

REPORT NO.
101889 DST 3

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TEST DATE:

20-Feb-1988

STARTM

A Schlumberger Transient Analysis Report A Production System Analysis (NODALTM) Of A Flopetrol Johnston Drillstem Test

FLOPETROL JOHNSTON

Schlumberger

Company: SANTA FE ENERGY

Well: HUMBLE HUME "S" STATE #1

TEST IDENTIFICATION

Test Type MFE OH J300 DST
Test No. Three
Formation Wolfcamp
Test Interval (ft) ... 10065 to 10097
Reference Depth Kelly Bushing

WELL LOCATION

Field Hume
County Lea
State New Mexico
Sec/Twp/Rng 5/ 16s/ 34e
Elevation (ft) n/a

HOLE CONDITIONS

Total Depth (MD/TUD)(ft) . 10097
Hole Size (in) 7 7/8
Casing/Liner I.D. (in) ... --
Perf'd Interv./Nt Pay(ft). -- / 28
Shot Density/Diameter(in). --

MUD PROPERTIES

Mud Type Gel
Mud Weight (lb/gal) 8.7
Mud Resistivity (ohm.m) .. 3.0 at 60 F
Filtrate Resistiv.(ohm.m). --
Filtrate Chlorides (ppm) . 2,000

INITIAL TEST CONDITIONS

Initial Hydrostatic (psi). 4578
Gas Cushion Type None
Surface Pressure (psi) ... --
Liquid Cushion Type None
Cushion Length (ft) --

TEST STRING CONFIGURATION

Pipe Length (ft)/I.D.(in). 8577/3.83 651/3
Collar Length ft/I.D.(in). 795 / 2.25
Packer Depths (ft) 10059, 10065
Bottomhole Choke Size(in). 15/16
Gauge Depth (ft)/Type 10038 / J-300

NET PIPE RECOVERY

Volume	Fluid Type	Properties
34 Bbls	Oil	42 API at 60 F
Reversed out		

NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Properties
9.0 SCF	Gas	
1110 cc	Oil	42 API at 60 F
Some fluid drained.	was lost	when chamber was
Press. 1050	GOR: 1289	GLR: 1289

VALIDATION RESULTS

Model of Behavior Dual Porosity
Fluid Type Used Oil
Reservoir Pressure (psi) . 3791
Transmissivity (md.ft/cp) 1905.83
Permeability (md) 20.42
Skin Factor/Damage Ratio . 0.40 / 1.07
Storage Ratio
Interporosity Flow Coeff..
Distance to Anomaly (ft).
Investigation Radius (ft). 120
Potentiometric Surf. (ft).

ROCK/FLUID/WELLBORE PROPERTIES

Oil Density (deg. API) ... 42
Basic Solids (%)
Gas Gravity 0.65 (est)
Water Cut (%) None
Viscosity (cp) 0.30
Tot. Compress. (1/psi) ... 3.2 E-05
Porosity (%) 10 (est)
Reservoir Temperature (F). 151
Form.Vol.Factor (bbl/STB). 1.69

PRODUCTION RATE DURING TEST: 860 Bbls/day

COMMENTS:

The results of the interpretation indicate that the well is in an apparent dual porosity (naturally fractured) system with good effective permeability and with no wellbore damage at the time and conditions of the test. The second slope on the final shutin Horner plot could be an indication of multiple boundaries, the nearest boundary could be about 50 feet away (based on the time of deviation from the first slope). NODAL(tm) plots are included to show the system sensitivity to perforation shot density and to wellhead pressure, for pumping and flowing conditions.

RECEIVED

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