

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

1. Type of Well
GAS

RECEIVED

FEB 13 1990

2. Operator
Meridian Oil Inc.

OIL CON. DIV.
DIST. 3

3. Address & Phone No. of Operator
PO Box 4289, Farmington, NM 87499

4. Location of Well
1840'N, 995'W

5. Lease Number
SF-078578A

6. If Indian, All. or
Tribe Name

7. Unit Agreement Name

8. Farm or Lease Name
Howell K

9. Well No.
303

10. Field, Pool, Wildcat
Basin Fruitland Coal

11. Sec. T. R. M. or Blk
Sec. 21, T-30-N, R- 8-W
NMPM

14. Permit No.

15. Elevations
5858 'GR

12. County
San Juan

13. State
NM

16. Intent to/Subsequent Report of :

workover

17. Describe proposed or completed operations:

It is intended to workover this well in the following manner:

MOL&RU. ND WH. NU BOP. TOOH w/2 3/8" tbg. TIH and CO to TD @ 2610'.
Drill to 2655'. Run 4 1/2" liner w/top set @ +2274'. Cmt liner. CO to
PBTD & circulate clean. Land tbg. ND BOP. NU WH. MOL&RD.

MOL&RU. NDWH. NU BOP. TOOH w/tbg. Run CCL-GR-CBL from PBTD to 15' above
liner top. PT csg 3000#/15 min. Spot acid and perforate Fruitland Coal
formation. Evaluate and fracture treat well. Land tbg. Release rig. SI
for build up. Return to production.

w/attachments

18. Authorized by: Ken Townsend (WS)
Regulatory Affairs

11-27-89
Date

NOTE: This format is issued in lieu of US BLM Form 3160-5

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____
CONDITION OF APPROVAL, IF ANY:

APPROVED

FEB 10 1990
Ken Townsend
AREA MANAGER

Location: 1840' FNL, 995' FWL, Section 21, T-30-N, R-8-W, San Juan County, NM

Field: Basin Fruitland Coal

Elevation: 5858' GL

TD: 2610'

PBTD: 2610'

Completed: 6/19/88

Initial Potential: No Flow AOF

Casing Record:

<u>Hole Dia</u>	<u>Csg Size</u>	<u>WT. & Grade</u>	<u>Depth</u>	<u>Set Cement</u>	<u>Top/Cmt</u>
12 1/4"	9 5/8"	36.0# K-55	224'	150 sxs	Surface
8 3/4"	7"	20.0# K-55	2434'	450 sxs	250 TS

Tubing Record: 80 jts and 1 pup jt of 2 3/8" 4.7# J-55 8rd tubing. Set at 2607', "F" nipple at 2574'.

Open Hole: 6.25" from 2434' to 2610'

Formation Tops:

Ojo Alamo	1442'
Kirtland	1633'
Fruitland	2340'
Pic. Cliffs	2630'

Logging Record: GR,DIL,FDC,HRT,CNL,SDT,MUD-LOG

Completion Summary: Completed open hole natural. Well gauged less than 40 MCF/D.

Workover Summary: 10/11/88: TOOH W/Tubing, ran modern logs. Tight spot between 2585' to 2595'. Could not get logging tools past 2585'.

Production Summary:

Initial Deliverability	- 50 MCF/D
Latest Deliverability	- 0 MCF/D
Cumulative Production	- 1.7 MMCF

Booked Reserve Summary: Fruitland Coal

Gas Transporter: El Paso Natural Gas Company Oil Transporter: MOI

Vendors:

CAPITAL WORKOVER PROCEDURE
HOWELL K #303

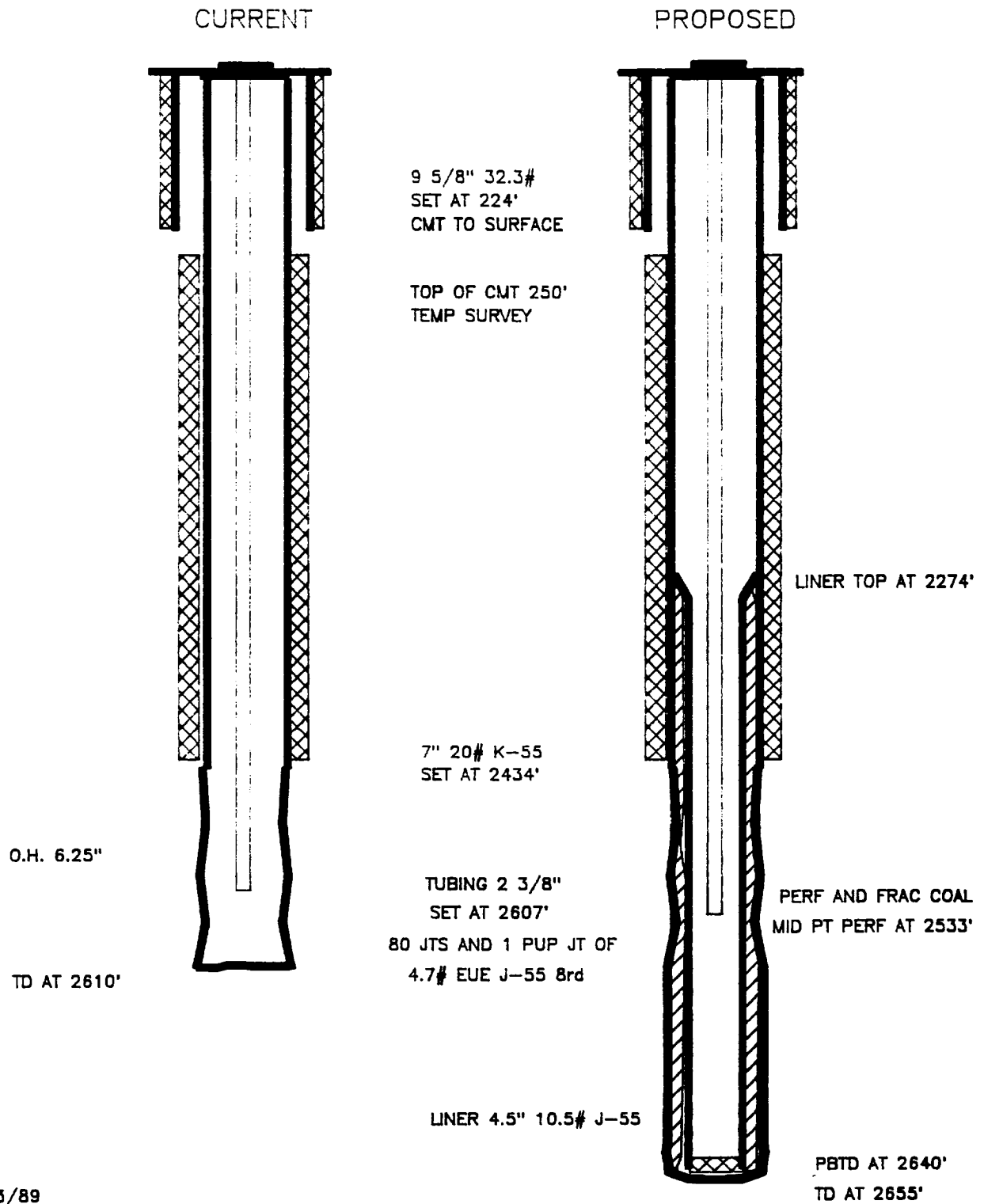
1. Notify the BLM 48 hours before starting workover operations. Prepare location for workover, install anchors and blow pit as required.
2. MOL W/WO rig. Hold safety meeting, install safety signs and proper fire equipment at strategic points. Comply with all BLM, NMOCD, AND MOI regulations. RU blow lines, record SITP and SICP, blow well down. Kill as necessary with water. ND wellhead NU double gate BOP.
3. TOO H W/80 jts of 2 3/8" 4.7# EUE 8rd tubing. Visually inspect tubing, lay down bad or plugged joints.
4. PU 6 1/4" Rx bit, bit sub, four 4 3/4" drill collars on 2 7/8" American open hole drill pipe. TIH and clean to TD at 2610'. Note tight spots at 2585' - 2595' from eariler workover. Drill 45 additional feet to 2655'. Prepare hole for 4 1/2" liner. TOO H.
5. PU 4 1/2" shoe, 15' shoe jt, float collar, ±366' of 4 1/2" 10.5# K-55 casing, and a Brown HyFlo liner hanger on the 2 7/8" DP.
 - * Place csg centralizers across the coal intervals.
 - * Pictured Cliffs is not developed in this section.
6. Set liner top at ±2274'. RU cement crew. Establish circulation with water. Mix and pump a 20 BBL gel spacer followed by 25 sxs of 50/50 poz class B w/2% gel, 2% HA-5 and 0.8% fluid loss tailed with 65 sxs of class B neat w/2% CaCl. Displace cement and bump plugs. Pack-off liner element. Reverse out excess cement. TOO H laying down DP.
 - * Adjust cement program to match current well conditions.
7. TIH and clean to PBTD with a 3 7/8" bit. Circulate the hole clean using produced Fruitland coal water. Land tubing at ±2607', ND BOP, NU wellhead.
8. RD and release rig.
9. MOL W/Daylight rig. Hold safety meeting, install safety signs and proper fire equipment at strategic points. Comply with all BLM, NMOCD, AND MOI regulations. RU blow lines, record SITP and SICP, blow well down as necessary. ND wellhead NU double gate BOP.
10. TOO H W/ 2 3/8" tubing, laydown bit sub and Rx bit.
11. RU wireline unit, run CNL-CCL-GR-CBL from PBTD to 15' above liner top.
 - * Run CBL w/1000-psi applied pressure.
 - * Evaluate for possible squeeze work.
 - * Adjust perforations based on neutron log.

12. Prepare to PT casing and liner. Hold safety meeting. Make sure wellhead is API and rated to 3000-psi working pressure. PT to 3000-psi for 15 minutes.
13. TIH to $\pm 2608'$ and spot 200 gals of 7½% HCl inhibited acid. TOOH.
14. RU wireline unit w/lubricator. Adjust perms based on neutron log. Perforate w/ 3 1/8" hollow steel carrier gun loaded with HHS-PML XVI 16 grm 0.5" dia charges (avg pent 19"). Shoot 4 spf top down over the following intervals: 2462'-71'; 2474'-80'; 2502'-08'; 2544'-46'; 2569'-78'; 2594'-2604'. For a total of 168 holes. Note any drops in the fluid level.
15. Load hole with coal water.
16. TIH to PBTD, Note any fill or tight spots in the tour report. Unload hole w/nitrogen. Swab well in and obtain gauges. TOOH.
17. If a decision is made to hydraulically fracture treat the well, proceed as follows:
 - * Spot 8 frac tanks to allow mixing gel on the fly.
 - * Check tanks and clean as necessary; filter all water to 25 microns
 - * Nipple up treesaver.
 - * RU treatment company; hold safety meeting. Test surface lines to 4000-psi. Pump job per the attached schedule. Tag sand using Ir-192 at 0.4 Mc/1000 lbs proppant. Monitor treatment with the computer van. Add enough breaker (WCB-1, WCB-It, and WEB-2) to allow the gel to break within one hour.
 - * Nipple down treesaver when safe to do so.
 - * Shut well in for three hours, record SICP every hour in the tour book. Flow well back through a choke and tied down 2 7/8" blowline. TIH and clean to PBTD.
 - * RU treatment company and pump 40 tons of liquid CO₂ into formation at a matrix rate and below parting pressure. Leave shut in over night. Flow back through a choke and 2 7/8" blowline. TOOH.
 - * Run after-frac log.

18. PU expendable check valve, one joint of tubing, SN and TIH cleaning to PBTD. Land tubing at $\pm 2607'$. ND BOP, NU WH. Pump off check valve. Record final 30, 45, and 60 minute gauges in tour report. RD and release rig.
19. Shut well in for 7 day pressure build up. Take BHP w/bomb in the seating nipple at the end of 7 days. Obtain gas and water sample for analysis. Clean up location and install production equipment.
20. Return the well back to production.

HOWELL K No. 303

WELLBORE DIAGRAM



11/3/89