



Southland Royalty Company

30-039-31362

Carracas 32-5 24 #1

Rio Arriba County, NM

TD - 8,953 ft MD

17 1/2" hole to 620'.

Surface Csg: 17jts 13 3/8" 54.5# lb/ft J-55 ST&C
Setting Depth: 618 ft kb

Cement

475sx 13.5# 1.85yield surface cmt.
Circulate 85 bbls good cmt to surface

12 1/4" hole to 4,533'.

Int Csg: 102jts 8 5/8" 32# N-80 LT&C
Setting Depth, FS: 4,509 ft
Float Collar: 4,462 ft
Hyd DV Tool: 3400 ft

Cement

Stage 1: Lead-300sx 12.3# 1.97yield.
Tail-140sx 13.5# 1.3yield
Circ 50 bbls good cmt off DV tool
Stage 2: Lead-875sx 12.3# 1.95yield
Tail-145sx 13.5# 1.31yield.
Circ 70 bbls good cmt to surface.

7 7/8" hole to 8,953'.

Prod Csg: 201 jts 5.5" 17# P-110 LT&C
Setting depth, FS: 8,938 ft
PBTD, FC: 8,891 ft

Cement

715sx 13.3# 1.36 yield cmt.
Top of cmt: ~ 4700 ft (based on CBL)

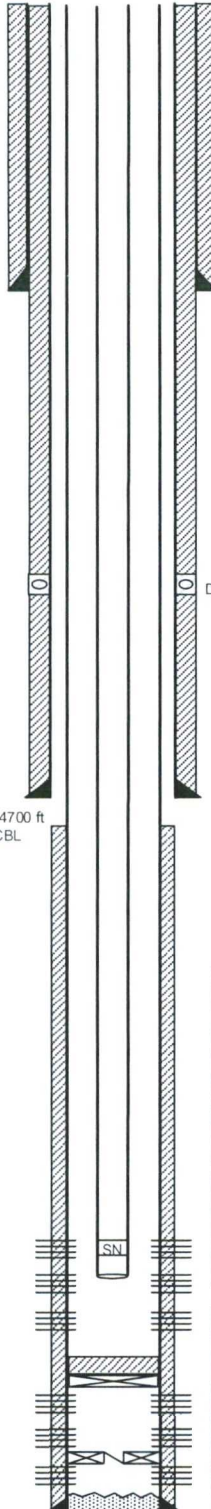
FM Tops

Nacimiento - 1675 ft
Ojo Alamo - 3326 ft
Kirtland Shale - 3531 ft
Fruitland Coal - 3842 ft
Pictured Cliffs - 4056 ft
Lewis Shale - 4533 ft
Cliffhouse - 6152 ft
Menefee - 6430 ft
Point Lookout - 6567 ft
Mancos Shale - 7140 ft
Greenhorn - 8612 ft
Graneros - 8657 ft
Dakota - 8763 ft

CIBP @ 8740'
w/ 2 Sx Cmt

CICR @ 8854'

TOC ~ 4700 ft
off CBL



PBTD: 8,891 ft
TD: 8,953 ft

DV Tool @ 3400'

Prod Tbg 7/25/2018:

2.375" 4.7# L-80 tbg
EOT = 8,163'; SN = 8,153'
Producing on Plunger Lift

Frac Mancos B - 06/26/2018

15% HCl (66 bioballs) - 1,500 gal
Water - 314,118 gal Slickwater
69.2k# - 0.5, 1.0, 1.5 ppg - 100 mesh
205k# - 1,1.25, 1.5 ppg - 40/70 White Sd

ATR - 63 BPM, ATP - 4,292 psi
ISIP - 2,203 psi, IFG - 0.703 psi/ft
ISDP - 3,149 psi, FFG - 0.819 psi/ft

Mancos B Perforations

1spf, 0.42", 90°

8108'-8111'; 4 holes
8119'-8122'; 4 holes
8146'-8149'; 4 holes
8153'-8156'; 4 holes
8178'-8181'; 4 holes
8203'-8206'; 4 holes
24 total holes

Add 8146-55'; 20 Holes
2 SPF, 0.42", 90°
44 Total Holes

Dakota Perforations

09/26/2017
1spf, 0.42", 60deg

8775'-8789'; 14 holes
8826'-8840'; 14 holes
8858'-8870'; 12 holes
40 total holes

Found PBTD at 8873 ft

Acidize Mancos B - 11/11/2017

15% HCl (36 bioballs) - 2,000 gal
Water - 47,001 gal

ATR - 29.5 BPM, ATP - 4,621 psi
MTP - 6,196 psi
ISIP - 2,203 psi, IFG - 0.703 psi/ft
ISDP - 2,709 psi, FFG - 0.765 psi/ft

Frac DK - 10/07/2017

15% HCl (50 bioballs) - 2500 gal
Water - 4,916 bbls
100 Mesh - 38,900 lbs
40/80 Hydroprop LWC - 73,125 lbs
30/50 CRC - 27,180 lbs
Total Prop - 139,205 lbs

ATR - 69.5 BPM
ATP - 4,950 psi
MTR - 69.8 BPM
MTP - 5,472 psi
ISIP - 2,495 psi
IFG - 0.716 psi/ft
ISDP - 3,707 psi
FFG - 0.853 psi/ft

Prepared by: CArnold

Date: 08/02/2018

KB = 16 ft

GL = 7,340 ft

KB = 7,356 ft

API# 30-039-31362

Spud Date: 08/31/2017

DK Frac Date: 10/07/2017

Mancos Frac Date: 6/26/2018