submitted in lieu of Form 3160-5

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
BLM
96 JUL 15 PM 3:48
070 FARMINGTON, NM

Sundry Notices and Reports on Wells

1. **Type of Well**
GAS

5. **Lease Number**
SF-079265

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

7. **Unit Agreement Name**

2. **Name of Operator**
MERIDIAN OIL

8. **Well Name & Number**
Klein #27E

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

9. **API Well No.**
30-039-23772

4. **Location of Well, Footage, Sec., T, R, M**
1190'FSL, 1455'FEL, Sec.35, T-26-N, R-6-W, NMPM
O

10. **Field and Pool**
Blanco MV/Basin DK/
Ensenada Gallup

11. **County and State**
Rio Arriba 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
	_X_ Recompletion	___ New Construction
___ Subsequent Report	___ Plugging Back	___ Non-Routine Fracturing
	___ Casing Repair	___ Water Shut off
___ Final Abandonment	___ Altering Casing	___ Conversion to Injection
	_X_ Other - Commingle	

13. **Describe Proposed or Completed Operations**

It is intended to add the Gallup and Mesaverde formations to the subject well and commingle with the Dakota. Casing failures that are found will be repaired, and the well returned to production. Down hole commingle order R-10239 has been obtained from the New Mexico Oil Conservation Division.

SEE ATTACHED FOR CONDITIONS OF APPROVAL

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JUL 24 1996
OIL CON. DIV.
DIST. 3

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

Signed [signature] (JME3) Title Regulatory Administrator Date 7/15/96

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

APPROVED
JUL 19 1996
DISTRICT MANAGER

NMOCD

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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-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	³ Pool Name
30-039-23772	72319/96321/71599	Blanco MV/Ensenada Gal/Basin DK

⁴ Property Code	⁵ Property Name	⁶ Well Number
7228	Klein	27E

⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
14538	MERIDIAN OIL INC.	6335'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	35	26 N	6 W		1190	South	1455	East	R.A.

¹¹ Bottom Hole Location If Different From Surface

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

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
S/320 160-S/320			

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

¹⁶ Not resurveyed, prepared from a plat dated 6-21-85 by Fred B. Kerr, Jr.

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OIL CON. DIV.
DIST. 3

35

1455'
1120'

¹⁷ 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 Administrator
Title
7-15-96
Date

¹⁸ 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 belief.

7-11-96
Date of Survey

Signature and Seal of Professional Surveyor:
FRED B. KERR JR.
NEW MEXICO
6857
REGISTERED LAND SURVEYOR

Certificate Number 6857

Klein #27E
Blanco Mesaverde/Undesignated Gallup/Basin Dakota Workover
UnitK-Sec35-T26N-R06W
Lat: 36° 26' 20"
Long: 107° 25' 56"

- Comply with all BLM, NMOCD, & MOI rules & regulations.
- **Always Hold Safety Meetings.** Place fire and safety equipment in strategic locations.
- **Lower Dakota stimulation will entail high surface pressures = 8500 psi.**
- 2-3/8" 5.95# P-110 tubing needed for overbalanced perforating (7100' +/- required).
- 2-7/8" N-80 Buttress Frac String (6500' +/- required).
- Fifty (50) joints 2-3/8" 4.7# EUE J-55 tubing and six (6) 3-1/8" drill collars on location
- **8** frac tanks required for fracture stimulations. Use 2% KCl water.
- **Acetic acid** will be used for Gallup stimulation.
- **Immediate flowback will be implemented on the fracs.**
- Use drill gas or Nitrogen **ONLY** for all operations - **NO AIR.**
- Ensure CIBPs used are T-Lok for easier drilling of stacked plugs.

This well is part of the 1996 Klein/Vaughn Mesaverde/Gallup/Dakota commingle program. The well is currently completed in the Dakota with a production rate of 115 MCFD/ 1 BOPD. Cumulative Dakota production is 605 MMCF/ 4.3 MBO.

Lower Dakota pay will be reperforated and restimulated. The Dakota will then be temporarily abandoned so that the Gallup (Niobrara) and Mesaverde (Point Lookout) intervals can be added. All three zones will be commingled immediately after completion of the workover.

NOTE: All plunger lift equipment, if any, should have been removed from the tubing by the lease operator.

1. MIRU. Record and report SI pressures on tubing, casing, & bradenhead. Lay blowdown line. Blow down casing & tubing. Kill well w/ 2% KCl down tubing. ND WH, NU BOP.

2. TOOH, rabbit, & strap 2-3/8" tubing (from 7102', SN @ 7069'). Visually inspect tubing, note any scale in tubing. Replace any damaged joints. Utilize tubing for 2-3/8" workstring.

3. PU 3-7/8" bit, float, six (6) 3-1/8" drill collars on 2-3/8" tbg. Clean out w/ gas to PBTD @ **7136'**. Note drilling mud in returns if any. TOOH with bit & collars.

4. PU 4-1/2" RBP & 4-1/2" packer combination on 2-3/8". TIH & set RBP @ **6700'**. Load hole from bottom w/ 2% KCl water.

5. Pressure test entire casing string to 1000 psi for 10 minutes. **NOTE: Squeeze work done during intitial completion, see pertinent data sheet and wellbore diagram.** If PT does not hold, pull above DV tools @ 5369' and 2704' & test below each to 1000 psi. Locate hole(s). TOOH. Engineering will provide a squeeze procedure if required.

6. RU wireline. Run GR-CCL-CBL from 6700' to surface under 1000 psi w/ no gaps. Note and report all cement tops and quality of bond over both Gallup & Mesaverde intervals. If cement is not covering the Gallup interval, a block squeeze may be performed across the Gallup. Engineering will provide a sqeeze procedure if required.

7. Complete all squeeze cementing operations which will be determined based upon pressure test information and bond quality. WOC recommended time. Drill out cement. Pressure test to 1000 psi. If

casing integrity is not sound, identify leaks, & engineering will recommend squeeze procedure & modify stimulation work.

8. If no squeeze work is necessary and the casing held a solid test @ 1000 psi (no bleedoff), isolate wellhead with 2 joints 2-7/8" tbg and PKR. Test casing string to 3800 psi. If the test holds, make necessary adjustments to frac down casing. If test does not hold, bleed off and retest to 1000 psi to make sure no new leaks developed.

9. PU retrieving head on tubing, TIH to RBP @ 6700'. Latch onto RBP, TOOH and lay down, standing 2-3/8" back.

Lower Dakota Completion:

10. PU 2-3/8" P-110 tubing with 4-1/2" FB PKR and 3-1/2" Schlumberger TCP guns set up for the following perforations (w/ production valve to enable pressuring up on tubing before firing). TIH to 7050' +/- to get on depth - SETTING DEPTH WILL BE DETERMINED ON LOCATION ACCORDING TO GUN CONFIGURATION. Run GR-CCL through tubing to get on depth. Set PKR. Load backside. Hold 500 psi on annulus during stimulation.

11. Pressure test surface lines and flowback equipment to 9500 psi. **Maximum surface pressure = 8500 psi.** Pressure up tubing f/ surface with nitrogen to 5000 psi.

12. Pump 2% KCl down tubing until surface pressure reaches **8500 psi** (about 12.6 bbls). At 8500 psi surface pressure, the BHP at the production valve is 10,500 psi.

13. Perforate the following intervals w/ TCP guns, DP 34B Hyperjet II 34g charges (0.44" hole, 18" penetration), 4 SPF @ 60° phasing.

7032' - 7036'

7044' - 7048'

7052' - 7068'

7078' - 7086'

7094' - 7096'

7104' - 7116'

(46', 4 SPF, 184 holes)

14. Open tubing up to pit on 1/4" positive choke for flowback.

15. Swab test to determine if zone is wet. Consult engineering for this decision. Release PKR, TOOH laying down P-110 tubing. Change rams to 2-7/8".

16. PU CIBP, TIH. If zone is wet, set CIBP @ 7015'. Set CIBP @ 6450' to T&A entire Dakota zone.

Niobrara Completion:

17. Spot 350 gallons **10% acetic acid** (w/ 2 gal/1000 corrosion inhibitor) across Gallup @ 6386'.

18. RU wireline under packoff. Perforate Gallup top-down in acid @ the following depths with 3-1/8" HSC gun w/ Owen 306 12 g charges (0.31" hole, 11" penetration), 1 SPF @ 180 degree phasing. Engineering may modifiy perforations based upon bond character.

5930'	**5942'**	**5954'**	**5972'**	**5985'**	**6015'**
6020'	**6057'**	**6070'**	**6084'**	**6094'**	**6104'**
6114'	**6124'**	**6134'**	**6152'**	**6166'**	**6197'**
6204'	**6380'**	**6386'**			

(21 total holes, 456' of interval)

19. PU 4-1/2" FB PKR, 1.81" profile nipple, 4 joints 2-3/8" 4.7# N-80 tubing, 2-3/8" x 2-7/8" buttress changeover, 2.25" profile nipple, and 2-7/8" 8.7# N-80 Buttress frac string. TIH above CIBP and below bottom perforation. Test CIBP to 3800 psi. Release PKR, pull uphole & set PKR 100' above top Gallup perforation. Hold 500 psi on annulus during acid job.

20. RU stimulation company. Pressure test surface lines to 7500 psi. **Max pressure = 6500 psi.** Prepare to break down Niobrara w/ 250 gallons **10% acetic acid** (w/ 2 gal/1000 corrosion inhibitor) and 42 7/8" 1.3 s.g ball sealers. Attempt to achieve 20 BPM on breakdown, go higher if possible. Release pressure, RD stimulation company. Release PKR & TIH knocking balls below bottom perforation. Pull up and reset PKR.

21. RU immediate flowback equipment (frac nipple, valve, tee, etc.). See attached diagram.

22. RU stimulation company. Pressure test surface lines to 7500 psi. **Maximum STP = 6500 psi.** Hold 500 psi on annulus. Fracture stimulate the Niobrara w/ 20# linear gel w/ 70Q N2 foam and 50,000# Tempered DC sand. See attached frac schedule for details. *(1 frac tanks needed)*

23. Flow back well immediately after shutdown -- **NOTE: Time from frac shut-down until flow tee is opened for flow back should be around 30 seconds. Time is critical to achieve reverse gravel packing. Flowback rate not to exceed 4 BPM - choke flowback line as necessary.** Frac company is to monitor flowback pressures for 30 minutes after shutdown. Flowback should continue for as long as possible while still allowing for completion of both stages within 24 hours. Blow down to release pressure when necessary.

24. Release PKR, TOOH w/ 2-7/8" tubing and PKR. RU wireline under packoff. Make 4-1/2" gauge ring run to 5200'. Set 4-1/2" CIBP @ 5175'.

Point Lookout Completion:

25. TIH w/ PKR on 2-7/8" and test CIBP to 3800 psi. Spot 300 gallons 7.5% HCl acid (w/ 2 gal/1000 corrosion inhibitor) at 5123' across Mesaverde. TOOH.

26. Perforate Mesaverde top-down in acid @ the following depths 3-1/8" HSC gun w/ Owen 306 12 g charges (0.31" hole, 11" penetration), 1 SPF @ 180 degree phasing. Engineering may modifiy perforations based upon bond character.

4812'	**4816'**	**4821'**	**4824'**	**4842'**	**4853'**
4868'	**4871'**	**4874'**	**4877'**	**4899'**	**4910'**
4915'	**4920'**	**4925'**	**4929'**	**4955'**	**4981'**
4985'	**5040'**	**5043'**	**5063'**	**5066'**	**5120'**
5123'					

(25 total holes, 311' of interval)

Klein #27E
Meridian Oil Inc.
7/17/96

27. PU 4-1/2" FB PKR, 1.81" profile nipple, 4 joints 2-3/8" 4.7# N-80 tubing, 2-3/8" x 2-7/8" buttress changeover, 2.25" profile nipple, and 2-7/8" 8.7# N-80 Buttress frac string. Set PKR 100' above top Mesaverde perforation. Hold 500 psi on annulus during acid job.

28. RU stimulation company. Pressure test surface lines to 7500 psi. **Max pressure = 6500 psi.** Prepare to break down Mesaverde w/ 300 gallons **7.5% HCl acid** (w/ 2 gal/1000 corrosion inhibitor) and 50 7/8" 1.3 s.g ball sealers. Attempt to achieve 20 BPM on breakdown, go higher if possible. Release pressure, RD stimulation company. Release PKR & TIH knocking balls below bottom perforation. Pull up and reset PKR.

29. RU immediate flowback equipment (frac nipple, valve, tee, etc.). See attached diagram

30. RU stimulation company. Pressure test surface lines to 7500 psi. **Maximum STP = 6500 psi.** Hold 500 psi on annulus. Fracture stimulate the Mesaverde w/ 100,000# 20/40 sand in slickwater + 30% N2 foam. See attached frac schedule for details. *(7 frac tanks needed)*

31. Flow back well immediately after shutdown -- **NOTE: Time from frac shut-down until flow tee is opened for flow back should be around 30 seconds. Time is critical to achieve reverse gravel packing. Flowback rate not to exceed 4 BPM - choke flowback line as necessary.** Frac company is to monitor flowback pressures for 30 minutes after shutdown. Flowback should continue for as long as necessary to release PKR.

32. Release PKR & TOOH laying down 2-7/8" N-80 tubing. Change out rams to 2-3/8".

33. TIH w/ 3-7/8" bit and drill collars on 2-3/8" tubing and clean out to CIBP @ 5175'. Drill CIBP, clean out to CIBP @ 6450'. Drill CIBP, clean out to PBTD @ 7136'. Clean up to +/- 5 BPH and trace to no sand. Obtain final pitot gauge. TOOH.

34. Prepare to run production tubing string as follows: expendable check, one joint 2-3/8" tubing, 1.78" seating nipple, and remaining tubing. Rabbit tubing in hole, land @ bottom DK perf.

35. ND BOP, NU WH. Pump off expendable check and flow well up tubing. RD & release rig to next location.

36. Notify Marketing & government agencies that commingled production from all horizons MV, GP, & DK will occur in order to finalize allocation formula. At end of 90 days, the allocation formula will be submitted to NMOCD for approval, **production will commence prior to actual allocation approval.**

Concur: JDS 7/17/96
Northeast Basin Team Leader

Approved: W.S. 7/17/96
Drilling Superintendent

JME JME

Recommended Vendors:

Overbalanced Perforating ONLY	Schlumberger	325-5006
Stimulation, N2 for OB perf'ing	Rig Dependent	
Cased Hole Services	Rig Dependent	
Engineering	Joan Easley	599-4026-work 324-2717-pager 327-6843-home

PERTINENT DATA SHEET

KLEIN #27E

Location: 1190' FSL, 1445' FWL
Unit O, Section 35, T26N, R6W
Rio Arriba County, NM

Field: Basin Dakota

Spud Date: 09-22-85

Completion Date: 10-22-85 **Cathodic Protection:** 1993

Elevation: 6335'
LAT: 36° 26' 20"
LONG: 107° 25' 56"
DP#: 43963A
GWI: 100%
NRI: 68.25%
TD: 7149'
PBTD: 7136' (FC)

Casing Record:

Hole Size	Casing Size	Weight & Grade	Depth Set	Sxs Cement	Cement Type
12-1/4"	9-5/8"	32.2#,H-40	226'	150 (177 ft3)	B w/3% CaCl, 1/4#/sk gel-flake
7-7/8"	4-1/2"	11.6# KE	7149'	390 (594 ft3)	290sx B 65/35 w/6% gel, 2% CaCl
		10.5# KE	6461'		100sx B 65/35 w/2% gel, 2% CaCl
Marker jt. @ 6751'		Stage Tool	5369'	414 (670 ft3)	B 65/35 w/6% gel, 2% CaCl
		Stage Tool	2704'	330 (535 ft3)	B 65/35 w/6% gel, 2% CaCl

good circulation all stages

Tubing Record:

Tubing Size	Weight & Grade	Depth Set	BHA
2-3/8"	4.7#, J-55	7102'	SN set @ 7069'

Formation Tops:

Ojo Alamo	1807'	Chacra	3420'	Gallup	5817'
Kirtland	2110'	Mesaverde	4206'	Greenhorn	6696'
Fruitland	2393'	Menefee	4233'	Graneros	6750'
Pictured Cliffs	2542'	Pt. Lookout	4766'	Dakota	6904'

Logging Record:

IND-ES,GR-Density/Neutron; Temp Survey

Stimulation:

Perf'd @ 6811' 6817' 6823' 6829' 6835' 6906' 6910' 6914' 6918' 6922' 6926' 6955' 6968' 6990' 6995' 7000' 7064' 7068' 7080' 7084' 7058' 7098' 7108' 7116' 7122' (25 holes)
Frac'd w/111,660# 40/60 sand 138,370 gal slickwater, 33 BPM @ 3500 psi.

Workover History:

NONE

Production History: Current Production: 115 MCFD 1 BOPD
Initial Deliverability No Info Latest Deliverability: 290 MCFD
Cum Gas: 605 MMCF Cum Oil: 4282 BOP ISITP: 2197 ISICP: 2311

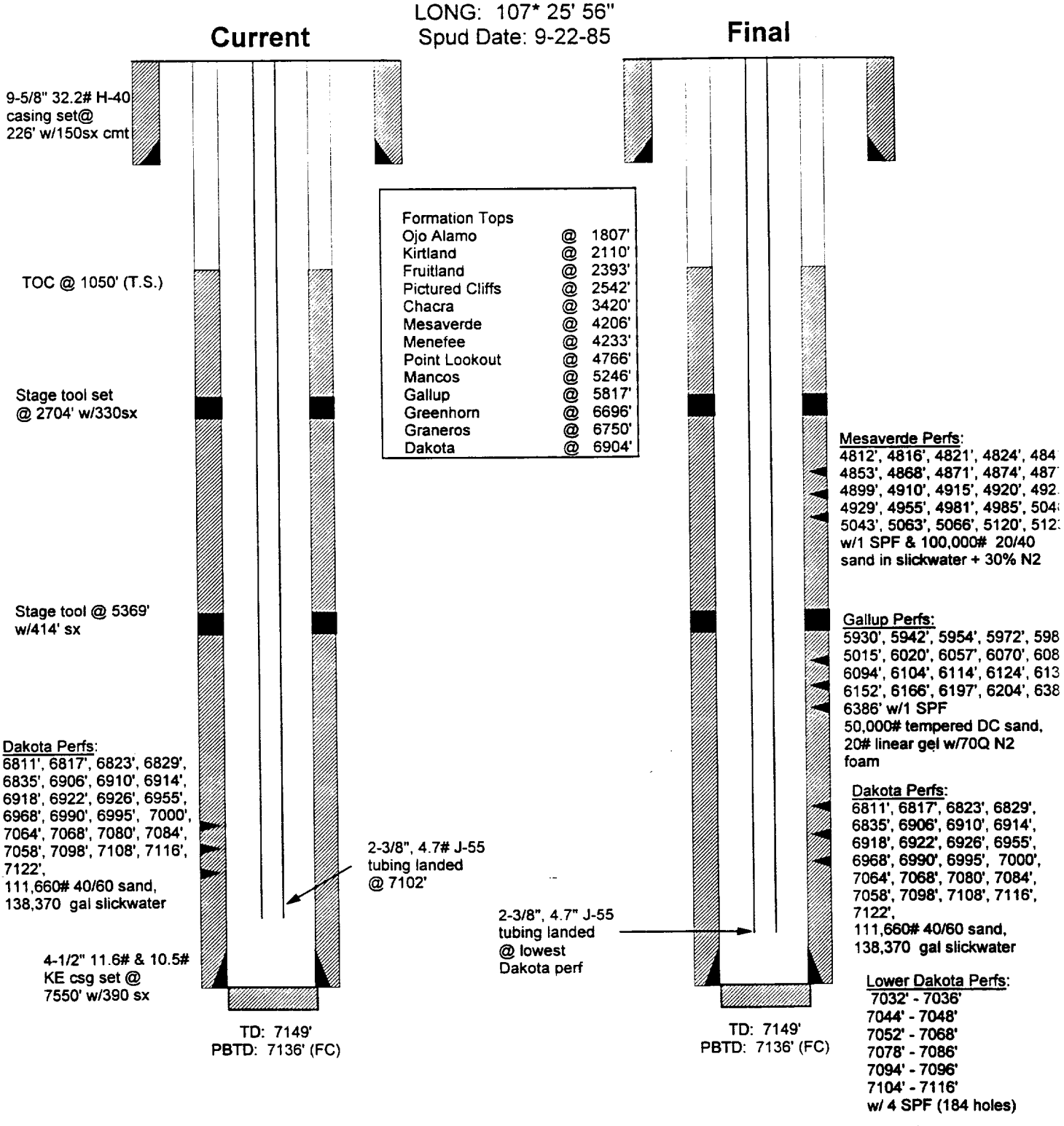
Transporter: Oil/Condensate: Giant Transporation Gas: El Paso Natural Gas

JMC

KLEIN #27E

Basin Dakota
Mesaverde/Gallup Pay Add

1190' S, 1455' W
Unit O, Section 35, T26N, R6W
Rio Arriba County, NM
Elevation: 6335'
LAT: 36* 26' 20"
LONG: 107* 25' 56"
Spud Date: 9-22-85



Meridian Oil Inc.
03/14/96: dla

Klein #27E
Alternate Procedure Items for Fracing Down Casing

The workover procedure for this well has been written assuming that it will be necessary to frac down tubing (worst case scenario).

If no squeeze operations are necessary and the subsequent pressure test to 3800 psi (Step #8) is okay, we will frac down casing. Alternate frac designs for this possibility are attached.

If we can frac down casing, we will still spot acid and pressure test bridge plugs as before. We will do the acid breakdown down casing and retrieve balls with a junk basket. The frac will still be flowed back immediately.

Concur: _____ 7/17/96
Northeast Basin Team Leader

Approved: _____ 7/18/96
Drilling Superintendent

JME
599-4026-work
324-2717-pager
327-6843-home