

# Drilling Prognosis

Well name West Anderson Ranch State #1 Date August 4, 1986  
 Authorization numbers

District or province  
Central - South

Location  
1980' FNL and 660' FWL of SEc. 9, T-16-S, R-32-E,

Lea County, New Mexico

Objectives  
Devonian @ 13,650'

Wolfcamp @ 9,800'

Total vertical depth	Total measured depth
14,100'	14,100'

Elevation  
GL estd @ 4335'

Estimated formation tops									
Rustler	1,240'	Queen	3350'	Abo	7550'	Atoka	11,700'	Devonian	13,650'
Salt	1,400'	San Andres	4350'	Wolfcamp	8950'	Morrow	12,100'		
Base of Salt	2,350'	Glorieta	5650'	Penn	10,100'	Upper Miss.	12,500'		
Yates	2,500'	Yeso	5700'	Canyon	10,700'	Miss Lm	12,950'		
		Tubb	6850'	Strawn	11,400'	Woodford	13,550'		

## Well design

Conductor  
 26" hole 20" 94# conductor pipe set @ 40' below GL and cemented w/Redi-Mix to surface.

Surface casing  
 17½" hole 13-3/8" 54.50# K-55 STC 8rd f/0-500' Guide shoe, insert FV w/4 cents.  
 Cmtd to surface

Protective casings and liners  
 9-5/8" 36# K-55 STC 8rd f/0-3000' (3000') FS, FC w/5 cents  
 12-1/4" hole 9-5/8" 36# S-80 STC 8rd f/3000-4400' (1400') cmtd to surface  
 \* Drift all casing to allow an 8-3/4" bit

Production casing  
 8-3/4" hole 5-1/2" 20# L-80 LTC 8rd f/0-1800' (1800') FS, FC w/cents as needed.  
 5-1/2" 17# L-80 LTC 8rd f/1800-4400' (2600')  
 5-1/2" 17# K-55 LTC 8rd f/4400-8000' (3600') Bring TOC to tie into 9-5/8" csg as needed.  
 5-1/2" 17# L-80 LTC 8rd f/8000-10,500' (2500')  
 5-1/2" 20# L-80 LTC 8rd f/10,500-14,100' (3,600')

Casinghead  
 13-3/8" Slip on x 13-5/8" 3000# 13-5/8" 3000# x 11" 5000# 11" 5000# x 7-1/16" 5000#  
 7-1/16" 5000# "B0-2" Adapter w/BPV cplg 13-3/8" x 9-5/8" x 5-1/2" x 2-7/8" flgd flwg OW

Mud program  
 0-500' FW Spud mud  
 500-4400' 10# SBW  
 4400-8900' 8.4# Clear FW  
 8900-12,000' drispac/XC Polymer CBW 9.0ppg w/vls 32 and 15 WL (Low solids mud)

Logging program  
 OH: GR - BHC Sonic f/4400- TD 14,100' and from 500' - 4,400'  
 GR-DLL-MSFL f/4400- TD 14,100' and from 500' - 4,400'  
 GR-CNL-LDT-Cal f/4400- TD 14,100' and from 500' - 4,400'  
 CH: GR-CCL log f/PBTD - 8700'

Coring program

Possible 4" whole core in Wolfcamp

Drill stem tests

Two (2) DST's in Wolfcamp f/9800' to 10,000'  
One (1) DST in Devonian f/13,650' to 13,700'

Samples

10' samples f/4400' to PTD 14,100' AND FI 500' to 4400'

Fluid samples

Two (2) quarts of all fluids recovered on DST to be analyzed locally.  
\* H<sub>2</sub>S detection equipment will be installed prior to drilling into the Wolfcamp formation at 8950' and left operational to PTD 14,100'.

Mud logging

One Man Mudlogging Unit on location f/4400' to 8950'  
Two Man Mudlogging Unit on location f/8950' to PTD 14,100'.

Evaluation

Drill well to PTD 14, 100' with DST's @ selected intervals as mentioned above.  
Run OH logs and evaluate. Run 5-1/2" production casing and cement. MIRU PU.  
Perf Devonian w/±30 shots w/csg gun. Acidz w/3000 gals 15% NEFE HCL acid.  
Swab test for productivity. Complete as a single flowing oilwell.

Completion

2-7/8" 6.5# L-80 EUE 8rd tbg.

Lok-set type pkr w/on/off tool w/1.78" 'R' profile nipple