

*See Instruction on Reverse Side

PLUG AND ABANDONMENT PROCEDURE

3-11-96

Largo Federal #4

Otero Chacra
NW Sec. 11, T27N, R8W
San Juan County, New Mexico

Note: All cement volumes use 100% excess outside pipe and 50' excess inside pipe. The stabilizing wellbore fluid will be 8.3 ppg, sufficient to balance all exposed formation pressures.

1. Install and test rig anchors. Prepare blow pit. Comply to all NMOCD, BLM and Bledsoe safety rules and regulations.
2. MOL and RU daylight pulling unit. Conduct safety meeting for all personnel on location. NU relief line to flow back tank. Blow well down; kill with water as necessary. ND wellhead and NU BOP and stripping head; test BOP.
3. POH and tally 1-1/4" tubing (3895'); visually inspect the tubing. If necessary LD 1-1/4" tubing and PU 2" workstring. Round-trip 4-1/2" gauge ring or casing scraper to 3850'.
4. **Plug #1 (Chacra, 3850' - 3750')** PU 4-1/2" bridge plug and RIH; set 3850'. RIH with open ended tubing and tag plug. Load casing and pressure test to 500#. Mix 12 sxs Class B cement and spot a balanced plug on top of plug. POH to 2969'.
5. **Plug #2 (Pictured Cliffs and Fruitland tops, 2969' - 2632')**: Mix 30 sxs Class B cement and spot balanced plug from 2969' to 2632' inside casing. POH to 2220'.
6. **Plug #3 (Kirtland and Ojo Alamo tops, 2220' - 2019')**: Mix 20 sxs Class B cement and spot balanced plug from 2220' - 2019' inside casing. Pressure test casing to 500#. POH with tubing.
7. **Plug #4 (Nacimiento top, 1154' - 1054')**: Perforate 3 or 4 squeeze holes at 1154'. Establish rate into squeeze holes if casing tested. (If casing did not test, then use retainer.) Mix and pump 36 sxs Class B cement down 4-1/2" casing, squeeze 24 sxs cement outside casing and leave 12 sxs cement inside casing, displace to 1000'. Shut in well and WOC. RIH and tag cement.
8. **Plug #5 (Surface)**: Perforate 3 or 4 squeeze holes at 185'. Establish circulation out bradenhead. Mix approximately 53 sxs Class B cement and pump down 4-1/2" casing from 185' to surface, circulate good cement out bradenhead valve. Shut in well and WOC.
9. ND BOP and cut off well head below surface casing flange. Install P&A marker with cement to comply with regulations. RD, MOL and cut off anchors. Restore location per BLM stipulations.

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Proposed P&A

Otero Chacra

NW Section 11, T-27-N, R-8-W, San Juan County, NM

Today's Date: 3/11/96

12-1/4" hole

1-1/4" Tubing at 3895'

Nacimiento @ 1104'

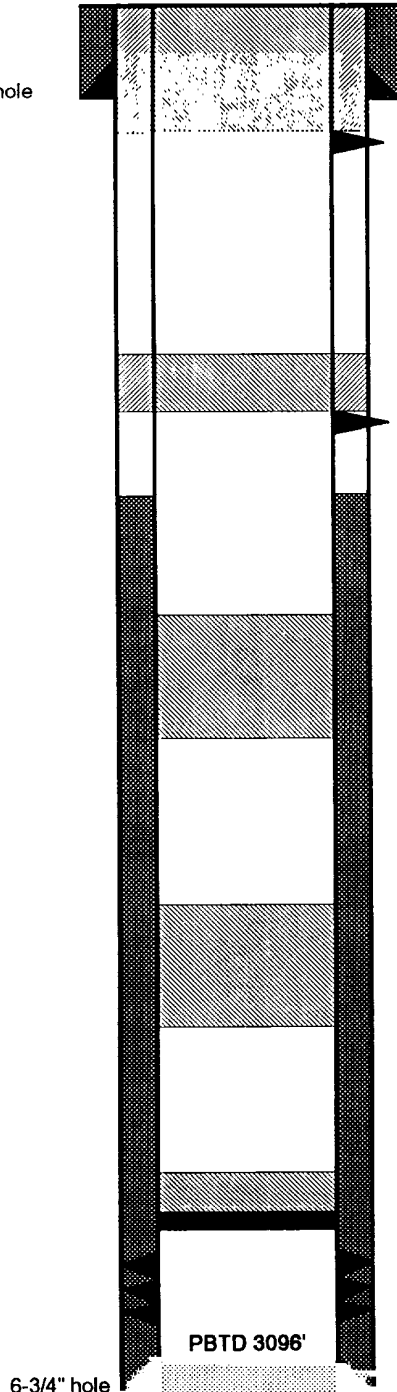
Ojo Alamo @ 2069'

Kirtland @ 2170'

Fruitland @ 2682'

Pictured Cliffs @ 2919'

Chacra @ 3840'



8-5/8" 24# Csg set @ 135'
100 sxs cement (Circulated to Surface)

Perforate @ 185'

Plug #5 185' - surface
Cmt with 53 sxs Class B

Perforate @ 1154'

Plug #4 1154' - 1054'
Cmt with 36 sxs Class B,
24 sxs outside and
12 sxs inside.

TOC 1717' (Calc, 75%)

Plug #3 2220' - 2019'
Cmt with 20 sxs Class B

Plug #2 2969' - 2632'
Cmt with 30 sxs Class B

Plug #1 3850' - 3750'
Cmt with 12 sxs Class B.

Bridge Plug @ 3850'

Chacra Perforations:
3893' - 3903'

4-1/2" 9.5# casing set @ 3960'
Cmt w/ 350 sxs

PBTD 3096'

TD 3960'