

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

1. Type of Well GAS	5. Lease Number NM-020495 6. If Indian, All. or Tribe Name  7. Unit Agreement Name
2. Name of Operator Meridian Oil Inc.	8. Well Name & Number Angel Peak #1 9. API Well No.
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700	10. Field and Pool Kutz G1/Basin Dk 11. County and State San Juan Co, NM
4. Location of Well, Footage, Sec., T, R, M 1150' FSL, 1090' FWL Sec. 2, T-27-N, R-11-W, NMPM	

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

Type of Submission	Type of Action	
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment	<input type="checkbox"/> Change of Plans
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion	<input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment	<input type="checkbox"/> Plugging Back	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> Water Shut off
	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Conversion to Injection
	<input checked="" type="checkbox"/> Other -	

13. Describe Proposed or Completed Operations

It is intended to open the Gallup formation and commingle with the Dakota per the attached procedure. Commingling will be under NMOCD Order DHC-840.

**RECEIVED**  
AUG 17 1992  
OIL CON. DIV.  
DIST. 3

RECEIVED  
AUG 7 1992  
OIL CON. DIV. N.M.

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

Signed *James D. Haffield* (MP) Title Regulatory Affairs Date 8/4/92

(This space for Federal or State Office use)

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

CONDITION OF APPROVAL, if any:

**APPROVED**

Date Aug 11 1992

AREA MANAGER

NMOCD

Submit to Appropriate  
District Office  
State Lands - 4 copies  
Fed. Lands - 1 copy

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-182  
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

RECEIVED  
BLM

92 AUG -7 PM 2:04

019 FARMINGTON, N.M.

DISTRICT I  
P.O. Box 1908, Hobbs, NM 88240

DISTRICT II  
P.O. Drawer DD, Aztec, NM 88210

DISTRICT III  
1000 Rio Rancho Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator Meridian Oil Inc.				Well No. 1	
Angel Peak					
Unit Letter M	Section 2	Township 27 North	Range 11 West	County San Juan	
Acres Forfeited/Lessened of Well: 1150 feet from the South line and 1090 feet from the West line					
Ground-level Elev. 6054'		Predominant Formation Gallup/Dakota		Dedicated Acreage 40/320 Acres	

- Outline the acreage dedicated to the subject well by colored pencil or ink on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
1. ☐ Yes ☐ No ☐ If answer is "yes" type of consideration \_\_\_\_\_  
\_\_\_\_\_ have the interest of all owners been considered by \_\_\_\_\_  
\_\_\_\_\_ If answer is "yes" list the owners and their descriptions which have actually been considered. (Use reverse side of this form if necessary.)  
No allowable will be assigned to the well until all interests have been considered (by commutation, surrender, forced-pooling, or otherwise) or until a non-estimated unit, eliminating such interest, has been approved by the Division.

Not re-surveyed prepared  
from a plat dated 8-3-60,  
by David O. Vilven.

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  
Peggy Bradfield

Printed Name  
Regulatory Affairs

Position  
Meridian Oil Inc.

Company  
8-4-92

Date

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 knowledge and  
belief.

8-4-92

Date Surveyed  
Nedee C. Edwards  
Superintendent  
Professional Surveyor

9357

6857

# ANGEL PEAK #1 DK-GAL

## Procedure

M 02 27 11 NM

1. Comply to all NMOCD, BLM, & MOI, rules & regulations. MOL and RU completion rig. NU 6" 900 series BOP with flow tee and stripping head. Test operation of rams. NU blooe line and 2-7/8" relief line. Blow well down.
2. Set blanking plug in S.N. @ 6410' in 2-3/8" tbg & pressure test to 2000#. TOH w/207 Jts 2-3/8" tbg.
3. Run 5-1/2" csg scrapper to 6000' on tested 2-3/8" tbg. TOH. Run 5-1/2" ret BP on wireline & set @ 6000'.
4. Run CBL 6000'-5400'. Apply 1000 psi, if necessary, to clarify bonding. Pressure test 4-1/2" csg to 1000#. Initiate sq procedures if cmt bond across proposed Gallup perfs are insufficient or if csg did not hold pressure test.
5. Fill 3 - 400 bbl. frac tanks with 2% KCL water. Filter all water to 25 microns. Two tanks will be for gel, & one tank for 2% KCL water for breakdown. Gel water required for frac is 472 bbls.
6. TTH w/2-3/8" open ended tbg to 5870' & spot 200 gal 7-1/2" HCL acid across proposed perfs (5866'-5792'). Acid to contain same additives as breakdown. Perf w/3-1/8" HCG w/10 gr Owen 316 charges which have an average penetration in Berea of 14.7" & average perf diameter of 0.28" @ 5792'-5807' & 5853'-5866' w/1 spf. Total 28 holes.
7. TTH w/5-1/2" pkr on 3-1/2" 9.3# P-110 rental frac string w/shaved collars (4.25" O.D. 2.992" I.D.) & set @ 5600'. With 500 psi held & recorded on backside, breakdown & attempt to balloff Gallup perfs w/2000 gal 15% HCL acid & 56 perf balls. Max pressure = 4500 psi. Acid to contain 1 gal/1000 aqua flow, 2 gal/1000 LT-21 (clay & silt suspenders), 5 gal/1000 XA-2L (Fe control), and 2 gal/1000 I17 (corrosion inhibitor). Lower pkr to 5880' to knock off balls.
8. Reset pkr @ 5700'. With 500 psi held on backside & recorded, frac Gallup with 100,000# 20/40 Arizona sand in 64,000 Gal. 70 quality foam using 19,200 gals 30# guar gel as base fluid. Pump at 30 BPM. Monitor bottomhole and surface treating pressures, rate, & sand concentration, with computer van. All sand to be tagged with 0.4 mCi/1000# Ir-192 tracer. Max. pumping pressure is 6000 psi (pipe friction is 1570 psi @ 30 BPM) and estimated treating pressure is 4290 psi. Treat per the following schedule:

Stage	Foam Vol. (Gals.)	Gel Vol. (Gals.)	Sand Vol. (lbs.)	Sand Mesh
Pad	25,000	7,500	----	----
1.0 ppg	10,000	3,000	10,000	20/40
2.0 ppg	10,000	3,000	20,000	20/40
3.0 ppg	10,000	3,000	30,000	20/40
4.0 ppg	5,000	1,500	20,000	20/40
5.0 ppg	4,000	1,200	20,000	20/40
Totals	64,000	19,200	100,000#	

ANGEL PEAK #1 - GALLUP RECOMPLETION PROCEDURE  
Page 2

Treat frac fluid with the following additives per 1000 gallons:

- \* 35# Guar (Base Gel)
- \* 1.0 gal. Aqua-Flow (Non-ionic Surfactant)
- \* 1.0# B-11 (Enzyme Breaker)
- \* 1.0# B-5 (Breaker)
- \* 0.35# Frac-cide 20 (Bacteriacide)

Shut well in after frac for six hours in an attempt to obtain closure pressure and allow the gel to break.

9. Open well through choke manifold & monitor flow. Flow @ 20 bbl/hr, or less if sand is observed. When well ceases to flow, TOH laying down w/frac string & pkr.
10. TIH w/retrieving tool on 2-3/8" tbg & C.O. to ret BP @ 6000' w/air/mist. When wellbore is sufficiently clean, take pitot gauges when possible & retrieve BP @ 6000'. TOH. TIH w/4-3/4" bit on 2-3/8" tbg & C.O. to 6480'. Take pitot gauges when possible. When wellbore is sufficiently clean, TOH.
11. Run after frac GR log 6100'-5400'.
12. TIH with 2-3/8" tbg with standard seating nipple one joint off bullplugged perf jt. Land tbg @ 6400'. Take final pitot gauges, water samples, and gas and oil samples.
13. Replace bad valves on wellhead w/rebuilt valves. ND BOP and NU wellhead. This well to be completed as a commingled Dakota-Gallup. Release rig.

Approved: \_\_\_\_\_

J. A. Howleson

VENDORS:

Wireline:	Blue Jet	325-5584
Frac & Cmt:	Western	325-5096
RA Tagging:	Pro-Technics	326-7133
Frac String:	Oil Field Rental	327-4421

PMP

# ANGEL PEAK #1 DK

UNIT M SECTION 2 T27N R11W  
SAN JUAN COUNTY, NEW MEXICO

PRESENT

10-3/4" @ 294'  
CIRC CMT TO SURFACE

STG TOOL @ 2099'  
TOC @ 1750'  
RESQ W/100 SX CMT

2-3/8" @ 6444'  
S.N. @ 6410'

5790'

PROPOSED GALLUP PERFS

5866'

DAKOTA PERFS

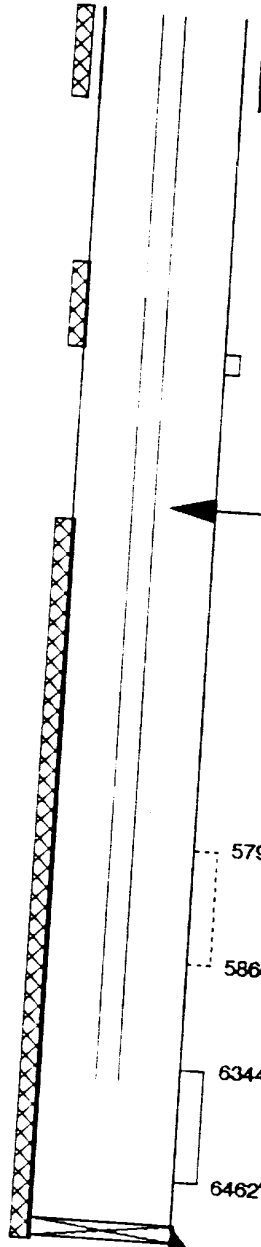
6344'

FRACED W/60,000# SAND IN WATER

6462'

PBTD @ 6492'

5-1/2" @ 6538'  
TOC @ 2981' @ 75% EFF.



# ANGEL PEAK #1 DK

UNIT M SECTION 2 T27N R11W  
SAN JUAN COUNTY, NEW MEXICO

PROPOSED

