

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK PLUG BACK	<b>RECEIVED</b> OCT 8 1991	5. LEASE NUMBER SF-047020 B
1b. TYPE OF WELL GAS		6. IF INDIAN, ALL. OR TRIBE NAME
2. OPERATOR MERIDIAN OIL INC.	OIL CON. DIV. DIST. 3	7. UNIT AGREEMENT NAME
3. ADDRESS & PHONE NO. OF OPERATOR P.O. BOX 4289 FARMINGTON, NM 87499 (505) 326-9700		8. FARM OR LEASE NAME CONGRESS
4. LOCATION OF WELL 990' FNL, 790' FEL		9. WELL NO. #4
14. DISTANCE IN MILES FROM NEAREST TOWN	12. COUNTY San Juan	13. STATE N.M.
15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE.	16. ACRES IN LEASE	17. ACRES ASSIGNED TO WELL 318.90
18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL DR. COMPL., OR APPLIED FOR ON THIS LEASE.	19. PROPOSED DEPTH	20. ROTARY OR CABLE TOOLS
21. ELEVATIONS (DF, FT, GR, ETC.) 5636' GR	22. APPROX. DATE WORK WILL START	
23. PROPOSED CASING AND CEMENTING PROGRAM		
*SEE OPERATIONS PLAN		
24. AUTHORIZED BY: <i>[Signature]</i> (PMP ) REGULATORY AFFAIRS	9-20-91 DATE	

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

NOTE: THIS FORMAT IS ISSUED IN LIEU OF US BLM FORM 3160-3.  
(NO ADDITIONAL DIRT WORK WILL BE REQUIRED)

NMOCD

Submit to Appropriate  
District Office  
State Lease - 4 copies  
Fee Lease - 3 copies

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088

Sanra Fe, New Mexico 87504-2088

DISTRICT I

P.O. Box 1980, Hobbs, NM 88240

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator Meridian Oil Inc.		Lease Congress		Well No. 4	
Unit Letter A	Section 35	Township 29 North	Range 11 West	County San Juan	
Actual Footage Location of Well: 990 feet from the North line and 790 feet from the East line					
Ground level Elev. 5636'		Producing Formation Fruitland Coal		Pool Basin	
				Dedicated Acreage: 318.90 Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

☐ Yes

☐ No

If answer is "yes" type of consolidation

If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.

Not re-surveyed  
prepared from a plat  
Dated: May 11, 1961  
By: James P. Leese

RECEIVED  
OCT 8 1991

OIL CON. DIV.  
DIST. 3

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature

Peggy Bradfield

Printed Name

Regulatory Affairs

Position

Meridian Oil Inc.

Company

Date

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Neale C. Edwards

Signature & Seal of  
Professional Surveyor

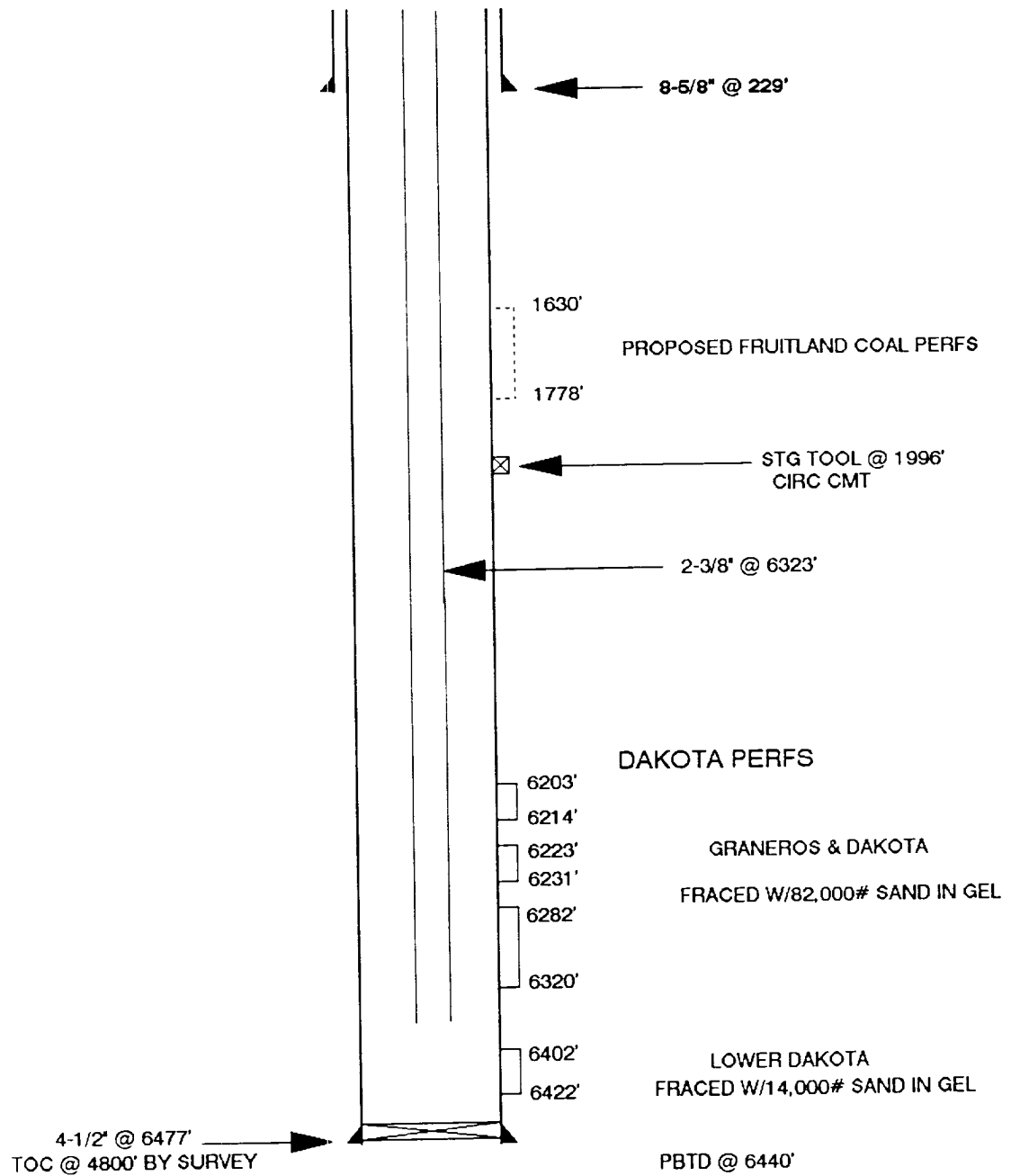
Certificate No.

6857

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

# CONGRESS #4 DK

UNIT A SECTION 35 T29N R11W  
SAN JUAN COUNTY, NEW MEXICO



CONGRESS #4 FRTC  
Procedure  
A 35 29 11

**TESTING AND P & A PROCEDURE:** (Expense P&A AFE)

1. Comply to all NMOC, BLM, & MOI, rules & regulations. MOL and RU completion rig. NU 6" 900 series BOP with flow tee and stripping head. Test operation of rams. NU blooie line and 2-7/8" relief line with 3000 psi gate valves on tubing head. Blow well down.
2. TOOH W/6323' 2-3/8" tbg. Test tbg to 2500 psi. Run 4-1/2" csg scraper on 2-3/8" tbg to 6100'. TOH.
3. Run pkr on 2-3/8" tbg & set @ 5900'. Test backside for csg leak by pressure testing to 1000 psi.
  - a. If csg leak is discovered, swab test Dakota. Locate csg leak w/ ret BP & pkr combo. W/ ret BP set below csg leak covered w/sand, & pkr 200' above, sq leak as required. Drill out & pressure test & resq, if necessary. When csg holds a pressure test of 1000 psi, retrieve ret BP & TOH. Go to step #4.
  - b. If csg tests OK, TOH. Set cmt ret @ 6330' (If 6330' can not be reached due to sand buildup, go to step #5). Squeeze lower Dakota w/15 sx cmt (cmt will fill perfs plus 100%) TIH w/pkr on 2-3/8" tbg & set @ 6100' & swab test Dakota.
4.
  - a. If Dakota tested economical gas, stop workover here & produce Dakota.
  - b. If Dakota tested uneconomical gas, continue w/P & A procedure & capital workover to open FRTC.
5. TOH w/tbg & pkr. Set 4-1/2" cement retainer on 2-3/8" tbg @ 6100' & squeeze w/35 sx cmt. This will fill the Dakota perfs with 100% excess cmt. Sting out of cmt ret, pump 4 sx cmt on top ret, C.O. short way, pressure test csg to 1000 psi, circ hole w/9.0 PPG mud w/min. viscosity 50 sec/qt. TOH.
6. Perf 2 sq holes @ 4540'. Run 4-1/2" cmt ret on 2-3/8" tbg & set @ 4500'. Establish rate & pump 480 sx cmt. This will cover outside the csg from 4540' (50' below base Point Lookout) to 3300' (50' above the Cliffhouse) w/100% excess. Sting out of cmt ret & circ 130 sx cmt. This will cover inside the csg from 4540' (50' below base Point Lookout) to 3300' (50' above the Cliffhouse) w/50% excess. Pull pipe up to 2900' & reverse out.
7. Perf 2 sq holes @ 2960' thru tbg. With Bradenhead valve open & pipe rams closed, pump 90 sx cmt. This will cover outside the csg from 2960' (50' below the Chacra) to 2730' (50' above the Chacra) w/100% excess. Close Bradenhead valve & open pipe rams & circ 25 sx cmt. This will cover inside the csg from 2960' (50' below the Charca) to 2730' (50' above the top Chacra) w/50% excess. Pull pipe up to 2600' & reverse out. Roll hole w/2% KCL water. TOH.

**RECOMPLETION PROCEDURE:** (Capital Workover AFE)

1. Run CBL-CNL-GR from 1900'-1000'. Set 4-1/2" BP @ 1810'. Pressure test csg to 300 psi. Implement squeeze procedures if FRTC intervals have

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poor cmt bond or if csg fails pressure test. Pick exact Fruitland Coal perfs from CNL log.

2. Perf Fruitland Coal using 3-1/8" HSC guns with 9.8 gram Bull Jet charges (or equivalent) w/4 spf. Shoot approx. 1765'-78'.
3. Fill 2 - 400 bbl. frac tanks with 2% KCL water. Filter all water to 25 microns. One tank will be for gel, one tank for 2% KCL water for breakdown & flush. Usable gel water required for frac is 193 bbls.
4. TIH with 4-1/2" Baker SAP tool with a 4' spacer on 2-3/8" tbg. Wash perfs using 10 gallons of 7-1/2% HCL acid mixed with 5% xylene mutual solvent) per foot of perfs and a quaternary amine-type clay stabilizer at 3 gal/1000 gal. TOH.
5. Run 4-1/2" fullbore pkr on 3-1/2" flush joint tbg and set 150' above top perf. Place 300 psi on backside and monitor w/pressure recorder during entire frac job. Test all surface lines to 5000 psi.
6. Fracture treat lower coal down frac string with 27,000 gals. of 70% quality N2 foam and 40,000# Brady sand. Pump foam at 35 BPM. Use 8,100 gals. 30# (guar) gel for base fluid. Monitor bottomhole and surface treating pressures, rate, foam quality, & sand concentration, with computer van. All sand to be tagged with 0.4 mCi/1000# Ir-192 tracer. Max. pressure is 5000 psi and estimated treating pressure is 3200 psi. Treat per the following schedule:

<u>Stage</u>	<u>Foam Vol. (Gals.)</u>	<u>Foam Quality</u>	<u>Gel Vol. (Gals.)</u>	<u>Sand Vol. (lbs.)</u>	<u>Sand Mesh</u>
Pad	10,000	70	3,000	----	----
1.0 ppg	5,000	70	1,500	5,000	20/40
2.0 ppg	5,000	70	1,500	10,000	20/40
3.0 ppg	4,000	70	1,200	12,000	20/40
4.0 ppg	2,000	70	600	8,000	20/40
5.0 ppg	1,000	70	300	5,000	20/40
Flush	(*)	0	(*)	----	----
Totals	27,000		8,100	40,000#	

\* Flush to be 678 gals. 2% KCL water.

Treat frac fluid with the following additives per 1000 gallons:

- |                      |                        |
|----------------------|------------------------|
| * 30# YF-130         | (Base Gel)             |
| * 5.0 gals.          | (Foaming Agent)        |
| * 1.0 gal. Aqua-Flow | (Non-ionic Surfactant) |
| * 1.0# J-218         | (Enzyme Breaker)       |
| * 1.0# J-318         | (Breaker)              |
| * 0.35# M-275        | (Bacteriacide)         |
| * 2% KCL             |                        |

7. Open well through choke manifold & monitor flow. Flow @ 20 bbl/hr, or less if sand is observed. When well ceases to flow, proceed with Step # 8.

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8. TOH w/3-1/2" FJ tbg & pkr. RU wireline w/ full lubricator. Set 4-1/2" retrievable bridge plug @ 1700'. Pressure test to 300 psi.
9. Perf Fruitland Coal using 3-1/8" HSC guns with 9.8 gram Bull Jet charges (or equivalent). Shoot 4 SPF @ approx. 1625'-42' & 1655'-62'.
10. TIH w/4-1/2" Baker SAP tool on 2-3/8" tbg. Space packing elements @ 4 feet & breakdown perforations w/ 10 gal. 7-1/2% HCL acid per foot pay. Acid mixed with 5% xylene mutual solvent per foot of perfs and a quaternary amine-type clay stabilizer at 3 gal/1000 gal & 1 gal/1000 corrosion inhibitor. Record breakdown pressures. TOH.
11. Fill 2 - 400 bbl. frac tanks with 2% KCL water. Filter all water to 25 microns. One tank will be for gel, one tank for 2% KCL water for breakdown. Usable gel water required for frac is 236 bbls.
12. Run 4-1/2" fullbore pkr on 3-1/2" FJ tbg and set 150' above top perf. Place 300 psi on backside and monitor w/pressure recorder during entire frac job. Test all surface lines to 5000 psi.
13. Fracture treat upper coals with 33,000 gals. of 70% quality N2 foam and 50,000# Brady sand. Pump foam at 40 BPM. Use 9,900 gals. 30# (guar) gel for base fluid. Monitor bottomhole and surface treating pressures, rate, foam quality, & sand concentration, with computer van. All sand to be tagged with 0.4 mCi/1000# Ir-192 tracer. Max. pressure is 5000 psi and estimated treating pressure is 3500 psi. Treat per the following schedule:

<u>Stage</u>	<u>Foam Vol. (Gals.)</u>	<u>Foam Quality</u>	<u>Gel Vol. (Gals.)</u>	<u>Sand Vol. (lbs.)</u>	<u>Sand Mesh</u>
Pad	10,000	70	3,000	----	----
1.0 ppg	10,000	70	3,000	10,000	20/40
2.0 ppg	5,000	70	1,500	10,000	20/40
3.0 ppg	4,000	70	1,200	12,000	20/40
4.0 ppg	2,000	70	600	8,000	20/40
5.0 ppg	2,000	70	600	10,000	20/40
Flush	<u>(2,700)</u>	<u>70</u>	<u>(810)</u>	----	----
Totals	33,000		9,900	50,000#	

Treat frac fluid with the following additives per 1000 gallons:

- |                      |                        |
|----------------------|------------------------|
| * 30# YF-130         | (Base Gel)             |
| * 5.0 gals.          | (Foaming Agent)        |
| * 1.0 gal. Aqua-Flow | (Non-ionic Surfactant) |
| * 1.0# J-218         | (Enzyme Breaker)       |
| * 1.0# J-318         | (Breaker)              |
| * 0.35# M-275        | (Bacteriacide)         |
| * 2% KCL             |                        |

Shut well in after frac for six hours in an attempt to obtain closure pressure and allow the gel to break.

14. Open well through choke manifold & monitor flow. Flow @ 20 bbl/hr, or

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- less if sand is observed. When well ceases to flow, TOH w/3-1/2" tbg.
15. TIH w/ 4-1/2" retrieving tool on 2-3/8" tubing & clean out to RBP @ 1700' w/ air/mist. Take pitot gauges when possible. When wellbore is sufficiently clean, retrieve RBP @ 1700', TOH.
  16. TIH w/notched collar on 2-3/8" tbg & C.O. to new PBTD 1810' w/air/mist. Take pitot gauges when possible.
  17. When wellbore is sufficiently clean, TOH and run after frac gamma-ray log from 1810'-1000'.
  18. TIH with 2-3/8" tbg with standard seating nipple one joint off open ended bottom. Land tbg @ 1750'.
  19. ND BOP and NU wellhead. Rig down & release rig.

Approve: \_\_\_\_\_  
R. F. Headrick

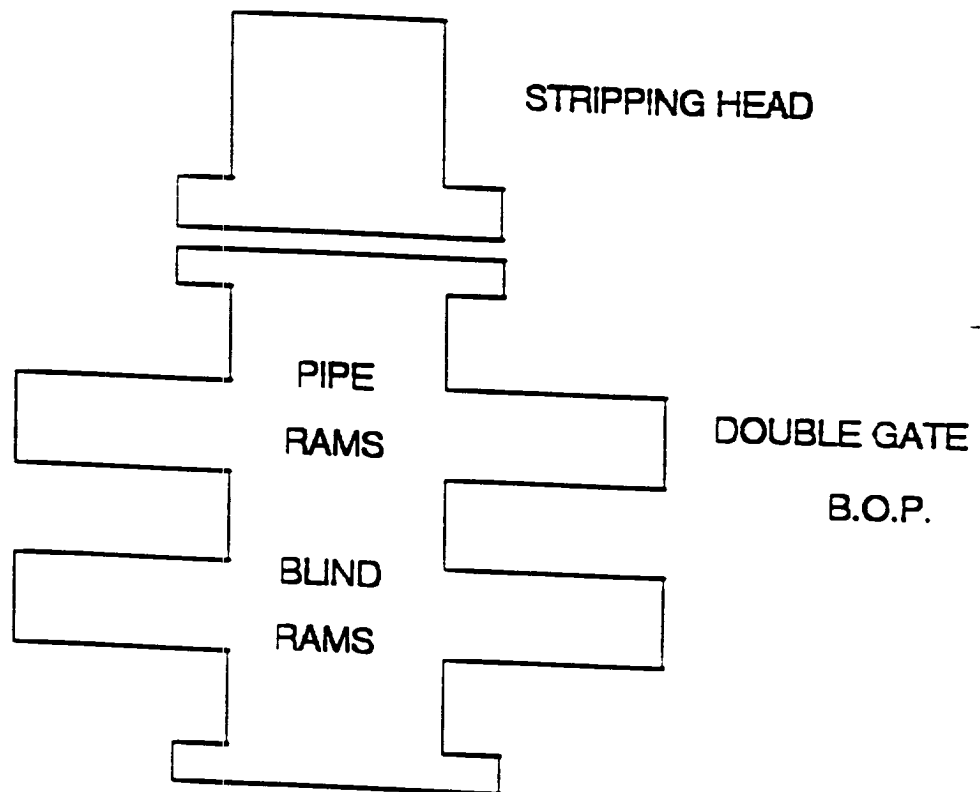
VENDORS:

Wireline:	Petro	326-6669
Fracturing:	Howco	325-5096
RA Tagging:	Pro-Technics	326-7133

CONSULTANT: Alan Errett                      327-5444

PMP

# WORKOVER / RECOMPLETION B.O.P. SCHEMATIC



MINIMUM: 6" 2000 PSI DOUBLE GATE B.O.P.  
MAXIMUM ANTICIPATED SHUT-IN WELLHEAD  
PRESSURE IS LESS THAN 2000 PSI