# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

	on Wells	: Z	<del> </del>
1. Type of Well GAS	U/U irdinas	5.	Lease Number SF-079050 If Indian, All. or Tribe Name
		7.	Unit Agreement Name
MERIDIAN OIL		8.	San Juan 28-6 Unit <b>Well Name &amp; Number</b>
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 32	6-9700	9.	San Juan 28-6 U #1478 API Well No. 30-039-25590
4. Location of Well, Footage, Sec., T, R, M 1190'FSL, 1190'FEL, Sec.29, T-28-N, R-6-W, N	MPM		Field and Pool Blanco MV/Basin DK County and State
(			Rio Arriba Co, NM
Subsequent Report Plugging B Casing Rep Final Abandonment Altering C Other -  13. Describe Proposed or Completed Operations Attached is the revised operations plan f	Back Neair Wasing C	on-Routine ater Shut o onversion to	Fracturing ff
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APPROVED

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DISTRICT MANAGER

# OPERATIONS PLAN

Well Name: San Juan 28-6 Unit #147M

Location: 1190'FSL, 1190'FEL, Sec 29, T-28-N, R-6-W

Rio Arriba County, NM

Latitude 36° 37.7, Longitude 107° 29.1

Formation: Blanco Mesa Verde/Basin Dakota

Elevation: 6540'GL

Formation Tops:	Top	Bottom	Contents
Surface	San Jose	2508 <b>'</b>	
Ojo Alamo	2508'	2641	aquifer
Kirtland	2641	2853'	
Fruitland	2853'	3287'	gas
Pictured Cliffs	3287 <b>'</b>	3413'	gas
Lewis	3413'	3885'	gas
Intermediate TD	3463'		
Chacra	3885 <b>'</b>	4838'	gas
Upper Cliff House	4838'	4935 <b>'</b>	gas
Massive Cliff House	4935'	5072'	gas
Menefee	5072 <b>'</b>	5462 <b>′</b>	gas
Massive Point Lookout	5462'	5919'	gas
Mancos	5919'	6507 <b>'</b>	gas
Gallup	6507 <b>'</b>	7167'	gas
Lower Mancos	7167 <b>'</b>	7432 <b>′</b>	gas
Greenhorn	7432'	7443'	gas
Graneros	7443'	7647'	gas
Dakota	7647′		gas
TD (4 1/2"liner)	י 7777		

# Logging Program:

# Mud Program:

Interval	Type	Weight	Vis.	<u>Fluid Loss</u>
0- 200'	Spud	8.4-8.9	40-50	no control
200-3463'	LSND	8.4-9.0	30-60	no control
3463-7777 <b>'</b>	Gas	n/a	n/a	n/a

Pit levels will be visually monitored to detect gain or loss of fluid control.

## Casing Program:

Hole Size	Depth Interval	Csg.Size	Wt.	<u>Grade</u>
12 1/4"	0' - 200'	9 5/8"	36.0#	K-55
8 3/4"	0' - 3463'	7 "	20.0#	K-55
6 1/4"	3313' - 6855'	4 1/2"	10.5#	K-55
6 1/4"	6855' - 7777'	4 1/2"	11.6#	K-55

## Tubing Program:

0' - 7777' 2 3/8" 4.70# EUE

# BOP Specifications, Wellhead and Tests:

#### Surface to Intermediate TD -

11" 2000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out surface casing, rams and casing will be tested to 600 psi for 30 minutes.

#### Intermediate TD to Total Depth -

11" 2000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out intermediate casing, rams and casing will be tested to 1500 psi for 30 minutes.

#### Surface to Total Depth -

2" nominal, 2000 psi minimum choke manifold (Reference Figure #3).

## Completion Operations -

7 1/16" 2000 psi double gate BOP stack (Reference Figure #2). After nipple-up prior to completion, pipe rams, casing and liner top will be tested to 2000 psi for 15 minutes.

#### Wellhead -

9 5/8" x 7" x 2 3/8" x 3000 psi tree assembly.

#### General -

- Pipe rams will be actuated once each day and blind rams will be actuated once each trip to test proper functioning.
- An upper kelly cock valve with handle available and drill string valves to fit each drill string will be available on the rig floors at all times.
- BOP pit level drill will be conducted weekly for each drilling crew.
- All BOP tests and drills will be recorded in daily drilling reports.
- · Blind and pipe rams will be equipped with extension hand wheels.

## Cementing:

 $\overline{9}$  5/8" surface casing - cement with 163 sx Class "B" cement with 1/4# flocele/sx and 2% calcium chloride (188 cu.ft. of slurry, 200% excess to circulate to surface). WOC 12 hrs. Test casing to 600 psi for 30 minutes.

Saw tooth guide shoe on bottom. Bowspring centralizers will be run in accordance with Onshore Order #2.

## 7" intermediate casing -

Lead w/291 sx Class "B" w/3% medisilicate, 10# gilsonite/sx and 1/2# flocele/sx. Tail w/90 sx 50/50 Class "B" Poz w/2% calcium chloride (911 cu.ft. of slurry, 75% excess to circulate to surface.) WOC minimum of 12 hours before drilling out intermediate casing. If cement does not circulate to surface, a CBL will be run during completion operations to determine TOC. Test casing to 1500 psi for 30 minutes.

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. Bowspring centralizers spaced every other joint off bottom, to the base of the Ojo Alamo at 2641. Two turbolating centralizers at the base of the Ojo Alamo at 2641. Bowspring centralizers spaced every fourth joint from the base of the Ojo Alamo to the base of the surface casing.

# 4 1/2" Production Liner -

Cement to cover minimum of 100' of 4 1/2" x 7" overlap. Lead with 103 sx 65/35 Class "B" Poz w/6% gel, 5# gilsonite/sx and 1/4# flocele/sx. Tail with 305 sx 50/50 Class "B" Poz with 1/4# flocele/sx, 5# gilsonite/sx and 0.3% fluid loss additive (595 cu.ft., 30% excess to cement 4 1/2" x 7" overlap). WOC a minimum of 18 hrs prior to completing.

Cement float shoe on bottom with float collar spaced on top of shoe joint. The liner hanger will have a rubber packoff.

Note: To facilitate higher hydraulic stimulation completion work, no liner hanger will be used. In its place, a long string of 4 1/2" casing will be run and cemented with a minimum of 100' of cement overlap between the 4 1/2" x 7" casing strings. After completion of the well, a 4 1/2" retrievable bridge plug will be set below the top of cement in the 4 1/2" x 7" overlap. The 4 1/2" casing will then be backed off above the top of cement in the 4 1/2" x 7" overlap and laid down. The liner top can then be pressure tested to ensure a seal between the liner top and the 7" casing has been achieved. The test pressure shall be the maximum anticipated pressure to which the seal will be exposed (700 psi for the Mesa Verde and 2500 psi for the Dakota). The 4 1/2" bridge plug will then be retrieved and the production tubing will be run to produce the well.

- If hole conditions permit, an adequate water spacer will be pumped ahead of each cement job to prevent cement/ mud contamination or cement hydration.
- The pipe will be rotated and/or reciprocated, if hole conditions permit.

# Special Drilling Operations (Gas/Mist Drilling):

The following equipment will be operational while gas/mist drilling:

- An anchored blooie line will be utilized to discharge all cuttings and circulating medium to the blow pit a minimum of 100' from the wellhead.
- The blooie line will be equipped with an automatic igniter or pilot light.
- Compressors will be located a minimum of 100' from the wellhead in the opposite direction from the blooie line.
- Engines will have spark arresters or water cooled exhaust.
- Deduster equipment will be utilized.
- The rotating head will be properly lubricated and maintained.
- A float valve will be utilized above the bit.
- Mud circulating equipment, water, and mud materials will be sufficient to maintain control of the well.

## Additional Information:

- The Dakota and Mesa Verde formations will be completed and commingled.
- No abnormal temperatures or hazards are anticipated.
- Anticipated pore pressures are as follows:

Fruitland Coal	800	psi
Pictured Cliffs	800	psi
Mesa Verde	700	psi
Dakota	2600	psi

- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered below the top of the Pictured Cliffs.
- The east half of Section 29 is dedicated to both the Mesa Verde and Dakota in this well.
- This gas is dedicated.

9-30-96

Date

Drilling Engineer