRN-CCL	T.D. - 2400	T.D. - 2400

Log Distribution

Company	Number of Copies	
	<u>Field Prints</u>	<u>Final Prints</u>
Alpha Twenty-One Production Company		
2100 First National Bank Building	8	8
Midland, Texas 79701		
United States Geological Survey		
P. O. Box 1157		
Hobbs, New Mexico 88240	0	6

<u>Company</u>	<u>Number of Copies</u>	
	<u>Field Prints</u>	<u>Final Prints</u>
Mr. O. L. Dilworth El Paso Natural Gas Company 1800 Wilco Building Midland, Texas 79701	3	3

IX. Blowout Preventer System:

A 10 3/4 2000-psi rotating head will be used while drilling the surface hole. Before drilling out from under the surface pipe, the well will be equipped with a 3000-psi 10-inch series 900 double-ram hydraulic preventer. The blowout preventer shall be used through the running of the production string.

Attached is a diagram of the required BOP system.

X. Hazardous Zones:

None anticipated.

XI. Duration of Operations:

The total elapsed time required for drilling and completing the subject well is expected to be 30 days.