UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

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APPROVED BY RIME TITLE For Fig. Date 100 APPROVAL, if any:
Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

PLUG BACK PROCEDURE 3/28/02

McGrath C #1

Basin Dakota

870' FSL & 1190' FEL, Section 34, T30N, R12W San Juan County, New Mexico Lat: 36° 45.16' / Long: 108° 04.40' DPNO: 4659501

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. All cement will be ASTM Type II, mixed at 15.6 ppg with a 1.18 cf/sx yield.

- 1. Install and/or test rig anchors. Prepare blow pit. Comply with all NMOCD, BLM and Burlington safety rules and regulations. Kill well with water as necessary. Note: The tubing hanger hold down pins are not screwed in. Use extra caution when ND wellhead to install the BOP Test BOP.
- 2. TOH and tally 2-3/8" tubing, total 6220'. Visually inspect tubing, if necessary LD and PU workstring. Round trip a 4-1/2" gauge ring or casing scraper to 6337'.
- 3. Plug #1 (Dakota perforations and top, 6337' 6237'): TIH and set a cement retainer at 6337'. Pressure test tubing to 1000#. Load casing with water and circulate well clean. Pressure test casing to 500#. If casing does not test, then spot or tag subsequent plugs as necessary. Mix 12 sxs cement and spot a balanced plug above the CR to isolate the Dakota perforations. PUH to 5582'.
- 4. Plug #2 (Gallup top, 5582' 5482'): Mix 12 sxs cement and spot a balanced plug to cover the Gallup top. PUH to 3520'.
- 5. Plug #3 (Mesaverde top, 3520' 3420): Mix 12 sxs cement and spot a balanced plug to cover the Mesaverde top. TOH and stand back 2200' of tubing and LD tubing remaining.
- 6. Rig up wireline unit and set a 4-1/2" CIBP at 2240' (adjust setting depth upward to not be within 5' of a casing collar). TIH and circulate casing with water 2% KCl water. Then TOH and LD all tubing.
- 7. Pressure test casing to 500#.

8. ND BOP and NU wellhead. RD and move off location.

Approved:

Operations Engineer:

Matt Roberts

599-4098 (Office)

320-2739 (Pager)

Production Foreman:

Steve Florez

326-9560 (Office)

320-0029 (Cell)

Specialist:

Terry Nelson

320-2503 (Cell)

326-8473 (Pager)

Lease Operator: Donnie Thompson

320-2639 (Cell)

327-8814 (Pager)

MBR/plh

McGrath C #1

Proposed Plug Back

Basin Dakota

870' FSL & 1190' FEL, Unit P, Section 34, T30N, R12W

Lat: 36° 45.16' / Long: 108° 04.40' DPNO: 4659501

Today's Date: 12/14/01

Spud: 2/7/63

Dakota Comp: 2/21/63 Elevation: 5774' GL 12-1/4" hole

8-5/8" 24#, J-55 Casing set @ 311' Cement 225 sxs (Circulated to Surface)

Ojo Alamo @ 505'

Kirtland @ 585'

Fruitland Coal @ 1367'

Pictured Cliffs @ 1886'

Mesaverde @ 3470'

Gallup @ 5532'

Dakota @ 6460'

7-7/8" Hole

TOC @ 1300' (TS)

Set CIBP @ 2240'

Plug #3 3520' - 3420' Cement with 12 sxs

DV Tool @ 4659' Cmt with 675 sxs

TOC @ 5500' (TS)

Plug #2 5582' - 5482' Cement with 12 sxs

Plug #1 6337' - 6237 Cement with 12 sxs

Set Cement Rt @ 6337'

Dakota Perforations: 6387' – 6576'

4-1/2" 9.5/11.6# Casing Set @ 6637' Cemented with 250 sxs

TD 6637'

PBTD 6605'