

REPORT NO.  
102975 DST 3

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TEST DATE:

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# WELL PERFORMANCE TESTING™ REPORT

A Production System Analysis (NODAL™)  
Based On Model Verified™ Interpretation

FLOPETROL JOHNSTON

Schlumberger

Company: SANTA FE ENERGY

Well: STERLING SILVER "34" FEDERAL #1

## TEST IDENTIFICATION

Test Type ..... MFE OH SPRO/TELE  
Test No. .... Three  
Formation ..... Morrow  
Test Interval (ft) ... 14449 to 14510  
Reference Depth ..... Kelly Bushing

## WELL LOCATION

Field ..... Wildcat  
County ..... Eddy  
State ..... New Mexico  
Sec/Twn/Rng ..... 34/ 23s/ 31e  
Elevation (ft) ..... 3449

## HOLE CONDITIONS

Total Depth (MD/TUD)(ft) . 14510  
Hole Size (in) ..... 6  
Casing/Liner I.D. (in) ... --  
Perf'd Interv./Nt Pay(ft). -- / 16  
Shot Density/Diameter(in). --

## MUD PROPERTIES

Mud Type ..... XC Drispac  
Mud Weight (lb/gal) ..... 11  
Mud Resistivity (ohm.m) .. 0.06 at 70 F  
Filtrate Resistiv.(ohm.m). --  
Filtrate Chlorides (ppm) . 138,000

## INITIAL TEST CONDITIONS

Initial Hydrostatic (psi). 8151  
Gas Cushion Type ..... None  
Surface Pressure (psi) ... --  
Liquid Cushion Type ..... Fresh Water  
Cushion Length (ft) ..... 6505

## TEST STRING CONFIGURATION

Pipe Length (ft)/I.D.(in). 5112/2.,76 8385/2.60  
Collar Length ft/I.D.(in). 983 / 2.25  
Packer Depths (ft) ..... 14443, 14449  
Bottomhole Choke Size(in). 1/2  
Gauge Depth (ft)/Type .... 14404 / SPRO

## NET PIPE RECOVERY

Volume	Fluid Type	Properties
1568 feet	Cushion	Trace of mud

## NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Properties
No Sample;	High rate washed the	
lower seal away.		
Press. --	GOR:	GLR:

## VALIDATION RESULTS

Model of Behavior ..... Homogeneous  
Fluid Type Used ..... Gas  
Reservoir Pressure (psi) . 7714  
Transmissivity (md.ft/cp) 18,915  
Permeability (md) ..... 37.83  
Skin Factor/Damage Ratio . 40.52 / 7.26  
Storativity Ratio .....  
Interporosity Flow Coeff..  
Distance to Anomaly (ft).  
Investigation Radius (ft). 215  
Potentiometric Surf. (ft). 6857

## ROCK/FLUID/WELLBORE PROPERTIES

Oil Density (deg. API) ... None  
Basic Solids (%) .....  
Gas Gravity ..... 0.65 (est)  
Water Cut (%) .....  
Viscosity (cp) ..... 0.032  
Tot. Compress. (1/psi) ... 4.0 E-05  
Porosity (%) ..... 10  
Reservoir Temperature (F). 206  
Form.Vol.Factor (bbl/STB).

PRODUCTION RATE DURING TEST: 14,790 mscf/day

## COMMENTS:

The results of the interpretation indicate that the well is in an assumed homogeneous system with good effective permeability and with some wellbore damage at the time and conditions of the test. The SPRO(tm) instrument indicated some unusual behavior in the final shutin (this was not seen on the mechanical chart). This pressure decrease could be due to the release of pressure in the drill pipe or it could be interference from other producing wells, or it could be phase redistribution in the test interval. Because of this behavior and the very short duration of the flow periods, these results (and the NODAL plots) are only considered to be general indicators.