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JUN 13 1977

Attachment to Form 9-331C
Application for Permit to Drill

U. S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

Phillips Petroleum Company, Shug "A" Lease, Wells Nos. 1 and 2
NE/4 Section 33, T-18-S, R-31-E,
Eddy County, New Mexico

1. Locations of proposed wells:
No. 1--660' FN & 330' FE lines, Section 33, T-18-S, R-31-E, Eddy County, New Mexico
No. 2--1980' FN & 330' FE lines, Section 33, T-18-S, R-31-E, Eddy County, New Mexico
2. Unprepared ground elevations:
Well No. 1--3614.0'
Well No. 2--3612.7'
3. The geologic name of the surface formation is Quaternary Alluvium and Sand Dunes overlying caliche.
4. Type of drilling tools will be standard rotary rig.
5. Proposed drilling depth is 4500'.
6. The estimated tops of important geologic markers are as follows:
Triassia --120' Salado --895' Queen --3345'
Dewey Lake--500' Yates --2320' Grayburg --3800'
Rustler --650' 7 Rivers--2760' San Andres--4050'
7. The estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered are as follows:
Water: Triassia 120'
Oil & Gas: Yates 2320', 7 Rivers 2760', Queen 3345',
 Grayburg 3800', San Andres 4050'
8. The proposed casing program is as follows:
Surface --New 8-5/8" 32#, K-55
Production--New 4-1/2", 11.6#, N-80 LT&C
9. The proposed setting depth of each casing string and the amount and type of cement, including additives, to be used are as follows:
Surface--set at 700'--cement with 500 sacks Class C with 2% CaCl₂ with 1/4# Flocele per sack. Cement to be circulated.
Production--set at 4500'--cement with estimated 600 sacks Class H with 8# salt per sack and 1/4# Flocele per sack.
10. The minimum specifications for pressure control equipment which are to be used, a schematic diagram thereof showing sizes, pressure ratings (or API series) and the testing procedure and testing frequency are attached.