

**WELL SERVICE APPROVAL - AFE
PHILLIPS PETROLEUM COMPANY--PERMIAN BASIN REGION**

RKB @ 3013.
CHF @
GL @ 2990.

Date September 14, 1993

Category Code 2
Area North Subarea Cabin Lake
Lease & Well No. Malaga-C State No. 1
Legal Description 1980' FNL & 660' FWL, Section 36, T-23-S, R-28-E,
Eddy County State: New Mexico
Field undesignated (Morrow)
Status: Atoka producer BOPD 100 MCFD
Tbg: 11,862' of 2-7/8" 00. 6.5 #/ft. Gr. N-80 w/ VAM threads
of " 00. #/ft. Gr.
Packer: set @ 11,682' in 10K compression Packer Type: 5-1/2" Baker
Date Drilled/Completed: spudded 3-28-81/ completed 11/81
Hole/Casing Condition: good
Stimulation History: 10/81: Treated Atoka perms 11,781'-11,823' w/ 200 gals
7-1/2% acid w/ 500 scf N₂ per bbl acid.

WELLHEAD DESCRIPTION: 10" 5000 psi x 7-1/16" 10,000 psi tubing head
7-1/16" x 2-7/8" 10,000 psi WKH christmas tree
PROPOSAL: Cement squeeze Atoka perforated intervals (11,781'-11,789' &
11,818'-11,823'), clean out wellbore, perforate and test Morrow
interval 13,012'-13,021'.

Reservoir Data:

<u>Atoka interval</u>	<u>BHP</u>	<u>BHT</u>	<u>frac grad</u>
11,781'-11,789'	1500 psi	182 deg F	.77 psi/ft
11,818'-11,823'	1500 psi	182 deg F	.77 psi/ft
<u>Morrow interval</u>	<u>BHP (est)</u>	<u>BHT</u>	<u>frac grad</u>
13,012'-13,021'	5000 psi	194 deg F	.77 psi/ft

TUBULAR RATINGS

<u>Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Burst</u>	<u>Collapse</u>	<u>Tension</u>
2-7/8"	6.5#	N-80	8270#	9710#	93.5K
5-1/2"	17#	N-80	6800#	5930#	222K
5-1/2"	20#	N-80	8080#	8330#	273K

Checked by:
Resv Eng K. R. Schremko
Prod Eng J. S. Hargrove
Prod Eng Supv K. E. Snow
Prod Eng Dir R. K. Bogan
Approved T. J. Bogan

mantis case name: malagac1

RISKED
PROJECT ECONOMICS @ \$2.00/MCF
BOPD 2 MMCFD
AARR 500 %
PAYOUT 0.1 YRS.
NTER 35 TIMES
NPV @ 13% \$1152 M
PI @ 13% 27
ECONOMIC LIFE 8 YRS.
EST. COMPL. DATE 12/93
PPCO: W.I. 100 %
R.I. 82.5 %

Copies: L. A. Takla
(r) Cent. Files
R. C. Ainsworth (3)
T. J. Bogan
D. R. Wier
(r) J. E. Pickett
J. S. Chimahusky
M. L. Moore
Rocky Chambers

<u>CHARGE TO</u>	<u>GROSS COST</u>	<u>NET COST</u>
EXPENSE AFE	\$	\$
INVESTMENT AFE <u>P-CL61</u>	\$ <u>44,500</u>	\$ <u>44,500</u>
TOTAL	\$ <u>44,500</u>	\$ <u>44,500</u>

18-5/8" 87.5# K-55 @ 450'
cmt'd w/ 850 sx
cement circulated

13-3/8" 61# K-55 @ 2700'
cmt'd w/ 2300 sx
cement circulated

9-5/8" 40# S-95 & N-80 @ 9830'
cmt'd w/ 1700 sx
TOC = 1700'

Atoka perms:
11,781'-11,789' (16 shots)
11,818'-11,823' (10 shots)

5-1/2" 17# & 20# N-80 @ 13,471'
cmt'd w/ 925 sx
TOC = w/ 9030'

PBTD = 13,472'
TD = 13,472'