

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

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U.S.G.S.	
LAND OFFICE	
TRANSPORTER	OIL
	GAS
OPERATOR	
PRODUCTION OFFICE	

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-104  
Revised 10-01-78  
Format 06-01-83  
Page 1

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NOV 11 1980  
OIL CONSERVATION DIVISION

REQUEST FOR ALLOWABLE  
AND  
AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

I.

Operator Meridian Oil Inc.	
Address P. O. Box 4289, Farmington, NM 87499	
Reason(s) for filing (Check proper box)	Other (Please explain)
<input type="checkbox"/> New Well <input type="checkbox"/> Recompletion <input checked="" type="checkbox"/> Change in <del>Ownership</del> Operatorship	Meridian Oil Inc. is Operator for El Paso Production Company
Change in Transporter of: <input type="checkbox"/> Oil <input type="checkbox"/> Dry Gas <input type="checkbox"/> Condensate <input type="checkbox"/> Casinghead Gas	

If change of ownership give name and address of previous owner El Paso Natural Gas Company, P. O. Box 4289, Farmington, NM 87499

II. DESCRIPTION OF WELL AND LEASE

Lease Name Huerfano Unit	Well No. 223	Pool Name, including Formation Basin Dakota	Kind of Lease State, Federal or Free	Lease No. NM 0396
Location Unit Letter <u>F</u> : <u>1850</u> Feet From The <u>North</u> Line and <u>1840</u> Feet From The <u>West</u> Line of Section <u>4</u> Township <u>26N</u> Range <u>10W</u> NMPM, San Juan County				

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil <input type="checkbox"/> or Condensate <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
Meridian Oil Inc.	P. O. Box 4289, Farmington, NM 87499
Name of Authorized Transporter of Casinghead Gas <input type="checkbox"/> or Dry Gas <input checked="" type="checkbox"/>	Address (Give address to which approved copy of this form is to be sent)
El Paso Natural Gas Company	P. O. Box 4289, Farmington, NM 87499
If well produces oil or liquids, give location of tanks.	Is gas actually connected? when
Unit <u>F</u> Sec. <u>4</u> Twp. <u>26N</u> Rge. <u>10W</u>	

If this production is commingled with that from any other lease or pool, give commingling order number: \_\_\_\_\_

NOTE: Complete Parts IV and V on reverse side if necessary.

VI. CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation Division have been complied with and that the information given is true and complete to the best of my knowledge and belief.

*Reggie Doak*  
(Signature)

Drilling Clerk

(Title)  
11-1-86

(Date)

OIL CONSERVATION DIVISION

NOV 11 1980

APPROVED \_\_\_\_\_, 19 \_\_\_\_\_

BY *Burt J. Shum*

TITLE SUPERVISION DISTRICT # 3

This form is to be filed in compliance with RULE 1104.

If this is a request for allowable for a newly drilled or deepened well, this form must be accompanied by a tabulation of the deviation tests taken on the well in accordance with RULE 111.

All sections of this form must be filled out completely for allowable on new and recompleted wells.

Fill out only Sections I, II, III, and VI for changes of owner, well name or number, or transporter, or other such change of condition.

Separate Forms C-104 must be filed for each pool in multiply completed wells.

submitted in lieu of Form 3160-5

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED  
SLM

Sundry Notices and Reports on Wells - 5 AM 9:44

1. Type of Well  
GAS

070 FARMINGTON, NM  
Lease Number  
NM-0396

6. If Indian, All. or  
Tribe Name

2. Name of Operator  
MERIDIAN OIL

7. Unit Agreement Name

3. Address & Phone No. of Operator  
PO Box 4289, Farmington, NM 87499 (505) 326-9700

Huerfano Unit  
8. Well Name & Number  
Huerfano Unit 223

4. Location of Well, Footage, Sec., T, R, M  
1850' FNL, 1840' FWL Sec. 4, T-26-N, R-10-W, NMPM

9. API Well No.  
30-045-  
10. Field and Pool  
Basin Fruitland Coal  
11. County and State  
San Juan Co, NM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission

Type of Action

☒ Notice of Intent

☐ Abandonment

☐ Change of Plans

☐ Subsequent Report

☒ Recompletion

☐ New Construction

☐ Final Abandonment

☐ Plugging Back

☐ Non-Routine Fracturing

☐ Casing Repair

☐ Water Shut off

☐ Altering Casing

☐ Conversion to Injectio

☐ Other -

13. Describe Proposed or Completed Operations

It is intended to recomplate this well from the Basin Dakota to the Basin Fruitland Coal per the attached procedure.

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

RECEIVED  
JUL 22 1994

OIL CON. DIV.  
DIST. 3

14. I hereby certify that the foregoing is true and correct.

Signed [Signature] (MP) Title Regulatory Affairs Date 6/3/94

(This space for Federal or State Office use)

APPROVED BY \_\_\_\_\_ Title \_\_\_\_\_

CONDITION OF APPROVAL, if any:

APPROVED

Date JUL 18 1994

[Signature]  
for DISTRICT MANAGER

NMOOD

District I  
PO Box 1980, Hobbs, NM 88241-1980  
District II  
PO Drawer DD, Artesia, NM 88211-0719  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

Form C-1  
Revised February 21, 19  
Instructions on ba  
Submit to Appropriate District Offi  
State Lease - 4 Cop  
Fee Lease - 3 Cop

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-045-20834	<sup>2</sup> Pool Code 71629	<sup>3</sup> Pool Name Basin Fruitland Coal
<sup>4</sup> Property Code 7139	<sup>5</sup> Property Name Huerfano Unit	<sup>6</sup> Well Number 223
<sup>7</sup> OGRID No. 14538	<sup>8</sup> Operator Name Meridian Oil Inc.	<sup>9</sup> Elevation 6710'

<sup>10</sup> Surface Location

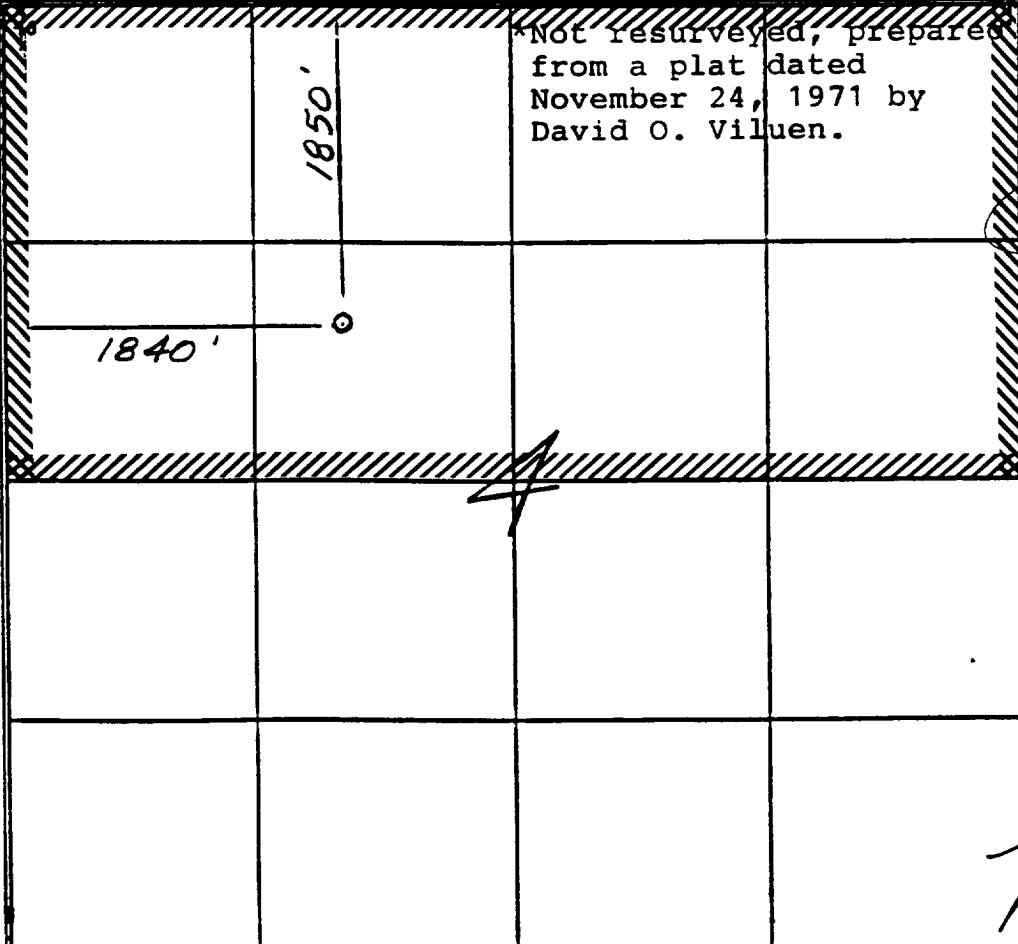
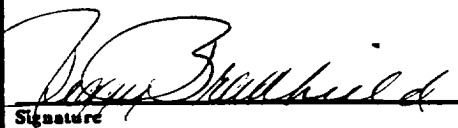
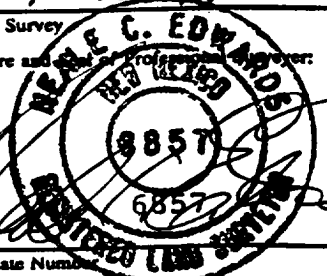
UL or lot no. F	Section 4	Township 26-N	Range 10-W	Lot Ida	Feet from the 1850	North/South line North	Feet from the 1840	East/West line West	County San Juan
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<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
---------------	---------	----------	-------	---------	---------------	------------------	---------------	----------------	--------

<sup>12</sup> Dedicated Acres N#320	<sup>13</sup> Joint or Infill 3/9/74	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p>Not resurveyed, prepared from a plat dated November 24, 1971 by David O. Villuen.</p>	<p><sup>17</sup> OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and bel</p> <p> Signature Peggy Bradfield Printed Name Regulatory Affairs Title 10-12-94 Date</p>
		<p><sup>18</sup> SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this pl was plotted from field notes of actual surveys made by or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>10-10-94 Date of Survey Signature and Seal of Professional Surveyor:  Certificate Number</p>

38.74  
39.91  
49.65  
40.09  
9.72  
11 9.72  
40.24  
32.96  
1 32.96  
160.00  
160.96  
19  
319

Huerfano Unit #223 FRTC  
FRTC RECOMPLETION  
F 4 26 10  
San Juan County, N.M.

PLUGGING:

1. Comply to all NMOCD, BLM, & MOI rules & regulations. MOL and RU P & A rig. NU 6" 900 series BOP W/offset rams, flow tee and stripping head. NU blooie line and 2-7/8" relief line.
2. Set blanking plug in S.N. @ 6970' in 2-3/8" tbg & pressure test to 3000 psi. TOH w/225 Jts 2-3/8" tbg.
3. Run 4-1/2" gauge ring on sand line to 6756' (50' above top DK perf). TIH w/4-1/2" cmt ret on tested 2-3/8" tbg & set @ 6756'. Establish rate & sq Dakota perfs w/56 sx Cl "G" cmt. This will fill DK perfs & 4-1/2" csg to 6756' w/100% excess cmt.
4. Sting out of cmt ret & spot 4 sx cmt on top ret. Spot hole w/ 21 bbl mud: 15# sodium bentonite w/non-fermenting polymer, 8.4# gal weight, & 40 qs vis or greater.
5. Perf 2 sq holes thru tbg @ 5880' (50' below top Gallup). W/ pipe rams closed & tbg @ 5880', est rate into sq holes & sq w/39 sx Cl "G" cmt. This will fill behind csg from 5880' to 5780' (50' above top Gallup) w/100% excess cmt. Open pipe rams & spot 17 sx cmt. This will fill inside csg from 5880' to 5780' w/50% excess cmt.
6. W/ tbg @ 5780', spot hole w/ 44 bbl mud: 15# sodium bentonite w/non-fermenting polymer, 8.4# gal weight, & 40 qs vis or greater. TOH.
7. PU tbg to 3955' (50' below top Mesaverde). W/ pipe rams open spot 17 sx cmt. This will fill csg from 3955' to 3855' (50' above top MV) w/ 50% excess cmt.
8. Spot hole w/ 35 bbl mud: 15# sodium bentonite w/non-fermenting polymer, 8.4# gal weight, & 40 qs vis or greater.
9. MI wireline truck. Run CNL log, which will be used to confirm FRTC perfs, and CBL (2500'-1500'). Coorelate logs to open hole induction log. Set top drillable BP @ 2400' & top w/2 sx sand. TIH w/2-3/8" tbg & land @ 2300'.
10. Release P & A rig.

COMPLETION:

LOWER FRTC:

11. MOL and RU completion rig. NU 6" 900 series BOP with flow tee and stripping head. NU blooie line and 2-7/8" relief line.

# HUERFANO UNIT #223 - FRTC RECOMPLETION

Page 2

12. Spot and fill 3 - 400 bbl. frac tanks with 1% KCL water. Filter all water to 25 microns. On 1st stg, one tank is for gel & one tank for breakdown water. Usable gel water required for frac is 241 bbls.
13. Roll hole w/1% KCL water & pressure test csg to 1000 psi for 15 min. TOH w/2-3/8" tbg.
14. Perf basal FRTC using w/2 spf @ 2286'-2300'. Total 28 holes. Perforate using 3-1/8" hollow steel carrier guns loaded w/Owen HSC 13 gm. charges phased at 180 degrees & 2 spf. Avg. perf dia.= 0.48". Average penetration is 18" in Berea.
15. TIH w/4-1/2" pkr & 2-7/8" NUE N-80 rental tbg w/shaved collars & set @ 2100'. Load backside w/1% KCL water. W/ 500 psi on backside, breakdown lower FRTC perforations w/1500 gal. 15% HCL acid & 70-7/8" 1.3 sp gr RCN perf balls. (1gal/1000 corrosion inhibitor). Lower pkr to 2310' to knock off perf balls. Reset pkr @ 2200'.
16. Pressure backside to 500 psi. Monitor & record backside pressure during frac. Fracture treat lower FRTC down frac string with 33,000 gals. of 70 quality foam using 30# gel as the base fluid & 60,000# 20/40 Arizona sand. Pump at 35 BPM. Monitor bottomhole and surface treating pressures, rate, foam quality, & sand concentration with computer van. Sand to be tagged with 0.4 mCi/1000# Ir-192 tracer. Max. pressure is 6000 psi and estimated treating pressure is ??? psi. Frac string friction @ 35 BPM is ??? psi. Treat per the following schedule:

Stage	Foam Vol. (Gals.)	Gel Vol. (Gals.)	Sand Vol. (lbs.)
Pad	8,000	2,400	----
1.0 ppg	5,000	1,500	5,000
2.0 ppg	10,000	3,000	20,000
3.0 ppg	5,000	1,500	15,000
4.0 ppg	5,000	1,500	20,000
Flush	( 534)	( 160)	
Totals	33,000	9,900#	60,000#

Shut well in after frac for six hours to allow gel to break.

Treat frac fluid with the following additives per 1000 gallons:

- \* 30# LGC8 (Gel)
- \* 3.0 gal. AQF2 (Non-ionic Surfactant)
- \* 1.0# GVW3 (Enzyme Breaker)
- \* 1.0# B-5 (Breaker)

17. Open well through choke manifold and monitor flow. Flow @ 20 bbl/hr, or less if sand is observed. Take pitot gauges when possible. TOH w/pkr & frac string.

# HUERFANO UNIT #223 - FRTC RECOMPLETION

Page 3

18. Set 4-1/2" ret BP @ 2250' on wireline & top w/1 sx sand. Pressure test csg to 1000 psi for 15 min.
19. Fill 3 - 400 bbl. frac tanks with 1% KCL water. Filter all water to 25 microns. Two tanks are for gel & one tank for breakdown water. Usable gel water required for frac is 241 bbls.

## UPPER FRTC:

20. Perf upper FRTC w/2 spf @ 2186'-78' & 2150'-36'. Total 44 holes. Perforate using 3-1/8" hollow steel carrier guns loaded w/Owen HSC 13 gm. charges phased at 180 degrees. Avg. perf dia.= 0.48". Average penetration is 18" in Berea.
21. TIH w/4-1/2" pkr & 2-7/8" NUE N-80 rental tbg w/shaved collars & set @ 1900'. W/ 500 psi on backside, breakdown upper FRTC perforations w/1500 gal. 15% HCL acid & 110-7/8" 1.3 sp gr RCN perf balls. (1 gal/1000 corrosion inhibitor). Lower pkr to 2200' to knock off perf balls. Reset pkr @ 2000'.
22. Fracture treat upper FRTC down frac string with 37,000 gals. of 70 quality foam using 30# gel as the base fluid & 60,000# 20/40 Arizona sand. Pump at 35 BPM. Monitor bottomhole and surface treating pressures, rate, foam quality, & sand concentration with computer van. Sand to be tagged with 0.4 mCi/1000# Ir-192 tracer. Max. pressure is 6000 psi and estimated treating pressure is ???? psi. Treat per the following schedule:

Stage	Foam Vol. (Gals.)	Gel Vol. (Gals.)	Sand Vol. (lbs.)
Pad	8,000	2,400	----
1.0 ppg	5,000	1,500	5,000
2.0 ppg	10,000	3,000	20,000
3.0 ppg	5,000	1,500	15,000
4.0 ppg	5,000	1,500	20,000
Flush	( 486)	( 145)	
Totals	33,000	9,900#	60,000#

Shut well in after frac for six hours to allow the gel to break.

Treat frac fluid with the following additives per 1000 gallons:

- \* 30# LGC8 (Gel)
- \* 3.0 gal. AQF2 (Non-ionic Surfactant)
- \* 1.0# GVW3 (Enzyme Breaker)
- \* 1.0# B-5 (Breaker)

23. Open well through choke manifold and monitor flow. Flow @ 20 bbl/hr, or less if sand is observed. Take pitot gauges when possible. TOH w/pkr & frac string.

HUERFANO UNIT #223 - FRTC RECOMPLETION

Page 4

24. TIH w/ret head on 2-3/8" tbg & C.O. w/air/mist to ret BP @ 2250'. Take pitot gauges when possible. When well is sufficiently clean, retrieve BP & TOH.
25. TIH w/notched collar on 2-3/8" tbg & C.O. to 2400'. Monitor gas and water returns and take pitot gauges when possible.
26. When wellbore is sufficiently clean, TOH and run after frac gamma-ray log from 2400'-1500'.
27. TIH with 2-3/8" tbg with standard seating nipple one joint off bottom and again cleanout to 2400'. When wellbore is sufficiently clean, land tbg at 2200'KB. Take final water and gas samples & rates.
28. Replace any bad valves on wellhead. ND BOP and NU wellhead & tree. Rig down & release rig.

Approve: \_\_\_\_\_

J. A. Howieson

VENDORS:

Wireline:	Blue Jet	325-5584
Fracturing:	Western	327-6222
RA Tagging:	Pro-Technics	326-7133

PMP



Pertinent Data Sheet - HUERFANO UNIT #223 DK

Location: 1850'FNL 1840' FWL SEC. 4 T26N R10W, SAN JUAN COUNTY, N.M.

Field: Basin Dakota

Elevation: 6710' TD: 7072'  
10'KB PBTD: 7063'

Prop#: 007970900

Lease: Federal NM-0396

DP#: 44015A

GWI: 64.94%

NRI: 50.26%

Completed: 3-14-72

Initial Potential:

AOF =1575 MCF/D, Q=1460 MCF/D, SICP=2009 PSI

Casing Record:

Hole Size	Csg. Size	Wt. & Grade	Depth Set	Cement	Top/Cmt
12-1/4"	8-5/8"	24# K-55	226'	177 cf	Circ. Cmt
7-7/8"	4-1/2"	10.5# J-55	7072'	348 cf	5926'@ 75% Eff.
		DV Tool @	5183'	434 cf	3755'@ 75% Eff.
		DV Tool @	2529'	379 cf	1310' - Survey

Tubing Record: 2-3/8" 4.7# J-55 7000' 225 Jts  
S.N. @ 6970'

Formation Tops:

Ojo Alamo	1341'	Gallup	5830'
Kirtland	1443'	Greenhorn	6719'
Fruitland	2060'	Graneros	6774'
Pictured Cliffs	2302'	Dakota	6880'
Mesaverde	3905'		
Point Lookout	4693'		

Logging Record: Induction, Density

Stimulation: Perf DK @ 6806'-12', 6839'-45', 6880'-86', 6896'-6902', 6948'-60', 6990'-7002' w/18 spz & fraced w/56,000# sand in water.

Workover History: None

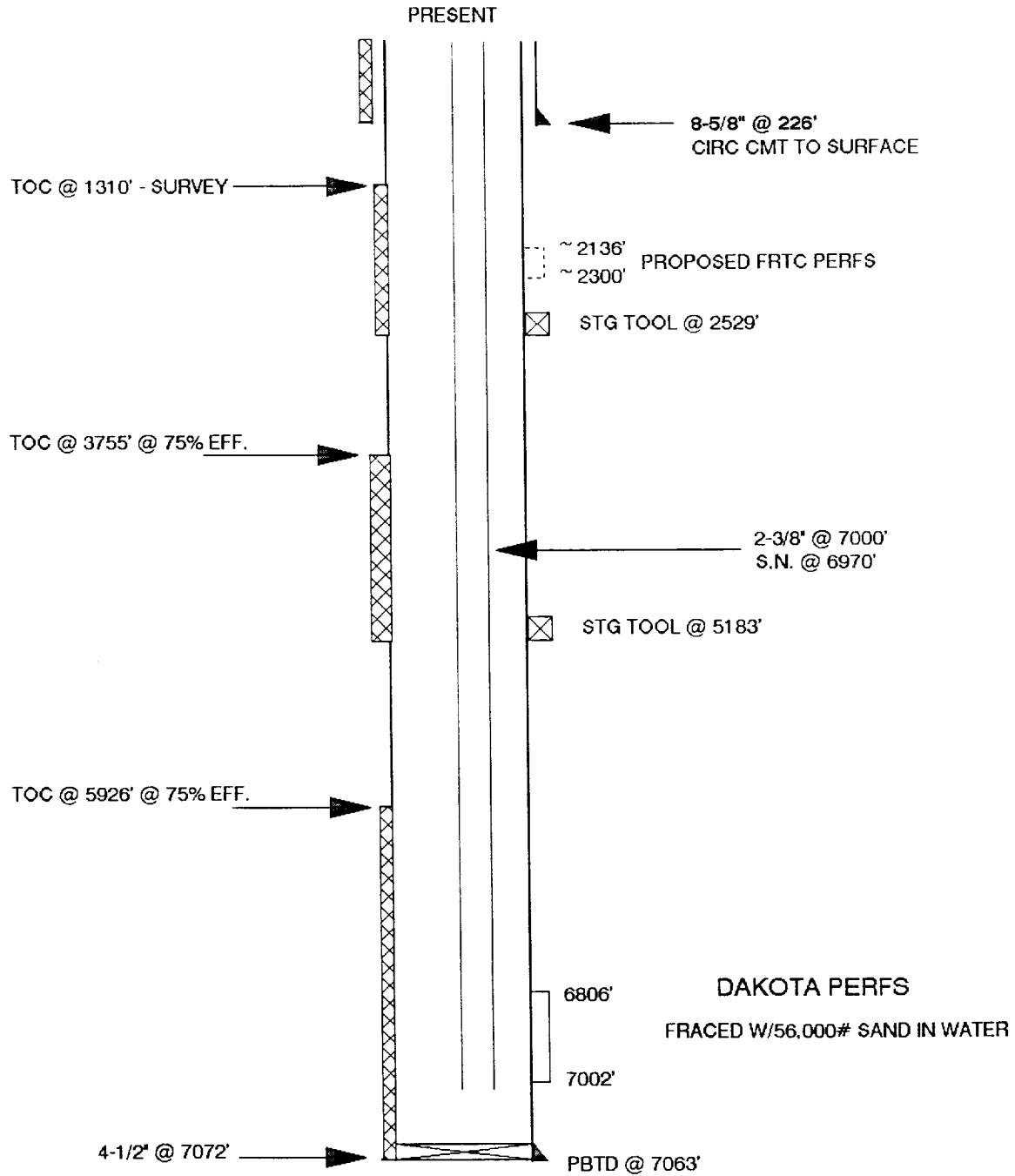
Production History: MV 1st delivered on 4-1729. Cumulative=548 psi. Current Capacity= 10 MCF/D. Tbg=??? psi. Csg=??? psi. Bradenhead=? psi. Line=??? psi.

Pipeline: EPNG

PMP

# HUERFANO UNIT #223 DK

UNIT F SECTION 4 T26N R10W  
SAN JUAN COUNTY, NEW MEXICO



IN REPLY REFER TO:  
(07337)

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT  
FARMINGTON DISTRICT OFFICE  
1235 La Plaza Highway  
Farmington, New Mexico 87401

Attachment to Notice of

Re: *Plug Back*

Well: *223 Huerfano Unit*

CONDITIONS OF APPROVAL

. Mike Flaniken with the Farmington Office is to be notified at least 24 hours before the *plug Back* operations commence (505) 599-8907.

. The following modifications to your *plug back* program are to be made (when applicable):

Office Hours: 7:45 a.m. to 4:30 p.m.