Tuesday, January 08, 2008 OPERATIONS PLAN

Monument #1
1650' FNL, 990' FEL Section 17, T-24-N, R-10-W, NMPM
San Juan County, NM
SWD; Entrada
6764' GL

Formation:	Тор	Bottom	Contents
Nacimiento	Surface	589'	aguifer
Ojo Alamo	589'	678'	aquifer
Kirtland	678'	1143'	·
Fruitland	1143'	1384'	gas
Pictured Cliffs	1384'	1610'	aas
Lewis Shale	1610'	1745'	U
Cliff House	1745'	2126'	
La Ventana Tounge	2126'	2836'	
Menefee	2836'	3805'	
Point Lookout	3805'	4011'	
Mancos	4011'	4886'	
Gallup	4846'	5756'	aas
Greenhorn	5756'	5806'	gas
Graneros	5806'	5852'	U
Dakota	5852'	6135'	
Morrison	6135'	6690'	
Bluff	6690'	7060'	
Todilto	7060'	7110'	
Entrada	7110'	7460'	
Total Depth	7460		

Drilling Contractor: Availability

Mud Program:

<u>Interval</u> 0' - 227' 227' - 7460'	<u>Type</u> Spud Non-dispersed	<u>Weight</u> 8.4 - 9.0 8.4 - 9.0	<u>Vis.</u> 40 - 50 30 - 60	<u>Fluid Loss</u> no control 6cc or less
Logging Program:	Porosity Log - Tr Induction Log – A	iple Litho Dens ray Induction W	ity W/ GR / GR and S	and CAL. P
Coring Program:	None			
Casing Program:				
<u>Hole Size</u> 12 1/4" 7 7/8"	<u>Depth Interval</u> 0' - 227' 227' - 7460'	<u>Csg. Size</u> 8 5/8" 5 1/2" 5 1/2"	<u>Wt.</u> 20# 15.5# 17#	<u>Grade</u> K-55 K-55

Tubing Program:

0' - 7050' 2 7/8" 6.50# J-55 IPC

Float Equipment:

8 5/8" surface casing – Surface Casing has already been ran and cemented see completion report dated November 26, 1975.

5 1/2" production casing – Cement guide shoe and self fill insert float collar. Place float one joint above shoe. Five centralizers spaced every other joint above shoe, three centralizers across stage collar (4061 Ft.) and three centralizers spaced evenly across Ojo Alamo.

Wellhead Equipment:

8 5/8" x 5 1/2" Braiden Head and 5 1/2" x 2 7/8" Tubing Head. Independent Well Head assembly with a minimum rated working pressure of 2000 psig.

Cementing:

8 5/8" Surface Casing -

Cemented with 100 sacks cement (118 cu. ft. of slurry), see completion report dated November 26, 1975. Test casing to 750 psi/30 minutes.

5 1/2" Production Casing -

Stage #1 - Before cementing circulate hole with at least 1 1/2 hole volumes of mud. Precede cement with 20 bbls of fresh water. Lead with 455 sacks (823.55 cu. ft) of Class "G" 35/65 POZ with 2% GEL D-20, 5# Per sack Gilsonite, .1% D46, 1% S-1 and 1/4# Per sack D29. (Yield = 1.81 cu. ft. /sack; slurry weight = 12.4 PPG). Tail with 100 sacks (126 cu. ft.) of Class "G" 50/50 POZ with 2% GEL D-20, 5# Per sack Gilsonite, .1% D46, 1% S-1 and 1/4# Per sack D29. (Yield = 1.26 cu. ft./sack; slurry weight = 13.5 PPG). Total cement volume is 949.55 cu. ft. (60% excess on open hole, calculated on cement volumes on Lower Stage).

Stage #2 – Open Stage tool and circulate minimum 4 hours. Before cementing circulate hole with at least 1 1/2 hole volumes of mud. Precede cement with 20 bbls of fresh water. Lead with 402 sacks (1049.22 cu. ft) of Class "G" with 3% D79 and 1/4# Per sack D29. (Yield = 2.61 cu. ft. /sack; slurry weight = 11.7 PPG). Tail with 50 sacks (63.00 cu. ft.) of Class "G" 50/50 POZ with 2% GEL D-20, 5# Per sack Gilsonite, .1% D46, 1% S-1 and 1/4# Per sack D29. (Yield = 1.26 cu. ft./sack; slurry weight = 13.5 PPG). Total cement volume is 1112.22 cu. ft. (60% excess on open hole, calculated on cement volumes on Upper Stage).

BOP and Tests:

Surface to Surface Total Depth - None

Surface TD to Total Depth – Annular or Double Ram Type 2000 psi (minimum) double gate BOP stack (Reference Figure #1 & #2). Prior to drilling out surface casing, test blind rams and casing to 750 psig for 30 minutes; all pipe rams and choke assembly to 750 psig for 30 minutes each.

From Surface TD to Total Depth - choke manifold (Reference Figure #2).

Pipe rams will be actuated at least once each day and blind rams actuated once each trip to test proper functioning. An upper kelly cock valve with handle and drill string safety valves to fit each drill string will be maintained and available on the rig floor.

Additional information:

- The Entrada will be completed for Fruitland Coal produced water disposal.
- Anticipated pore pressure for the Entrada is .29 psi/ft with a maximum of 2075 psi. New casing will be utilized.
- Pipe movement (either rotation or reciprocation) will be done if hole conditions permit.

Date: January 10, 2008 Drilling Engineer: Muchan T. Mason