submitted in lieu of Form 3160-5

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

RECEIVED
JUL 25 1996
OIL CON. DIV.
DIST. 3

1. **Type of Well**
GAS

2. **Name of Operator**
MERIDIAN OIL

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

4. **Location of Well, Footage, Sec., T, R, M**
1590'FSL, 2040'FWL, Sec.35, T-26-N, R-6-W, NMPM
K

5. **Lease Number**
SF-079265

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

7. **Unit Agreement Name**

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

9. **API Well No.**
30-039-21603

10. **Field and Pool**
Blanco MV/Basin DK/
Ensenada Mesa 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, temporarily abandon Dakota	

13. Describe Proposed or Completed Operations

It is intended to add the Gallup and Mesaverde formations to the subject well and the Dakota will be temporarily abandoned according to the attached procedure and wellbore diagram. 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.

070 FARMINGTON, NM
JUL 19 PM 1:25
RECEIVED
BLM

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

Signed Jeffrey Blackwood (JME3) Title Regulatory Administrator Date 7/19/96

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

JUL 22 1996
DISTRICT MANAGER

NMOCD

Mold C-104 for NSL @

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
30-039-21603	72319 96321/71599	Blanco MV/Ensenada Gal/Basin Dakota

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

⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
14538	MERIDIAN OIL INC.	6331'

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
K	35	26 N	6 W		1590	South	2040	West	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 1-16-75 by David O. Vilven.

RECEIVED
JUL 25 1996
OIL CON. DIV.
DIST. 3

35

2040'

1590'

070 FARMINGTON, NM
96 JUL 19 PM 1:25
RECEIVED
BLM

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:

NEALE C. EDWARDS
NEW MEXICO
6857
REGISTERED LAND SURVEYOR

6857
Certificate Number

Klein #27
Blanco Mesaverde/Undesignated Gallup/Basin Dakota Workover
UnitK-Sec35-T26N-R06W
Lat: 36° 26' 24"
Long: 107° 26' 18"

- 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 required for overbalanced surge (7150' +/- required).
- 2-7/8" N-80 Buttress Frac String (7050' +/- 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 the 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 94 MCFD/ 3 BOPD. Cumulative Dakota production is 956 MMCF/ 14.6 MBO.

Lower Dakota pay will be added. The Dakota will then be temporarily abandoned so that the Gallup (Niobrara) and Mesaverde (Point Lookout) intervals can be added. The Mesaverde only will be produced for approximately 180 days, at which time all three zones will be commingled.

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 6987', SN @ 6955'). 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 @ **7118'**. 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. If PT does not hold, pull above DV tools @ 5352' and 2707' & 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 squeeze 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.

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 tbg, TIH to RBP @ 6700'. Latch onto RBP, TOOH, standing 2-3/8" back.

Lower Dakota Completion:

10. Prepare to perforate Lower Dakota underbalanced. Kill well if necessary - use as little fluid as possible, while bringing fluid level to @ least 5900'.

11. RU wireline under lubricator, test to 1000 psi. Perforate the following zone with a 3-3/8" TAG gun w/ 32g Owen 306 charges, 4 SPF @ 60° phasing (0.53" diameter, 15" formation penetration). Add as much extra length as possible to the gun to minimize gun movement while perforating. (More than one gun run may be necessary.)

7034' - 7038'

7052' - 7106'

(58' @ 4 SPF = 232 holes)

12. Pull gun out of hole. RD wireline. Note any casing pressure.

13. If well shows weak response to underbalanced perforating, PU 2-3/8" Owen Overbalance Surge Valve on 2-3/8" 5.95# P-110 tubing. TIH, set PKR @ 7005'. **Surge valve should be pinned to shear at 10,000 psi absolute pressure (NOT differential).**

14. RU immediate flowback equipment. See attached diagram for suggested system.

15. 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.**

16. Pump 2% KCl down tubing until valve shears or until surface pressure reaches **8500 psi** (about 12.6 bbls). At 8500 psi surface pressure, the BHP at the surge valve is 10,500 psi. Error on surge valve is +/- 5% of shear value. 10% of 10,000 psi = 500 psi, pin should shear.

17. If pin does not shear, DO NOT exceed max surface pressure. Bleed pressure back to 7500 psi, pump 2% KCl until pressure reaches 8500 psi. Continue bleed off / repressure cycle until pin shears.

18. After overbalanced surge, open tubing up to pit on 1/4" positive choke for flow back.

19. Swab test if necessary to determine if zone is wet. Consult engineering for this decision. Release PKR, TOOH laying down 2-3/8" P-110 tubing. Change rams to 2-7/8".

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

Niobrara Completion:

21. Spot 300 gallons **10% acetic acid** (w/ 2 gal/1000 corrosion inhibitor) across Gallup @ 6384'. TOOH.

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22. 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.

5921'	**5930'**	**5949'**	**5964'**	**5970'**	**5980'**
6012'	**6017'**	**6051'**	**6078'**	**6082'**	**6092'**
6098'	**6112'**	**6116'**	**6130'**	**6146'**	**6186'**
6210'	**6378'**	**6381'**	**6384'**		

(22 total holes, 463' of interval)

23. 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.

24. 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 44 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.

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

26. 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)*

27. 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.

28. 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:

29. 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 5114' across Mesaverde. TOOH.

30. 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.

4799'	**4802'**	**4805'**	**4808'**	**4811'**	**4854'**
4857'	**4860'**	**4863'**	**4866'**	**4900'**	**4905'**

4922'	**4926'**	**4959'**	**4968'**	**4972'**	**4976'**
4982'	**5027'**	**5032'**	**5081'**	**5084'**	**5106'**
5114'					

(25 total holes, 315' of interval)

31. 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.

32. 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.

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

34. 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)*

35. 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.

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

37. 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'. **DO NOT drill CIBP**. Clean up to +/- 5 BPH and trace to no sand. Not necessaary to get pitot gauges on any zone. TOOH.

38. PU CIBP on 2-3/8" tubing, TIH. Set CIBP @ 5200'+/- to T&A Gallup zone.

39. Prepare to run production tubing string as follows for Mesaverde: expendable check, one joint 2-3/8" tubing, 1.78" seating nipple, and remaining tubing. Rabbit tubing in the hole, land @ 5114'.

40. ND BOP, NU WH. Pump off expendable check and flow well up tubing obtain Mesaverde production gauge. RD & release rig to next location.

41. Operations will remanifold wellhead, and produce well for 180 days into EPNG pipeline. Notify governmental agencies that Mesaverde ONLY production will occur until further notice, GP & DK T&A'd.

Commingle Operations (6 months after MV 1st delivery)

42. At end of 6 month production test, run pressure bomb well. Leave well SI 7 days. Pull bomb. Return Mesaverde to production until workover rig returns.

43. MIRU workover rig. Record flowing casing & tubing pressures. Blow casing and tubing down. Kill tubing with 2% KCl water. ND WH, NU BOP.

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44. TOOH with 2-3/8" tubing. PU 3-7/8" bit, 4-3-1/8" drill collars & TIH on 2-3/8". Drill CIBP @ 5200'+/-. TIH & drill CIBP @ 6450'. Clean out to PBTD @ 7118' **(7015' if Lower Dakota is wet)**. TOOH & LD bit & collars.

45. TIH with final production tubing string for commingled production as follows: expendable check, one joint 2-3/8", 1.78" seating nipple, and remaining 2-3/8" tubing. Rabbit tubing in hole, land @ bottom Dakota perf.

46. ND BOP, NU WH. Pump off check. Flow well up tubing verifying check pumped. RD & release rig to next location.

47. 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: _____ 7/17/96
Northeast Basin Team Leader

Approved: _____ 7/17/96
Drilling Superintendent

JME

Recommended Vendors:

Surge Valve	Owen Oil Tools	(817) 551-0540
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

Meridian Oil
7/15/96:dla

PERTINENT DATA SHEET
KLEIN #27

Location: 1590' FSL, 2040' FWL
Unit K, Section 35, T26N, R6W
Rio Arriba County, NM

Field: Basin Dakota

Spud Date: 06-20-78

Completion Date: 09-20-78 **Cathodic Protection:** 1993

Elevation: 6331'
LAT: 36° 26' 24"
LONG: 107° 26' 18"
DP#: 43963A
GWI: 100%
NRI: 68.25%
TD: 7134'
PBTD: 7118' (FC)

Casing Record:

Hole Size	Casing Size	Weight & Grade	Depth Set	Sxs Cement	Cement Type
13-3/4"	9-5/8"	36#,K-55	214'	170 (354 ft3)	Cl. B w/ 3% CaCl, 1/4#/sk cello-flake
8-3/4"	4-1/2"	11.6# KS	7134'	240 (354 ft3)	140sx B 65/35+6%gel,2%CaCl,1/4#Tuf-Plu
		10.5# KS	6342'		100sx B 50/50+2%gel,2%CaCl,1/4#Tuf-Plu
		Stage Tool	5352'	335 (542 ft3)	B 65/35 w/6% gel, 2% CaCl
		Stage Tool	2207'	270 (437 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	6987'	SN set @ 6955'

Formation Tops:

Ojo Alamo	1830'	Chacra	3410'	Gallup	5920'
Kirtland		Mesaverde	4110'	Greenhorn	6693'
Fruitland		Menefee		Graneros	6747'
Pictured Cliffs	2525'	Pt. Lookout	4780'	Dakota	6895'

Logging Record:
IEL-GR, CDL-FR, Temp Survey

Stimulation:
Perf'd 6825' 6906' 6912' 6918' 6949' 6957' 6984' 6991'
Frac'd w/62,000# 40/60 sand 10,495 gal water

Workover History:
NONE

Production History: Current Production: 94 MCFD 3 BOPD
Initial Deliverability No Info Latest Delivera 173 MCFD
Cum Gas: 956 MMCF Cum Oil: 14,636 BOP ISITP: 1256 ISICP: 2472

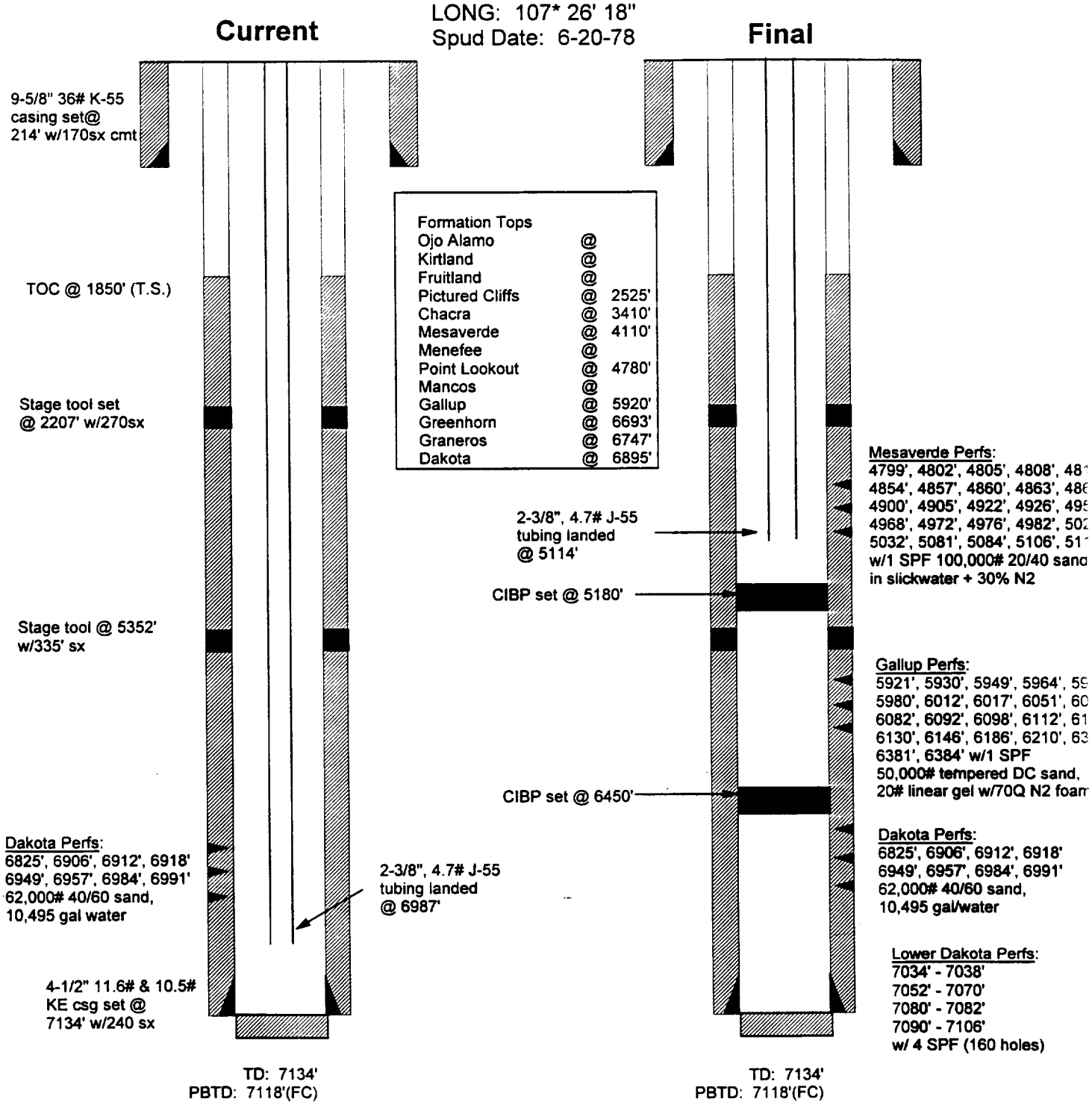
Transporter: Oil/Condensate: Giant Transporation Gas: El Paso Natural Gas

JME

KLEIN #27

Basin Dakota
Mesaverde/Gallup Pay Add

1590' S, 2040' W
Unit K, Section 35, T26N, R6W
Rio Arriba County, NM
Elevation: 6331'
LAT: 36* 26' 24"
LONG: 107* 26' 18"
Spud Date: 6-20-78



This well will be commingled in the Mesaverde, Gallup, & Dakota. Prior to commingle, the Gallup & Dakota will be T&A'd under a CIBP while the Mesaverde will be produced separately to help determine commingled production. An Allocation Formula will be finalized after a 3 month online sales testing period.

Meridian Oil Inc.
03/14/96: dla

Klein #27
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: 7/17/96
Drilling Superintendent

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