

REPORT NO.
135949

PAGE NO. 1

TEST DATE:
06-DEC-1996

STAR

Schlumberger Transient Analysis Report

Based on Model Verified Interpretation

Schlumberger

COMPANY: MANZANO OIL CORP.

WELL: CHIPSHOT #1

TEST IDENTIFICATION

Test Type BU / GRADIENTS
Test No. ONE
Formation Wolfcamp
Test Interval (ft) 10578 to 10590

WELL LOCATION

Field WILDCAT
County LEA
State NEW MEXICO
Sec/Twn/Rng S11T16SR36E

COMPLETION CONFIGURATION

Total Depth (MD/TVD) (ft)
Casing/Liner I.D. (in) 5.5
Hole Size (in) 7.875
Perforated Interval (ft) 10578 to 10590
Shot Density (shots/ft)
Perforation Diameter (in)
Net Pay (ft) 24

TEST STRING CONFIGURATION

Tubing Length (ft)/I.D. (in).. 10486 / 1.995
Tubing Length (ft)/I.D. (in)..
Packer Depth (ft) 10498
Gauge Depth (ft)/Type 10584/SLSR-777
Downhole Valve (Y/N)/Type

TEST CONDITIONS

Tbg/Wellhead Pressure (psi) .. 1025 to 1422
Equiv. Producing Time (hrs) .. 2022

INTERPRETATION RESULTS

Model of Behavior Homogeneous
Fluid Type Used for Analysis.. Oil
Reservoir Pressure (psi) 3646 @ 10584'
Transmissibility (mc.ft/cp) .. 10206.83
Effective Permeability (md) .. 199.45
Skin Factor 96.796
Radius of Investigation (ft).. 2806

ROCK/FLUID/WELLBORE PROPERTIES

Oil Density (deg. API) 40
Water Saturation (%) 30 (est)
Gas Gravity 0.869
GOR (scf/STB) 1688
Water Cut (%) 0.0
Viscosity (cp) 0.46898
Total Compressibility (1/psi) . 5.3843 E-05
Porosity (%) 9
Reservoir Temperature (F) 162
Form.Vol.Factor (bbl/STB) 1.3769

PRODUCTION RATE DURING TEST: 221 BOPD

COMMENTS:

This is a Model Verified Interpretation of the buildup conducted in the Wolfcamp formation, starting on 6-DEC-1996. The reported oil rate is the average over the last 5 days of production. Inspection of the flow regime identification plot (page #6) indicated wellbore storage at early time, a fairly good infinite acting region at middle time, and no indication of boundaries within the test radius of investigation. The "step" behavior in the derivative during transition is probably a combination of changing wellbore storage and partial penetration effects. The data was modeled as being in an infinite, homogeneous system, with skin and variable wellbore storage. The reported value for radius of investigation is a function of the effective permeability, which is in turn a function of the net pay. If $h = 50'$ then $R.I. = 1944'$, or if $h = 75'$ then $R.I. = 1587'$. Thank you for using Schlumberger Companies. Questions should be directed to Gil Hilsman at (915) 684-0700.

**BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico**

Case No. 11675 (Reopened) Exhibit No. 5

Submitted by: Manzano Oil Corporation

REPORT NO.
150905

PAGE NO. 1

TEST DATE:
03-MAR-1997

S I H N

Schlumberger Transient Analysis Report
Based on Model Verified Interpretation

Schlumberger

COMPANY: MANZANO OIL CORP.	WELL: CHIPSHOT #1
TEST IDENTIFICATION Test Type BHP/GRADIENT Test No. 2 Formation Wolfcamp Test Interval (ft) 10578 to 10590	WELL LOCATION Field W/C County LEA State NM Sec/Twn/Rng S11T16SR36
COMPLETION CONFIGURATION Total Depth (MD/TVD) (ft) Casing/Liner I.D. (in) 5.50 Hole Size (in) 7 7/8 Perforated Interval (ft) 10578 to 10590 Shot Density (shots/ft) Perforation Diameter (in) Net Pay (ft) 24	TEST STRING CONFIGURATION Tubing Length (ft)/I.D. (in).. 10486 / 1.995 Tubing Length (ft)/I.D. (in).. Packer Depth (ft) 10491 Gauge Depth (ft)/Type 10579/SLSR-881 Downhole Valve (Y/N)/Type TEST CONDITIONS Tbg/Wellhead Pressure (psi) .. 999 to 1373 Equivalent Prod. Time (hrs) .. 4104
INTERPRETATION RESULTS Model of Behavior Homogeneous Fluid Type Used for Analysis.. Oil Reservoir Pressure (psi) 3653 @ 10579' Transmissibility (md.ft/cp) .. 10235.0 Effective Permeability (md) .. 200.0 Skin Factor 73.21 Boundary Type Wedge Boundary Distance See page #3 Radius of Investigation (ft).. 2044	ROCK/FLUID/WELLBORE PROPERTIES Oil Density (deg. API) 40 Water Saturation (%) 30 (est) Gas Gravity 0.869 GOR (scf/STB) 1601 Water Cut (%) 0.0 Viscosity (cp) 0.46898 Total Compressibility (1/psi). 5.3843 E-05 Porosity (%) 9 Reservoir Temperature (F) 161 Form.Vol.Factor (bbl/STB) 1.3769

PRODUCTION RATE DURING TEST: 243 BOPD

COMMENTS:

This is a Model Verified Interpretation of the 46 hour buildup started on 03-MAR-1997 in the Wolfcamp formation. Prior to the test the well produced oil and gas. The data was modeled as being in a homogeneous system with skin, variable wellbore storage and wedge shaped boundaries within the test radius of investigation. The boundaries are believed to be due to offset production, not sealing faults, because an earlier test on 06-DEC-1996 showed a completely infinite system. Changing storage and boundary effects completely masked the infinite acting region of the data, so the permeability value from the previous test was used in the model. This report also used the fluid properties from the previous test.

Thank you for using Schlumberger Companies. Questions should be directed to Gil Hilsman at (915) 684-0700.