

**DRILLING PROGRAM  
MARATHON OIL COMPANY**

**INDIAN HILLS UNIT #22**



1. Estimated KB Elevation: 4,182' KB

<u>FORMATION</u>	<u>-----TOP-----</u>		<u>-----BASE-----</u>		<u>FLUID CONTENT</u>
	<u>MEASURED</u>	<u>SUBSEA</u>	<u>MEASURED</u>	<u>SUBSEA</u>	
Queen	Surface	+4182'	650'	+3532'	water
San Andres	650'	+3532'	2250'	+1932'	water
Glorietta	2250'	+1932'	2355'	+882'	
Delaware	3300'	+882'	4300'	-118'	
Bone Spring	4300'	-118'	5950'	-1768'	oil gas
Wolfcamp	5950'	-1768'	7520'	-3338'	oil gas
B/Permian Shale	7520'	-3338'	7530'	-3348'	
U. Penn	7530'	-3348'	7550'	-3368'	gas, oil, water

<u>FORMATION</u>	<u>---EST</u>	<u>SBHP---</u>	<u>EST SBHT</u>	<u>PPM</u>	<u>---SIGNIFICANCE---</u>	
	<u>PSIG</u>	<u>PPG EMW</u>			<u>H2S</u>	<u>(obj, marker, etc.)</u>
Bone Springs	1210	8.5		500		marker
Wolfcamp	1680	9.0			Yes	marker
B/Permian Shale	1810	9.0				objective pay
U. Penn	2050	9.0		5000	Yes	objective pay

2. See (1) above.  
If any unexpected water or mineral bearing zones are encountered, they will be reported, evaluated, and protected as circumstances and regulations require.

3. **Pressure Control Equipment:**

13 3/8" Surface: 13 5/8" 3M annular tested to 200-3000#, 13 5/8" 3M dual rams, choke manifold and mud cross, tested to 300#/3000#.

Auxiliary Equipment:

Surface Hole: Annular or rotating head w/air rig.

Intermediate Hole: N/A

Production Hole: Flow indicator, PVT, H<sub>2</sub>S Sensors, air packs, stroke counter, rotating head.

BOP systems will be consistent with API RP 53. Blowout preventers will be installed and tested prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. Preventers and casing will be pressure tested before drilling casing cement plugs.

Upper and lower kelly cocks with valve handle and safety valve and subs to fit all drillstring connections in use will be available on rig floor.

RECEIVED  
JUNE 10 1964  
JUN 10 1964

7:12 P M - 6 APR 1960