

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

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  
1050'FNL, 1800'FWL, Sec.34, T-26-N, R-6-W, NMPM

5. Lease Number  
SF-079265

6. If Indian, All. or  
Tribe Name

7. Unit Agreement Name

8. Well Name & Number  
Klein #19E

9. API Well No.  
30-039-23770

10. Field and Pool  
Blanco MV/Basin DK/  
WC;Ensenada Mesa Gal

11. County and State  
Rio Arriba Co, NM

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

Type of Submission

☒ Notice of Intent  
☐ Subsequent Report  
☐ Final Abandonment

Type of Action

☐ Abandonment ☐ Change of Plans  
☒ Recompletion ☐ New Construction  
☐ Plugging Back ☐ Non-Routine Fracturing  
☐ Casing Repair ☐ Water Shut off  
☐ Altering Casing ☐ Conversion to Injection  
☐ Other -

13. Describe Proposed or Completed Operations

It is intended to workover the subject wellbore according to the attached procedure, pertinent data sheet, and wellbore diagram. The Dakota will be temporarily abandoned, the Gallup and the Mesaverde will be recompleted and commingled after an extended flow period per the blanket downhole commingle order R-10239 dated November 14, 1994. This work will occur in the 1995 calendar year.

RECEIVED  
DEC 19 1994  
OIL CON. DIV.  
DIST. 3

NOV 21 1994  
12:13:15

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

Signed [Signature] (TEM3) Title Regulatory Affairs Date 12/7/94

(This space for Federal or State Office use)

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

CONDITION OF APPROVAL, if any:

(E)

APPROVED  
DEC 12 1994  
NCTRIPT MANAGED

NMOCD

District I  
PO Box 1980, Hobbs, NM 88241-1980  
District II  
PO Drawer DD, Ardenia, 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-10  
Revised February 21, 199  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-039-23770	Pool Code 72319/96321/71599	Pool Name Blanco Mesaverde/Ensenada Mesa Gal/Basin Dakota
Property Code 7228	Property Name KLEIN	Well Number 19E
OGRID No. 14538	Operator Name MERIDIAN OIL INC.	Elevation 6391'

10 Surface Location

UL or lot no. C	Section 34	Township 26-N	Range 6-W	Lot Idn	Feet from the 1050	North/South line NORTH	Feet from the 1800	East/West line WEST	County R.A.
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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
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12 Dedicated Acres N/320-N/320-40	13 Joint or Infill	14 Consolidation Code	15 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

1800'

1050'

\*Not resurveyed,  
prepared from a plat by  
Fred B. Kern Jr. Dated  
June 21, 1985.

RECEIVED  
DEC 19 1994  
OIL CON. DIV.  
DIST. 3

17 OPERATOR CERTIFICATION

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

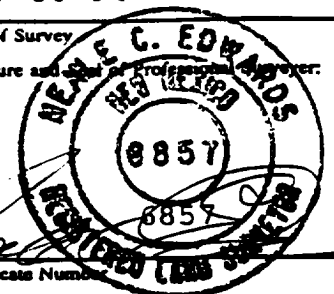
*Peggy Bradfield*  
Signature  
Peggy Bradfield  
Printed Name  
Regulatory Affairs  
Title  
12/12/94  
Date

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.

11-30-94

Date of Survey  
Signature and Seal of Professional Approver:



Certificate Number

# Klein # 19E

T26NR06W34C

Mesaverde, Gallup, &  
Dakota Workover

GL @ 6389'

Current

GL @ 6389'

Final

12-1/4" Hole  
9-5/8" Casing @ 224'  
w/ 125 sxs to Surface

12-1/4" Hole  
9-5/8" Casing @ 224'  
w/ 125 sxs to Surface

TOC @ 1600'  
Temp Survey

TOC @ 1600'  
Temp Survey

Nacimiento Top	@ 274'
Ojo Alamo Top	@ 1900'
Kirtland Top	@ 2118'
Fruitland Top	@ 2380'
Pictured Cliffs	@ 2580'
Lewis Top	@ 2680'
Chacra Top	@ 3462'
Cliff House	@ 4252'
Free	@ 4278'
Lookout	@ 4820'
Mancos	@ 5220'
Niobrara	@ 5982'
Juana Lopez	@ 6427'
Greenhorn	@ 6744'
Graneros	@ 6796'
Two Wells	@ 6951'
Paguate	@ 6900'
Cubero	@ 6926'
Oak Canyon	@ 7030'
Encinal Canyon	@ 7048'
Burro Canyon	@ 7072'
Morrison	@ N.R.

Stage Tool @  
2793'  
w/ 420 sxs

Stage Tool @  
2793'  
w/ 420 sxs

2-3/8" Tubing  
@ 7147'

2-3/8" Tubing  
@ 7140'

Stage Tool @  
6433'  
w/ 340 sxs

Stage Tool @  
6433'  
w/ 340 sxs

Dakota  
Perforations  
25 Holes  
6854' to 7152'

Mesaverde  
Perforations  
17 Holes  
4858' to 5027'

Gallup  
Perforations  
16 Holes  
5988' to 6223'

Dakota  
Perforations  
25 Holes  
6854' to 7152'

7-7/8" Hole  
4-1/2" Casing @ 7200'  
w/ 405 sxs

PBTD @ 7188'  
TD @ 7200'

7-7/8" Hole  
4-1/2" Casing @ 7200'  
w/ 405 sxs

PBTD @ 7188'  
TD @ 7200'

This well will be commingled in the Mesaverde, Gallup and Dakota. An allocation Formula will be finalized after a 3 month online sales testing period. MOI will work with the NMOCD in developing this allocation formula. Prior to commingle, the Gallup & Dakota will be Temporarily Abandoned under a cast iron bridge plug, while the Mesaverde will be produced separately to help determine commingled production.

*[Handwritten signature]*

Meridian Oil Inc.  
10/28/94

**Pertinent Data Sheet - Klein #19E**

**Location:** Unit C, Section 3 1/4 T26N, R06W  
1050' FNL, 1800' FWL

Rio Arriba County, New Mexico

**Field:** Basin Dakota

**Elevations:** 6389' GL **TD:** 7200'  
13' KB **PBTD:** 7188'

**Completed:** 10-10-85

**DP #:** 54212A

**Spud:** 8-24-85

**GWI:** 100.00 %

**NRI:** 68.250 %

**Casing Record:**

<u>Hole Size</u>	<u>Casing Size</u>	<u>Wt &amp; Grade</u>	<u>Depth Set</u>	<u>Sxs Cement</u>	<u>TOC</u>
12 1/4"	9-5/8"	32.3# J-55	224'	125-147 ft3	surface
7 7/8"	4-1/2"	11.6# J-55	7199'	405 sxs	618ft3
	4-1/2"	10.5# J-55	DV@2793'	420 sxs	680ft3
			DV@5433'	340 sxs	551ft3
			Marker (@)	6764'	

1600' Temp Survey

**Tubing & Rod Record:**

<u>Tubing Size:</u>	<u>Wt &amp; Grade</u>	<u>Depth Set</u>
2-3/8"	4.7# J-55	7147'

217 joints, SN @ 7112'

**Formation Tops:**

Surface:	San Jose	ISICP =	2087 psi
Nacimiento:	274'	La Niobrara:	5982'
Ojo Alamo:	1900'	Juana Lopez:	6427'
Kirtland:	2118'	Greenhorn:	6744'
Fruitland:	2380'	Graneros:	6796'
Pictured Cliffs:	2580'	Two Wells:	6951'
Lewis:	2680'	Pagaute:	6900'
Chacra:	3462'	Cubero:	6926'
Cliff House:	4252'	Oak Canyon:	7030'
Menefee:	4278'	Encinal Canyon:	7048'
Point Lookout:	4820'	Burro Canyon:	7072'
Mancos:	5220'	Morrison:	?

Oil Transp: Meridian Oil  
Gas Transp: EPNG  
Line Press = 80-120 psi

**Logging Record:** Correlation GR-Log; Ind. Log; Comp Density Dual spaced Neutron Log; Com. Analyzed Log

**Stimulation:** Perforated Dakota formation as follows: w/25 (0.34") holes total @6854', 6859', 6864', 6938', 6942', 6947', 6972', 6984', 6994', 7009', 7012', 7015', 7020', 7025', 7030', 7062', 7067', 7072', 7115', 7127', 7132', 7137', 7142', 7147', 7152'. Frac well w/128,522 gals of slickwater & 108,000# of 40/60 sand @35 BPM & dropped 50 balls in 1 set. ATP 3400 psi. ISIP 2050.

**Workover History:**

Fishing job for 5 days during drilling. Hole sloughing severely at 923' to 986'.

Very crooked hole 6 degree deviation from 3100' to 4400'

-None

**Klein # 19E**  
**Blanco Mesaverde/Undesignated Gallup/Basin Dakota Workover**  
**UnitC-Sec34-T26N-R06W**

Prior to Moving on Workover Rig, Inspect Location, Verify All Appropriate Equipment is on Hand. Dig work pit for water/cement recovery/flare pit, fence pits. Comply with all BLM, NMOCD, & MOI rules & regulations. **Always Hold Safety Meetings.**

- 
- Ensure all approvals for Commingle work necessary have been approved.
  - Utilize EPNG Drill Gas.
  - Spot Ten (10) Tanks & Fill (9)-400 bbl tanks with risers to pre-gel. Pre-Gel 2 tanks.
  - Use Only True 2% KCl water, (or substitute) Filter Frac & Acid water to 1 microns.
  - Fifty(50) joints 2-3/8" 4.7# EUE J-55 tubing on location.
  - Six (6) 3-1/8" Drill Collars on location.
  - Will utilize trucked Nitrogen after initial work in place of drill gas.
  - 900 series BOP, 7" blooie line, manifold, & 1/4", 1/2", & 3/4" chokes as appropriate.
  - 2-7/8" N-80 Buttress Frac String (7000' +/- required).
- 

1. Move In workover rig. Record and report SI pressures on tubing, casing, & bradenhead. Lay blowdown line. Blow down casing & tubing. Pump 20 bbls 2% KCl down tubing. ND WH, NU BOP & stripping head. Test all equipment!
2. TOOH, rabbit, & strap 217 jts of 2-3/8" tubing (from 7147', SN @ 7112'). Flow well out blooie line. Visually inspect tubing, note any scale in tubing. Lay down bottom 500' of this pipe.
3. PU 3-7/8" bit, float, 3-1/8" Drill Collars & 2-3/8" 4.7# J-55 EUE workstring. Rabbit & Strap pipe in the hole. RU powerswivel. Drill & Clean out with Gas & Foam sweeps to **7188'**, true PBTD 7188'. Note Drilling Mud in returns if any. Once cleaned up. TOOH with bit & collars. Drill gas rate maximum of 600 MCFD (due to low line pressure).
4. PU 4-1/2" CIBP (Use of CIBP will facilitate use of a cement retainer should one be required.) & 4-1/2" Packer Combination on 2-3/8". TIH & set CIBP @ **6650'**, T&A Dakota. Roll hole & fill from bottom with filtered 2% KCl water, Set PKR above CIBP & Test CIBP & tubing to 3500 psi. Hold for 10 minutes. Release PKR, close pipe rams, & Pressure test entire casing string to 500 psi for 10 minutes. If PT does not hold Pull above DV tool @ 5433' and 2793' & test below each to 1200 psi. TOOH.
5. RU wireline. Run GR-CCL-CBL from 6650' to surface. No gaps. Run with 500-1000 psi over entire interval hole. Note and report all cement tops and quality of bond over both Gallup & Mesaverde Interval. **RU Schlumberger to Run CASED HOLE DIPOLE SONIC LOG across Gallup interval from 6650' to 5950' and Mesaverde interval from 5300' to 4700'.** Actual Perforations will be verified by Engineering prior to shooting!!
6. TIH w/one jt 2-3/8" & PKR. Test casing from surface to 1200 psi. Hold and record for 15 minutes on chart. If casing integrity is not sound, identify leaks, & Engineering will recommend squeeze procedure & modify stimulation work. TOOH
7. Complete all squeeze cementing operations which will be determined based upon pressure test information and bond quality. WOC recommended time plus 2 hours. Drill out Cement. Pressure test to 1200 psi. Spot 500 gallons 10% HCl acid with (2 gal/1000 inhibitor, 2 gal/1000 iron sequestering agent, 1 gal/1000 non-emulsifier) across Gallup @ **6200'**. TOOH, standing 2-3/8" back. Change rams to 2-7/8"

Klein # 19E  
Meridian Oil Inc.  
11/02/94

17. SI well for 8 hrs for resin sand to set. Flow well back through choke manifold limiting fluid production to 20 BLPH. When possible, Release PKR & TOOH laying down 2-7/8" N-80. If necessary set plug in 1.81" profile nipple. Change out rams. TIH w/ 3-7/8" bit, collars, & float, on 2-3/8" and clean well out to CIBP @ 5250' with gas. Stage in hole as required. Clean well up until sand returns will not interfere with drilling of CIBP. Obtain MV pitot gauge. Drill CIBP. Push to bottom @ 6650' +/- . Clean up entire well until returns are less than 6 BPH. TOOH with bit & collars. Obtain MV/GP production gauge.
18. RU wireline. Run AFTER FRAC GAMMA RAY and Temperature log in combination with well flaring out blooie line. Log temperature in hole. Note fluid level if present. Run & Set CIBP @ 5800'+/- covering/T&A Gallup zone. RD wireline.
19. Prepare to run production tubing string as follows for Mesaverde: expendable check, one joint 2-3/8" tubing, 'F' nipple, and remaining tubing. Land tubing @ 5400', ND BOP, NU WH. Pump off expendable check and flow well up tubing obtain Mesaverde production gauge. RD & Release Rig to next location.
20. 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 Temporarily abandoned. At end of test Run pressure bomb in SN and SI well. Leave well SI 7 days. Pull Bomb, and return Mesaverde to production until workover rig returns.
21. Move In, RU workover rig. Lay all lines and manifolds. RU drill Gas unit. Record flowing casing & tubing pressures. Blow casing and tubing down. Kill tubing with 20 bbls 2% KCl water. ND WH, NU BOP. TOOH with 2-3/8". RU power swivel. TIH w/ 3-7/8" bit, 4-3-1/8" drill collars & drill CIBP @ 5800'+/- clean well out with Gas. Drill CIBP @ 6650' & push plugs to PBD. TOOH & LD bit & collars.
22. TIH with final production tubing string for commingled production as follows: expendable check, one joint 2-3/8", F nipple, and remaining 2-3/8" tubing. Land tubing @ 7140'. ND BOP, NU WH. Pump off check w/ water & Gas. Flow well up tubing verifying check pumped. RD release rig to next location.
23. 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.

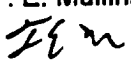
Approved:

  
\_\_\_\_\_  
Drilling Superintendent

TEM

**Recommended Vendors:**

Stimulation(Acid,Fracturing,Nitrogen)  
Radioactive Tagging  
Cased Hole Services (Perforating, Logging)  
Cased Hole Dipole Sonic Log  
Frac String (2-7/8")  
Bridge Plugs, Packers, WAPP tool  
Engineering

Western Company	327-6222
Protechnics, Intl	326-7133
Petro Wireline	326-6669
Schlumberger	325-5006
Cave Enterprises	325-3401
Schlumberger	325-5006
T. E. Mullins	326-9546-W
	327-8692-pager

Klein # 19E  
Meridian Oil Inc.  
11/02/94

8. Perforate Gallup Interval with 3-1/8" HSC gun select fire 180 degree phasing 1 SPF JRC C-3130234 charges 10.5 gram 0.30" holes (0.30" is the Maximum Hole Size Preferred) Top-down as follows: (16 holes). Engineering may modify perforations based upon bond character.

5988' 6000' 6009' 6030' 6043' 6074' 6084' 6097' 6111' 6141'  
6154' 6170' 6180' 6188' 6206' 6223' (16 total holes, 235' of interval)

9. PU PKR, 1.81" profile nipple, 2 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 below bottom perforation and test tubing, & frac string to 3500 psi on good bonded pipe. Pull uphole & set PKR 100' above top Gallup perforation. Hold 500 psi on annulus during acid job. Pump 1500 gallons 10% HCl acid with (2 gal/1000 inhibitor, 2 gal/1000 iron sequestering agent, 1 gal/1000 non-emulsifier) and drop 32 - 7/8" 1.3 Specific Gravity ball sealers. Ball off to 3500 psi. Release pressure displace acid. Release PKR & TIH knocking balls below bottom perforation. Pull up and reset PKR.

10. RU stimulation company. Install 10,000 psi working pressure full opening surface valve. Hold 500 psi on annulus. Hydraulically stimulate Gallup interval with 70,000# 20/40 resin coated proppant at 25 BPM. Maximum surface treating pressure will be 5,500 psi, not 3,500 psi due to static vs frictional pressure effects. Sand will be tagged with Ir-192 radioactive isotope.

11. Flow well back after frac on 1/4" choke until surface pressure is below 500 psi. Then flow well on open 2" line thru choke manifold. When possible ensure annulus has full column of liquid and release PKR. TOOH with 2-7/8" tubing and PKR. If necessary set plug in 1.81" profile nipple.

12. RU wireline & set CIBP @ 5250'. Change rams to 2-3/8".

13. TIH w/ PKR on 2-3/8" and test CIBP and part of casing from below DV @ 2793 to 3500 psi. Spot 400 gallons 10% HCl acid at 5000' across Mesaverde. TOOH. Change rams to 2-7/8".

14. Perforate Mesaverde Interval with 3-1/8" HSC gun select fire 180 degree phasing 1 SPF JRC C-3130234 charges 10.5 gram 0.30" holes (0.30" is the Maximum Hole Size Preferred) bottom up as follows: (17 holes). Engineering may modify perforations based upon bond character.

4858' 4863' 4865' 4867' 4869' 4890' 4899' 4917' 4919' 4924'  
4927' 4947' 4964' 4967' 4974' 5001' 5027' (17 total holes, 169' of interval)

15. PU PKR, 2.25" profile nipple, and 2-7/8" 8.7# N-80 Buttress frac string. TIH below bottom perforation and test tubing, & frac string to 3500 psi on good bonded pipe. Pull uphole & set PKR 150' above top perforation. Hold 500 psi on annulus during acid job. Pump 1500 gallons 10% HCl acid with additives and drop 36 - 7/8" 1.3 Specific Gravity ball sealers. Ball off to 3500 psi. Release pressure displace acid. Release PKR & TIH knocking balls below bottom perforation. Pull up and reset PKR below DV tool @ 2793' on good bonded pipe.

16. RU Frac Crew. Install 10,000 psi working pressure full opening surface valve. MAXIMUM SURFACE TREATING PRESSURE WILL BE 5500 PSI not 3500 psi because of friction effects. Hold 500 psi on annulus. Stimulate Mesaverde per attached schedule w/ 80,000# 20/40 brady, 15,000# 20/40 curable resin coated sand in slickwater at 35 BPM. Sand will be tagged with Ir-192 radioactive isotope. SI well.