


COMPUTERIZED DATA ANALYSIS

OCTOBER 18, 1979

GENTLEMEN:

THE ENCLOSED TEST APPEARS TO BE A GOOD MECHANICAL DRILL STEM TEST DURING WHICH THE TOOLS DID FUNCTION PROPERLY. THE FORMATION PRODUCED ENOUGH RESERVOIR FLUID FOR PROPER IDENTIFICATION. RESERVOIR PRESSURE DRAWDOWN WAS SUFFICIENT AND ADEQUATE SHUT-IN BUILD-UPS DID OCCUR FOR RELIABLE QUANTITATIVE ANALYSIS. RESERVOIR PARAMETERS WERE CALCULATED BY THE HORNER METHOD.

1. FLOW RATE: A FLOW RATE OF 1127 BBL/DAY OF OIL WAS NOTED DURING THIS TEST.
2. RESERVOIR PRESSURE: EXTRAPOLATION OF THE INITIAL AND SECOND SHUT-IN PRESSURE BUILD-UPS INDICATES A MAXIMUM RESERVOIR PRESSURE OF 2762 P.S.I.G. AT RECORDER DEPTH. EXTRAPOLATION OF THE FINAL SHUT-IN PRESSURE BUILD-UP INDICATES A MAXIMUM RESERVOIR PRESSURE OF 2737 P.S.I.G. AT RECORDER DEPTH. THE DIFFERENCE BETWEEN THE INITIAL AND FINAL SHUT-IN PRESSURE OF 25 P.S.I.G. MAY BE SIGNIFICANT BUT IT APPEARS THAT THE INITIAL AND SECOND SHUT-INS ARE STILL BREAKING OVER. THE ACTUAL RESERVOIR PRESSURE MAY BE REPRESENTED BY THE FINAL SHUT-IN.
3. PERMEABILITY: THE CALCULATED TRANSMISSIBILITY FACTOR OF 2184 MD.-FT./CP. INDICATES AN AVERAGE EFFECTIVE PERMEABILITY TO OIL OF 30.6 MD. FOR THE REPORTED 30 FOOT NET INTERVAL. THE CALCULATIONS WERE BASED ON A SLOPE OF 107 P.S.I./LOG CYCLE OBTAINED FROM THE FINAL SHUT-IN BUILD-UP PLOT. IT WAS ASSUMED FOR THESE CALCULATIONS: (A) THE 52.6°API AT 60°F. OIL CONTAINED 498 CU.FT./BBL. OF ORIGINAL DISSOLVED GAS (B) VISCOSITY .42 CP., (C) FORMATION VOLUME FACTOR 1.275 BBL/BBL. THESE FIGURES WERE OBTAINED FROM THE AVAILABLE TECHNICAL LITERATURE.
4. WELL BORE DAMAGE: THE CALCULATED DAMAGE RATIO OF 2.27 INDICATES THAT WELL BORE DAMAGE IS PRESENT AT THE TIME AND CONDITIONS OF THIS TEST.
5. RADIUS OF INVESTIGATION: THE CALCULATED RADIUS OF INVESTIGATION OF THIS TEST IS 301 FEET BASED ON AN ASSUMED POROSITY OF 10%, COMPRESSIBILITY OF 10.9×10^{-6} , AND OTHER ASSUMPTIONS MADE IN NUMBER 3 ABOVE.
6. GENERAL COMMENTS: THE FORMATION EXHIBITS THE CHARACTERISTICS OF RELATIVELY HIGH PERMEABILITY EFFECTIVE TO THE RESERVOIR FLUID AND INDICATES THE PRESENCE OF WELL BORE DAMAGE.


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DEPARTMENT

ENSERCH EXPLORATION, INC.
LAMBRITH #8; ROOSEVELT COUNTY, NEW MEXICO
TEST #2; 7793' TO 7838'
LOCATION: SEC. 30 - T5S - R33E

FIELD REPORT # 19492 D

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