Certification of personal knowledge of Inclination Data:

I hereby certify that I have personal knowledge of the data and facts placed on the foregoing instrument, and that such information given above is true and complete.

Dolton Varnum
Signature

State of Texas }
County of Midland }

MARCEL DRILLING COMPANY
Company

Before me, the undersigned, a Notary Public in and for said County and State, on this day personally appeared Dolton Varnum, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purpose and consideration therein expressed and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS 5th DAY OF October 1975

My Commission Expires

June 1, 1975

Notary Public in and for said County & State

RECEIVED
JAN 26 1976
U. S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

JOHNSTON
Schlumberger

RECEIVED
JAN 26 1976
O. C. C.
ARTESIA, OFFICE

COMPUTERIZED DATA ANALYSIS

SEPTEMBER 30, 1974

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 AN ADEQUATE SHUT-IN BUILD-UP DID OCCUR FOR RELIABLE QUANTITATIVE ANALYSIS. AFTER-FLOW WAS STILL IN EFFECT ON THE INITIAL SHUT-IN BUILD-UP TO THE EXTENT THAT THE PLOT IS CONSIDERED UNRELIABLE FOR ANALYSIS. IT IS SUGGESTED ON FUTURE TESTS IN THIS FORMATION, IN THIS AREA THAT THE INITIAL SHUT-IN BE AT LEAST 60 MINUTES.

1. FLOW RATE: A FLOW RATE OF 120 MCF/DAY OF GAS WAS NOTED DURING THIS TEST.

2. RESERVOIR PRESSURE: EXTRAPOLATION OF THE FINAL SHUT-IN PRESSURE BUILD-UP INDICATES A MAXIMUM RESERVOIR PRESSURE OF 4562 P.S.I.G. AT RECORDER DEPTH.

3. PERMEABILITY: THE CALCULATED TRANSMISSIBILITY FACTOR OF 15.65 MD.-FT./CP. INDICATES AN AVERAGE EFFECTIVE PERMEABILITY TO GAS OF 0.026 MD. FOR THE REPORTED 14 FOOT POROUS INTERVAL. THE CALCULATIONS WERE BASED ON A SLOPE OF 7781408 P.S.I.^{2}/LOG CYCLE OBTAINED FROM THE FINAL SHUT-IN BUILD-UP PLOT. IT WAS ASSUMED FOR THESE CALCULATIONS: (A) GAS GRAVITY 0.70 (B) VISCOSITY 0.025 CP. (C) AND GAS DEVIATION FACTOR 0.94. THESE FIGURES WERE OBTAINED FROM THE AVAILABLE TECHNICAL LITERATURE.

4. WELL BORE DAMAGE: THE CALCULATED ESTIMATED DAMAGE RATIO OF 0.59 INDICATES THAT NO 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 11 FEET BASED ON AN ASSUMED POROSITY OF 7%, COMPRESSIBILITY OF 1.36 X 10-4, AND OTHER ASSUMPTIONS MADE IN NUMBER 3 ABOVE.

6. GENERAL COMMENTS: THE FORMATION EXHIBITS THE CHARACTERISTICS OF RELATIVELY LOW PERMEABILITY EFFECTIVE TO THE RESERVOIR FLUID AND INDICATES THE ABSENCE OF WELL BORE DAMAGE.

AN ANOMALY IS NOTED ON THE FINAL SHUT-IN BUILD-UP PLOT. A BREAK UPWARD IN SLOPE VALUE, SUCH AS THAT NOTED HEREIN, IS GENERALLY INTERPRETED AS A DECREASE IN TRANSMISSIBILITY AWAY FROM THE WELL BORE. LOGS AND OTHER WELL INFORMATION ARE NEEDED TO DETERMINE THE CAUSE OF THIS ANOMALY.

HEAVY STIMULATION WOULD BE NECESSARY TO OBTAIN ANY INCREASE IN FLOW CAPACITY. LOCAL EXPERIENCE SHOULD DICTATE THE FEASIBILITY OF STIMULATION FOR THIS ZONE.

D. A. Warren, Jr.

D. A. WARREN, JR.
INTERPRETATION AND
EVALUATION DEPARTMENT

ESTORIL PRODUCTION CORPORATION
SHELL-FEDERAL #2; EDDY COUNTY, NEW MEXICO
TEST #2; 9905' TO 10160'

FIELD REPORT #07253 C