submitted in lieu of Form 3160-5

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

1. **Type of Well**
GAS

5. **Lease Number**
SF-078508

6. **If Indian, All. or Tribe Name**

7. **Unit Agreement Name**

2. **Name of Operator**
MERIDIAN OIL

8. **Well Name & Number**
Nordhaus #2A

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

9. **API Well No.**
30-045-23586

4. **Location of Well, Footage, Sec., T, R, M**
910'FNL, 1625'FWL Sec.11, T-31-N, R-9-W, NMPM

10. **Field and Pool**
Blanco MV/Basin Dk

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		
_x_ Notice of Intent	___ Abandonment	___ Change of Plans	
	___ Recompletion	___ New Construction	
___ Subsequent Report	___ Plugging Back	___ Non-Routine Fracturing	
	___ Casing Repair	___ Water Shut off	
___ Final Abandonment	___ Altering Casing	___ Conversion to Injectio	
	_x_ Other - pay add		

13. **Describe Proposed or Completed Operations**

It is intended to perforate and test the Burro Canyon, and perforate and teest additional bypassed sands within the lower Dakota per the attached procedure and wellbore diagram.

RECEIVED
APR 18 1994
OIL CON. DIV.
DIST. 3

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

Signed [signature] (JK) Title Regulatory Affairs Date 4/6/94

(This space for Federal or State Office use)
APPROVED BY _____ Title _____ Date _____
CONDITION OF APPROVAL, if any:

APPROVED
APR 18 1994
DISTRICT MANAGER

NMOCD

Pertinent Data Sheet - Nordhaus #2A

Location: 910' FNL, 1625' FEL, Section 11, T31N, R09W, San Juan County, New Mexico

Field: Blanco Mesaverde
Basin Dakota

Elevation: 6553' RKB
6542' Csg Hd

TD: 8160'
COTD: 8120'

Spud: 05-11-80

Lease #: SF-078508

DP #: 32279B

Casing/Liner Record:

Hole Size	Csg Size	Wt. & Grade	Depth Set	Cement	Top/Cement
13 3/4"	10 3/4"	32.75# K-55	282'	180 sx	Circ/Surface
9 7/8"	7 5/8"	26.40# K-55	3655'	350 sx	TOC @ 1900' TS
6 3/4"	5 1/2" Liner	15.50# K-55	3583' - 8160'	500 sx	TOC @ 5220' CBL

Top of Liner sqz'd w/200 sx cmt. Pressure test to 3500#.
Float Collar @ 8145' RKB
Baker Model "D" Retrievable Production Packer @ 7840'.

Tubing Record:

	Csg Size	Wt. & Grade	Depth Set
MV	2 1/16"	3.25# J-55 10R IJ	5784'
DK	2 1/16"	3.25# J-55 10R IJ	7825'
	Sliding Sleeve		
	G-22 Seal Assembly		

Formation Tops:

Ojo Alamo:	2780'	Pt. Lookout:	5680'
Fruitland:	3025'	Gallup:	6355'
Pictured Cliffs:	3404'	Dakota:	7893'
Cliffhouse:	5348'		

Logging Record: Temp. Survey, CBL, CDL, Ind. Electric.

Stimulation:

MV: Perf'd: 5351', 5355', 5358', 5361', 5365', 5375', 5378', 5381', 5424', 5469', 5474', 5481', 5486', 5509', 5574', 5577', 5580', 5586', 5608', 5617', 5622', 5643', 5684', 5688', 5692', 5696', 5700', 5704', 5710', 5717', 5720', 5723', 5731', 5735', 5739', 5743', 5747', 5766', 5770', 5774', 5778', 5790', 5793', 5799' w/1 SPH. Total of 44 holes.

Frac'd: w/1500 gal 15% HCL, 130,000# 20/40 sand & 115,000 gal 1% KCL water.

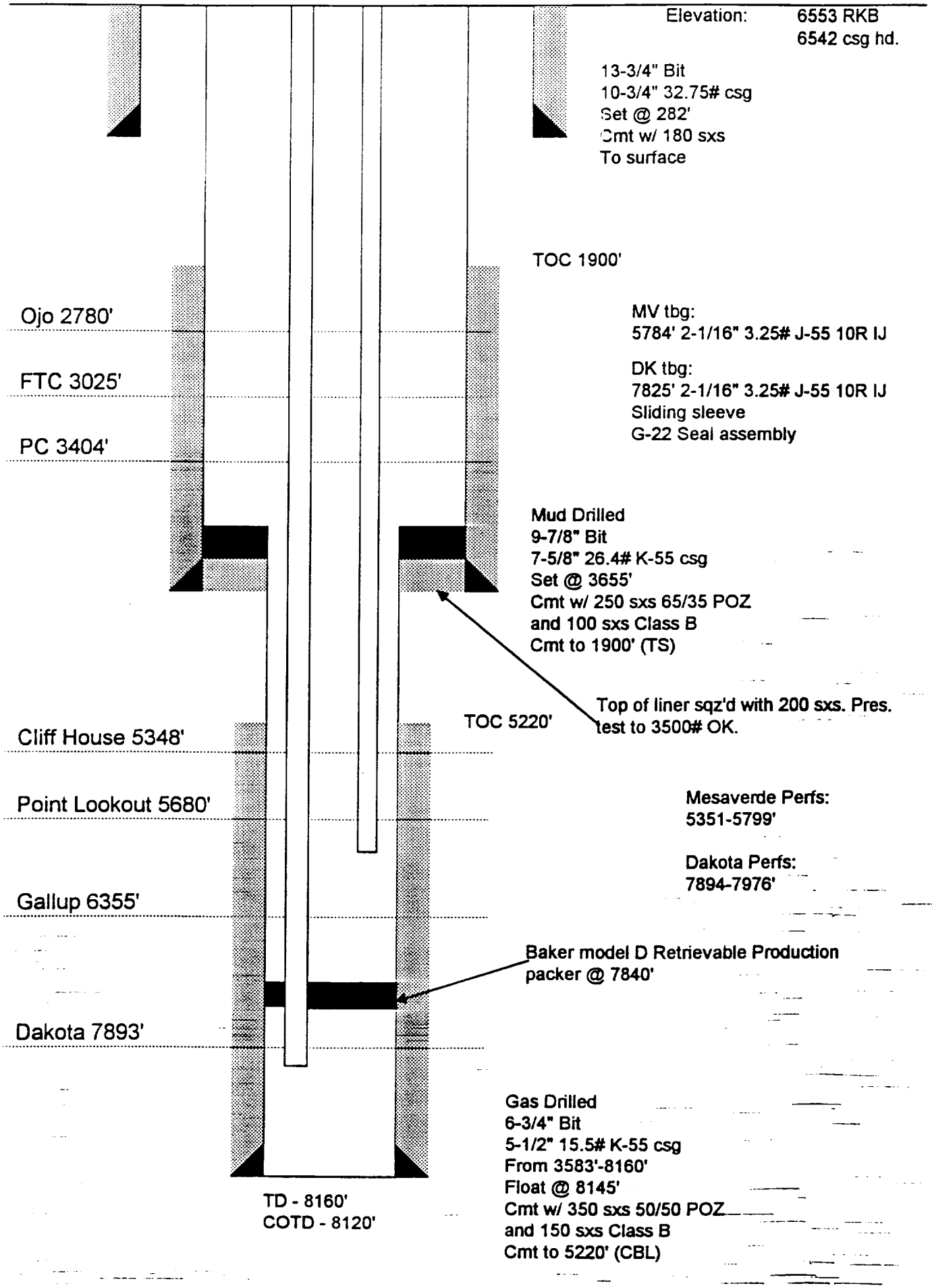
DK: Perf'd: 7894', 7895', 7896', 7897', 7898', 7900', 7902', 7904', 7906', 7907', 7908', 7909', 7910', 7951', 7952', 7953', 7954', 7955', 7956', 7970', 7971', 7972', 7973', 7974', 7975', 7976' w/1 SPH. Total of 26 holes.

Frac'd: w/2000 gal 15% HCL, 29,000# 20/40 sand & 170,00 gal 2% KCL water.

Workover History: N/A

tdg/02-24-94

Nordhaus #2A Wellbore Diagram
NW/4 Section 11, T31N-R9W



Preliminary Procedure

Final procedure to come under separate cover JBIC

Nordhaus #2A - Mesaverde/Dakota Dual
Burro Canyon and Lower Dakota Pay Add
NW/4 Section 11, T31N-R9W

1. Hold sfety meeting. MIRU. Install safety equipment and fire extinguishers in strategic locations.

2. ND WH, NU BOP. TOOH with 2-1/16" 3.25# J-55 10R IJ Mesaverde tubing string (total footage 5784'). TOOH with 2-1/16" 3.25# J-55 10R IJ Dakota tubing string and seal assembly (total footage 7825'). Replace bad tubing as needed.

3. PU 2-7/8" workstring. TIH with 2-7/8" workstring (here foreward referred to as workstring). Release Baker 5-1/2" Retrieva "D" retrievable production packer set @ 7840'.

4. PU 7-5/8" casing scraper. Make scraper run to liner top @ 3583'. TOOH, lay down 7-5/8" casing scraper. Pick up 5-1/2" casing scraper. Make scraper run to COTD of 8120'. Circulate hole clean with air when on bottom with occasional foam sweep to aid in cleanup. TOOH. Lay down casing scraper.

Burro Canyon Completion

5. Contact engineering 2 hours before commencing with following perforating steps. RU wireline. Run GR-CCL correlation strip from COTD (8120') to 7900' for perforating accuracy. Perforate the following intervals at 2 SPF with 0.38" diameter holes and 90 degree phasing: (8 holes total)

   8108'
   8093'
   8086'
   8078'

   Inspect guns on surface to ensure all charges fired properly. RD wireline.

6. PU straddle packer assembly with 4' spacing on workstring and TIH. RU BJ and perform injection test on each perforation set with 2% KCl filtered (25 micron) water conaining 2 gpt InFlo-50 surfactant, 2 gpt Clatrol-6 stabilizer, and 10 pgt Ferrotrol-900L chelating agent as follows:

   a. Pump 1 bbl fluid at lowest steady rate possible. Shut down, obtain ISIP, and monitor decline for closure.

   b. Repeat injection test at same rate with 2 bbls fluid.

   c. Repeat injection test with 5 bbls fluid at 2 bpm, steady rate.

7. RU wireline. Perforate the following intervals underbalanced at 4 SPF with 0.5" diameter holes and 90 degree phasing: (48 holes total)

   8092-8104'

   Record fluid level when going in hole with perforating guns and contact engineering if fluid level is below 6000'.

   Inspect guns on surface to ensure all charges fired properly. RD wireline.

8. TIH with packer and workstring. Set packer at 8090'. Flow test well if possible. Report to engineering before proceeding.

9. RU BJ. Open packer bypass and spot 3% Ammonium Chloride water across packer followed by 1000 gallons of 10% HCl and 1500 gallons 7.5:1.5% HCl:HF acid. Close bypass. Inject 1000 gallons of 10% HCl and 1500 gallons 7.5:1.5% HCl:HF acid, flush and overflush (250 gallons) with 3% Ammonium Chloride water. Do not exceed BHTP values derived from injection tests at 8101' and 8093'.

10. Flow well back to tank. If well logs off, swab until well kicks off. When fluid returns have diminished, flow test well for 3 hours. Record rate every 15 minutes, report results to engineering every hour. SI well.

11. RU slick line. RIH with bottom hole pressure gauge to top of packer. SI well for 12 hours once pressure bomb is on bottom. Monitor surface pressure, recording pressures every 15 minutes. Report pressures to engineering every four hours. TOOH. Have pressure data downloaded from pressure bomb immediatley and sent to engineering.

12. At this point a decision will be made whether or not to fracture stimulate the Burro Canyon. If the decicision is made **not** to stimulate, skip to the Lower Dakota completion procedure, otherwise, TIH with 2-7/8" tubing and packer (include 2 Baker bottom-hole pressure gauges good to 10,000 psi BHTP mounted on an exterior assembly below bottom packer monitoring BHP at 1 minute sample rates). Set packer at 8050'.

13. RU BJ with surface equipment and tubulars rated to at least 6000 psi working pressure. Pressure test all surface lines to 6000 psi. **Maximum allowable treating pressure is 5000 psi.** Fracture stimulate Burro Canyon as described below:

    a. Pump 2000 gallons 30# gelled water at 5 bpm (steady rate) then shut-in to obtain closure.

    b. Pump 2500 gallons 30# gelled water (enough volume to obtain steady BHTP) at 10 bpm (steady rate). Shut-in and obtain closure.

    c. Fracture stimulate with 20,000 gallons Spectra Frac G-300 and 50,000 lbs 20/40 EconoProp at 10 bpm, 3340 psi estimated surface treating pressure (pad stage).

    d. Shut-in for 24 hours following the treatment to obtain bottom-hole pressure information. Continue to monitor BHTP on surface until fracture closure occurs.

    Note: Trace pad fluids with Antimony and trace all sands with Iridium.

14. Flow-back well naturally as long as possible. When either flow has ceased or returns have reached a level allowing release of the packer, release the packer and TOOH. Send pressure bombs to Baker office for immediate download of information.

15. TIH with tubing and clean out to PBTD with air.

16. When returns have diminished (both sand and water), TOOH. PU packer and TIH. Set packer @ 8050'. Flow test well for 6 hours. Record rate every 15 minutes and report to engineering every two hours.

Lower Dakota Completion Procedure:

17. Release packer and TOOH. RU wireline . Wireline set a RBP at 8070'. If possible, run GR tool in tandem with RBP and make GR run from 8070' to 7950' after setting RBP. Inspect GR for fracture height growth before proceeding with perforating.

18. Contact engineering 2 hours before commencing with following perforating steps. Perforate the following intervals at 2 SPF with 0.38" diameter holes and 90 degree phasing: (18 holes total)

8060'
8052'
8042'
8035'
8028'
8020'
8008'
7999'
7990'

Inspect guns on surface to ensure all charges fired properly. RD wireline.

19. PU straddle packer with 4' spacing. TIH to RBP. Pressure test RBP.

20. RU BJ. Perform injection test on each perforation set with 2% KCl water containing 2 gpt InFlo-50 surfactant, 2 gpt Clatrol-6 clay stabilizer, and 10 gpt Ferrotrol-900L chelating agent as follows:

a. Pump 1 bbl fluid at lowest steady rate possible. Shut-down, obtain ISIP, and monitor decline for closure.

b. Repeat injection test at same rate with 2 bbls fluid.

c. Repeat injection test with 5 bbls fluid at 2 bpm, steady rate.

21. TOOH, laydown straddle packer. RU Wireline. Perforate the following intervals underbalanced at 4 SPF with 0.5" diameter holes and 90 degree phasing: (32 holes)

7991-7992'
8002-8006'
8010-8012'
8032-8038'
8046-8050'
8061-8062'

Record fluid level when going in hole with perforating guns and contact engineering if fluid level is below 6000'.

Inspect guns on surface to ensure all charges fired properly. RD wireline.

22. TIH with 2-7/8" tubing and straddle packer assembly with a minimum 100' spacing (include 2 Baker bottom-hole pressure gauges good to 10,000 psi BHTP mounted on an exterior assembly below bottom packer monitoring BHP at 1 minute sample rates). With bottom packer @ 7985', circulate 10 bbls 30# x-link gel down the tubing and up the back side (displace enough to ensure x-link fluid is spotted accross straddle packer assembly). Set bottom packer at 7985'; top packer should be set above top Dakota perforation at 7894'.

23. RU BJ and acidize Lower Dakota intervals with 2500 gallons 15% HCl containing 100 Select-O-Balls (1.1 s.g., 7/8" dia.) Flush and overflush (500 gallons) with 2% KCl water. PUH and reset packers at depths described above.

24. RU BJ with surface equipment and tubulars rated to at least 6000 psi working pressure. Pressure test all surface lines to 6000 psi. **Maximum allowable treating pressure is 5000 psi.** Fracture stimulate Lower Dakota as described below:

    a. Pump 2000 gallons 35# gelled water at 5 bpm (steady rate) then shut-in to obtain closure.

    b. Pump 4000 gallons 35# gelled water (enough volume to obtain steady BHTP) at 20 bpm (steady rate). Shut-in and obtain closure.

    c. Fracture stimulate with 37,000 gallons Sepctra Frac G-3500 and 100,000 lbs 20/40 EconoProp at 20 bpm, 4755 psi estimated surface treating pressure (pad stage).

    d. Shut-in for 24 hours following the treatment to obtain bottom-hole pressure information. Continue to monitor BHTP on surface until fracture closure occurs.

    Note: Trace pad fluids with Scandium and trace all sands with Iridium.

25. Flow-back well naturally as long as possible. When either flow has ceased or returns have reached a level allowing release of the straddle packer assembly, release the packers and TOOH. Send pressure bombs to Baker office for immediate download of information.

26. TIH with tubing and clean out to PBTD with air.

27. When returns have diminished (both sand and water), TOOH. PU RBP retrieving head, packer and TIH with workstring. Set packer @ 7985'. Flow test well for 6 hours. Record rate every 15 minutes and report to engineering every two hours. Release packer and TIH. Release RBP and TOOH. Laydown packer and RBP. TIH with tubing and clean out to COTD. Blow well until sand production has ceased and water production has diminished. TOOH.

28 RU wireline. Run multi-isotope after-frac GR from COTD to 7900'. RD Wireline.

29. PU Baker Model "D" permanent packer and TIH with workstring to TD. Pull up hole (laying down workstring) to 6000'. Set Model "D" permanent packer @ 6000'. TOOH with remaining workstring, laying down workstring. PU Dakota tubing string and TIH with 1900' of 2-1/16" 3.25# 10rd IJ tubing (addtional tubing will be needed over what was retrieved from the well). PU packer seal assembly, no-go locator, and TIH with 6000' of 2-1/16" 3.25# 10rd IJ tubing. Land Dakota tubing string. PU Mesaverde 2-1/16" 3.25# 10rd IJ tubing string and TIH. Land Mesaverde tubing at 5784' (+-30').

29. ND BOP's, NU WH. RDMO. Return well to production.

Approval: _____
J. A. Howieson

see 1st page for procedure

Vendors:
Stimulation - BJ Services (325-6961)
Perforating - Basin Perforators (327-5244)
Multi-Isotope After Frac Gamma Ray - Halliburton Wireline (325-3544)
Radioactive Tagging - Pro_technics (326-7133)