

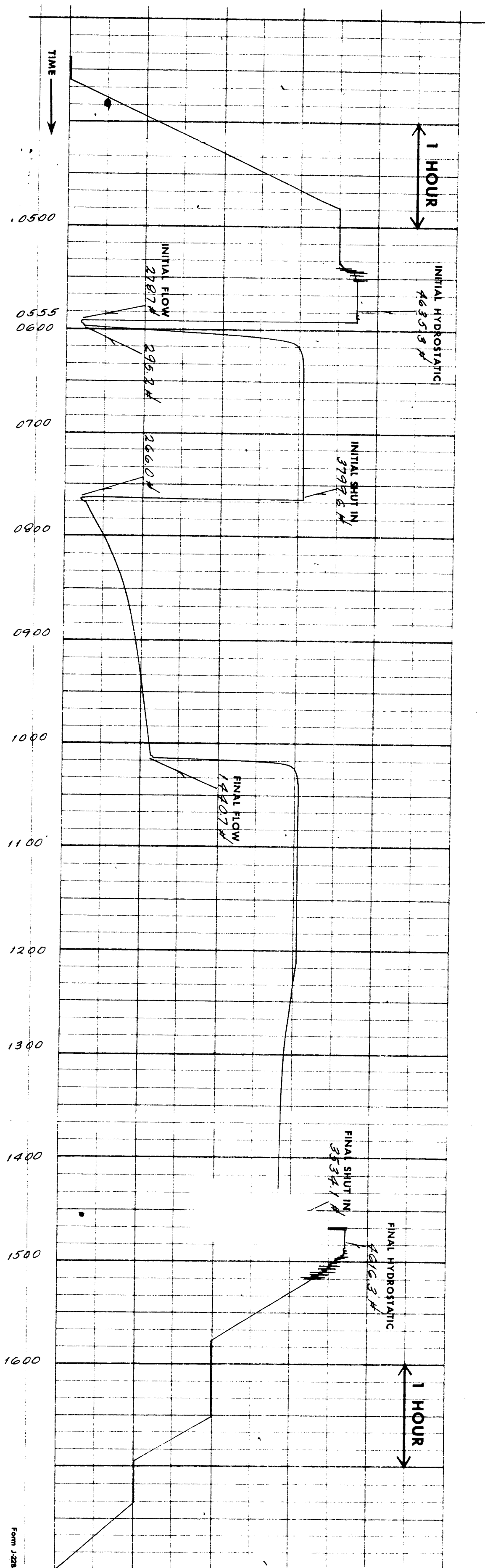
# PRESSURE LOG\*

Field Report No. 11327 C  
Instrument: J-069

Capacity 6400 p.s.i.

Depth 9196 ft.

\* a continuous tracing of the original chart



**COMPUTERIZED DATA ANALYSIS**

MAY 13, 1976

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.

1. FLOW RATE: A FLOW RATE OF 1320 MCF/DAY OF GAS WAS NOTED DURING THIS TEST.
2. RESERVOIR PRESSURE: MECHANICAL STABILIZATION OF THE INITIAL SHUT-IN PRESSURE BUILD-UP INDICATES A MAXIMUM RESERVOIR PRESSURE OF 3800 P.S.I.G. AT RECORDER DEPTH. MECHANICAL STABILIZATION OF THE FINAL SHUT-IN PRESSURE BUILD-UP INDICATES A MAXIMUM RESERVOIR PRESSURE OF 3779 P.S.I.G. AT RECORDER DEPTH. THE DIFFERENCE BETWEEN THE INITIAL AND FINAL SHUT-IN PRESSURE OF 21 P.S.I.G. IS INSIGNIFICANT.
3. PERMEABILITY: THE CALCULATED TRANSMISSIBILITY FACTOR OF 4773.4 MD.-FT./CP. INDICATES AN AVERAGE EFFECTIVE PERMEABILITY TO GAS OF 4.11 MD. FOR THE REPORTED 23 FOOT TEST INTERVAL. THE CALCULATIONS WERE BASED ON A SLOPE OF 279,757 P.S.I.<sup>2</sup>/LOG CYCLE OBTAINED FROM THE FINAL SHUT-IN BUILD-UP PLOT. IT WAS ASSUMED FOR THESE CALCULATIONS: (A) GAS GRAVITY 0.70 (B) VISCOSITY .0225 CP. (C) AND GAS DEVIATION FACTOR 0.88. THESE FIGURES WERE OBTAINED FROM THE AVAILABLE TECHNICAL LITERATURE.
4. WELL BORE DAMAGE: THE CALCULATED DAMAGE RATIO OF 8.61 INDICATES THAT WELL BORE DAMAGE IS PRESENT AT THE TIME AND CONDITIONS OF THIS TEST. THIS VALUE INFERS THAT THE RATE OF PRODUCTION OBSERVED AT THE FORMATION FACE DURING THIS TEST MAY BE INCREASED 8.61 TIMES IF THE WELL BORE DAMAGE ALONE WERE REMOVED.
5. RADIUS OF INVESTIGATION: THE CALCULATED RADIUS OF INVESTIGATION OF THIS TEST IS 161 FEET BASED ON AN ASSUMED POROSITY OF 10%, COMPRESSIBILITY OF  $1.87 \times 10^{-4}$ , 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 PRESENCE OF WELL BORE DAMAGE. REMOVAL OF THIS DAMAGE SHOULD AID FLOW POTENTIAL ADMIRABLY. LOCAL CONDITIONS SHOULD DICTATE THE MOST EFFICIENT TYPE OF TREATMENT.

A STABILIZED FLOW RATE WAS NOT OBTAINED. THE WELL WAS STILL CLEANING UP AND RESERVOIR CALCULATIONS SHOULD THEREFORE SERVE ONLY AS INDICATORS. A PRESSURE DECREASE OCCURRED DURING THE END OF THE FINAL SHUT-IN. THIS PHENOMENON COULD BE ATTRIBUTED TO SEVERAL FACTORS. A PRESSURE LEAK COULD HAVE OCCURRED IN THE TEST SYSTEM WHEREBY A BLEED-OFF WAS PRESENT. IF MORE THAN ONE ZONE WAS PRESENT, THIS PRESSURE DECREASE COULD BE CAUSED BY ONE ZONE BREAKING DOWN AND TAKING PRESSURE FROM THE TEST INTERVAL.

LLANO, INC.  
LEAVITT COM.#1; EDDY COUNTY, NEW MEXICO  
TEST #1; 9012' TO 9208'  
LOCATION: SEC.13-T18S-R26E

  
JOHN F. VISCARDE  
RESERVOIR EVALUATION  
DEPARTMENT

FIELD REPORT #11327 C

In making any interpretation, our employees will give Customer the benefit of their best judgment as to the correct interpretation. Nevertheless, since all interpretations are opinions based on inferences from electrical, mechanical or other measurements, we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not be liable or responsible, except in the case of gross or wilful negligence on our part, for any loss, costs, damages or expenses incurred or sustained by Customer resulting from any interpretation made by any of our agents or employees.