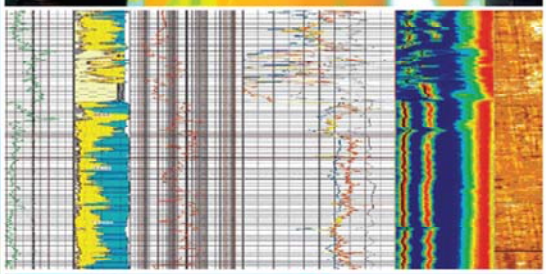
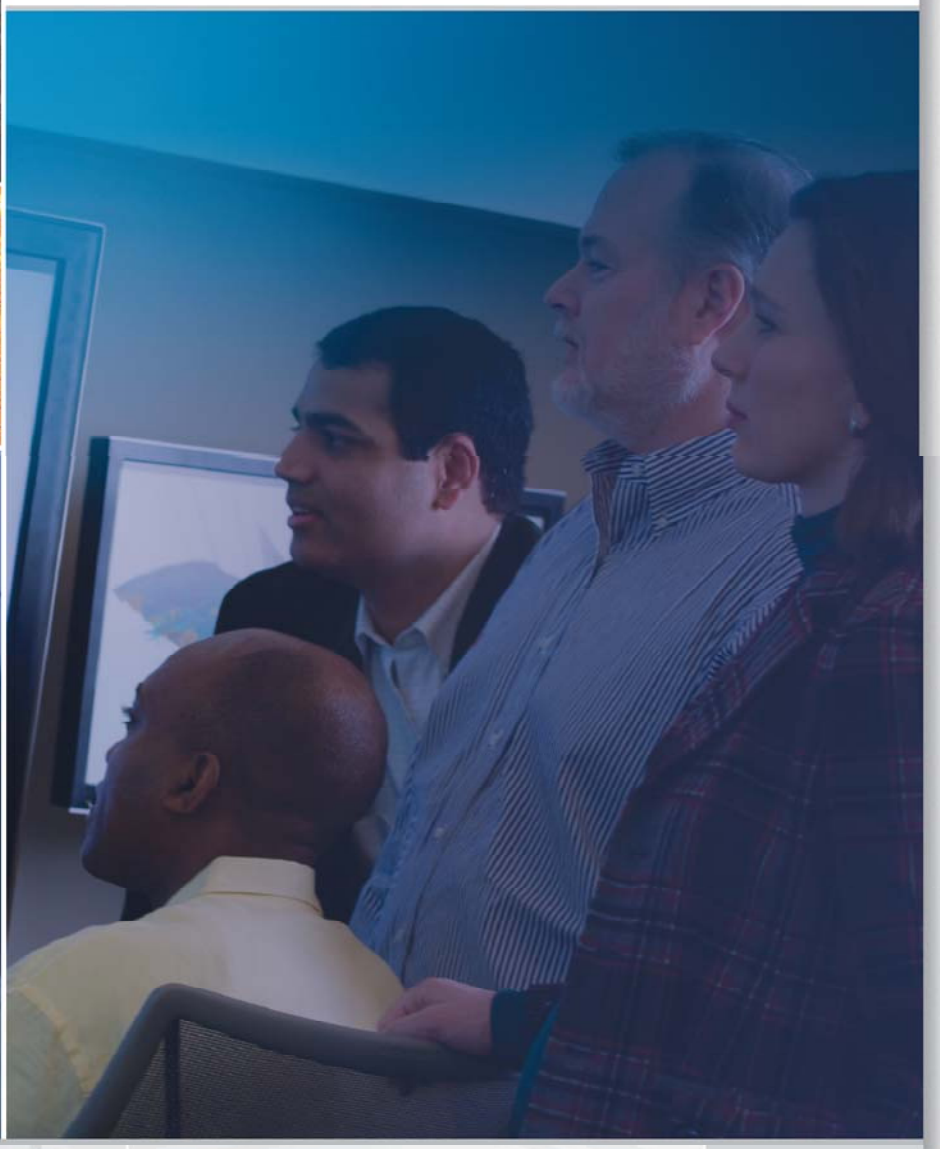
PetroTechnical Services





Company :	**Altamont Oil and Gas**
Well:	**Danielson 33-17**
Field:	**Oilmont**
State:	**Montana**
County:	**Toole**
Job #:	**DSP-2015-01524**
Report Date:	**20-Jan-2015**
Analyst:	**Hebert**

Pressure Buildup Analysis

Schlumberger

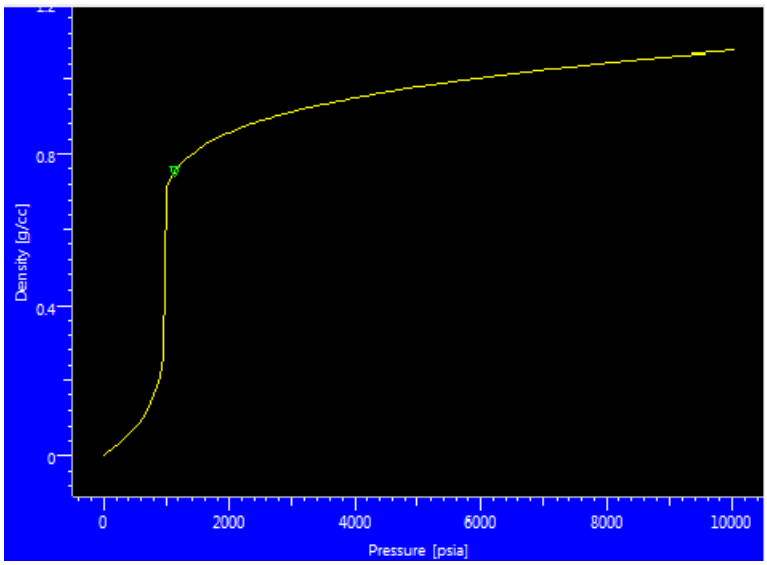
Report Summary

The following report summarizes the well test data acquired on the Danielson 33-17 well on starting on 26-Dec-2014 and ending 07-Jan-2015. The production history for the well started with intermittent flow periods and finished with a final flow period of 40 Mscfd prior to shut-in. After shutin, the well was allowed to buildup for approximately 227 hours in an attempt to obtain reservoir properties. Flow from the well was from the Middle Duperow, Testing Zone 5.

As noted in the log-log plot on the following page, the buildup response appears to be affected by changing storage and there appears to be an area at around 80 hours of shut-in time where the derivative response appears to be highly affected by a non-reservoir response. Based on the PVT properties, there appears to be a dramatic change in fluid properties as the pressure build above 1000 psi so the effects noted are likely due to phase changes in the wellbore and reservoir. Once these effects subside the derivative response appears to be attempting to re-establish the infinite acting radial flow plateau so it is believed the later time data acquired is reflecting the radial flow portion and the results obtained reflect that.

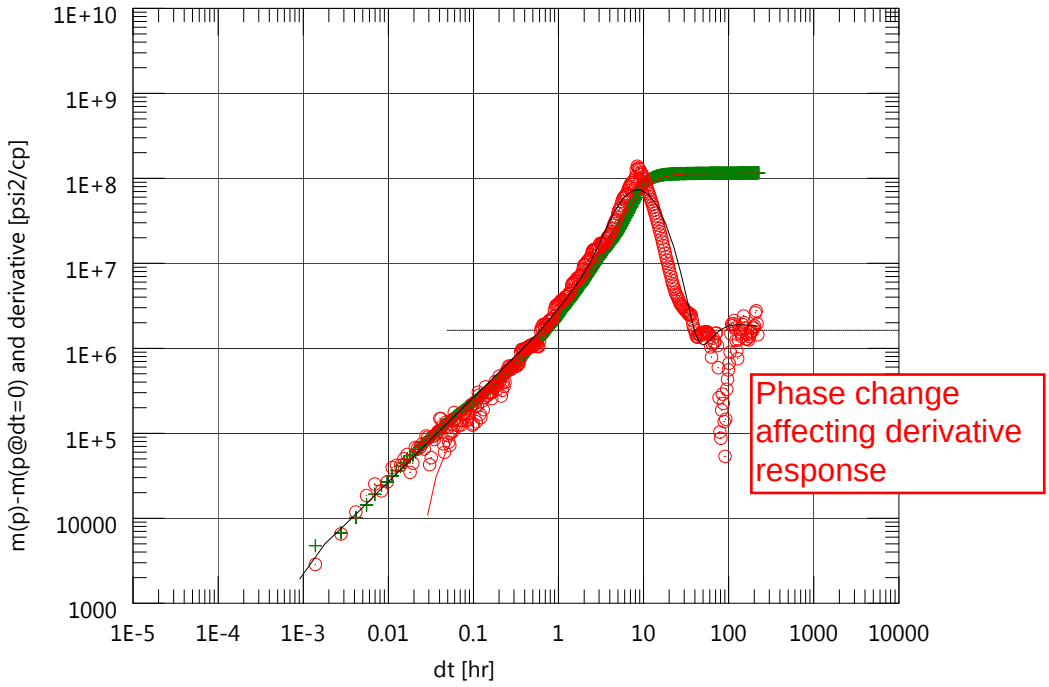
The table below sumarizes the main inputs and results with additional results presented on the plots that are presented to show the models match to the acquired data on the following pages. PVT results are at reservoir pressure and temperature.

Input Parameters	
Porosity (PU)	6
Temperature (degF)	74
Wellbore radius (ft)	0.3
Viscosity (cP)	0.064
Total FormVolFractor (cf/scf)	0.00246
Thickness (ft)	58
Final Rate (Mscfd)	40
Results	
Reservoir Model	Homogeneous
Permeability-Thickness (md-ft)	9.41
Permeability (mD)	0.162
Skin	26.40
Dpskin	524.80
Radius of Investigation (ft)	224.00
Reservoir Pressure (psia)	1161.80



Density vs. Pressure indicates change in fluid properties as pressure nears 1000 psi.

Log-Log plot	Analysis 1
Company Altamont Oil and Gas	Field Oilmont
Well Danielson 33-13	Test Name / # BHP Flow/Shut-In



BHP build-up #2

Rate	0 Mscf/D
Rate change	40 Mscf/D
P@dt=0	126.686 psia
Pi	1161.8 psia
Smoothing	0

Default values are used!

Selected Model

Model Option	Standard Model
Well	Vertical, Changing Storage (Hegeman)
Reservoir	Homogeneous
Boundary	Infinite

Main Model Parameters

TMatch	10.1 [hr]-1
PMatch	3.06E-7 [psi2/cp]-1
C	0.00433 bbl/psi
Total Skin	26.4
k.h, total	9.41 md.ft
k, average	0.162 md
Pi	1161.8 psia

Model Parameters

Well & Wellbore parameters (Danielson 33-13)

C	0.00433 bbl/psi
Ci/Cf	19.3
delta_t	22.2 hr
Skin	26.4

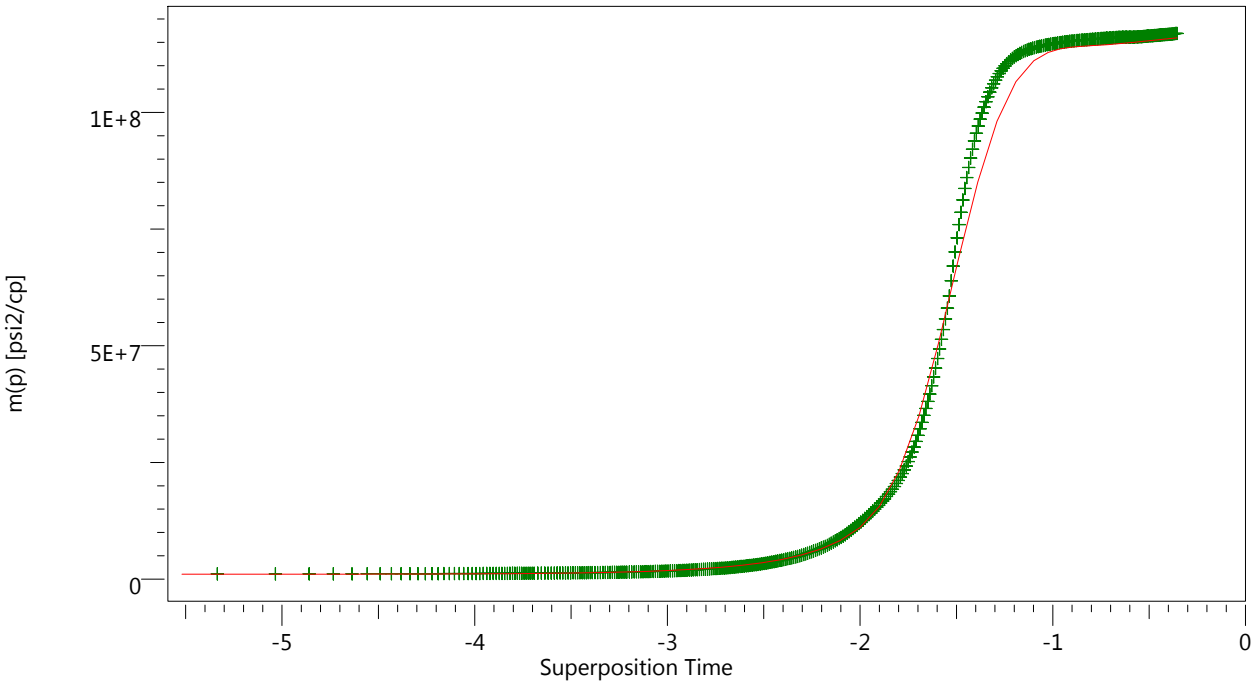
Reservoir & Boundary parameters

Pi	1161.8 psia
k.h	9.41 md.ft
k	0.162 md

Derived & Secondary Parameters

Rinv	224 ft
Test. Vol.	0.0976241 MMB
Delta P (Total Skin)	524.82 psi
Delta P (Geometrical Skin)	8.10462E-13 psi
Delta P Ratio (Total Skin)	0.508855 Fraction

Semi-Log plot	Analysis 1
Company Altamont Oil and Gas	Field Oilmont
Well Danielson 33-13	Test Name / # BHP Flow/Shut-In



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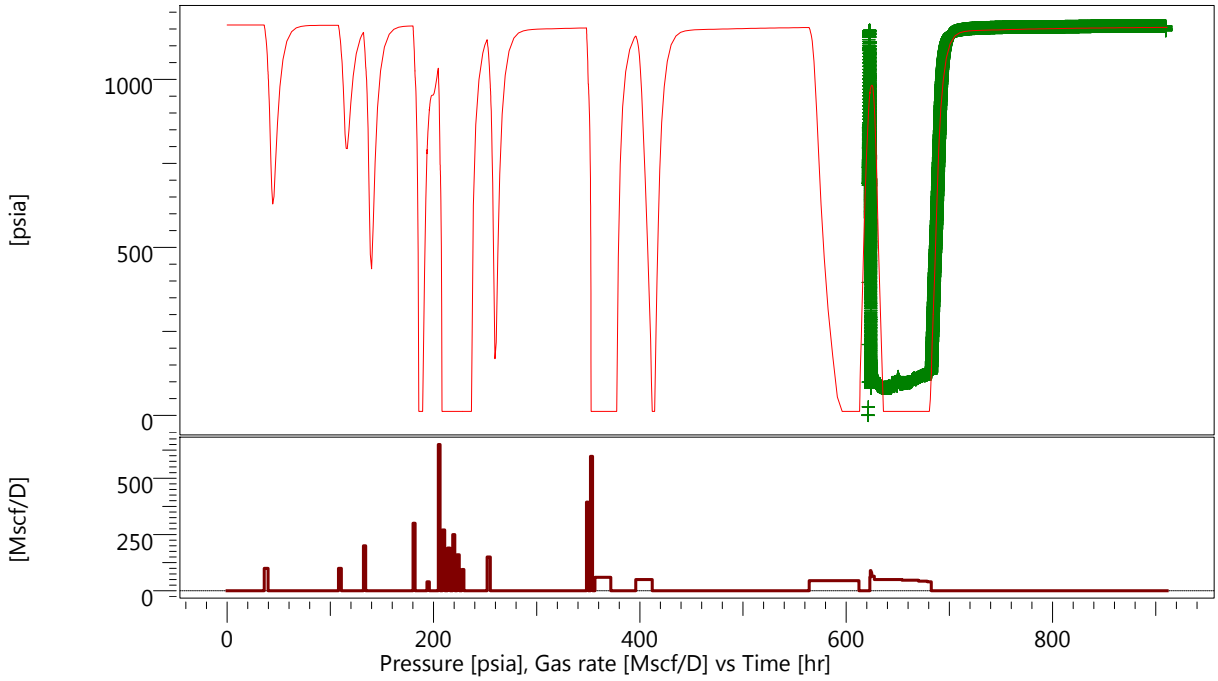
History plot	Analysis 1
Company Altamont Oil and Gas	Field Oilmont
Well Danielson 33-13	Test Name / # BHP Flow/Shut-In



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Company Altamont Oil and Gas | Field Oilmont
Well Danielson 33-13 | Test Name / # BHP Flow/Shut-In

Test date / time	Dec 26, 2014 - Jan 7, 2015
Formation interval	Middle Duperow - Testing Zone 5
Perforated interval	3208-3222 & 3288-3336
Gauge type / #	SN 90026
Gauge depth	3180
Analyzed by	Hebert
Analysis date / time	20-Jan-2015
TEST TYPE	Standard
Porosity Phi (%)	6
Well Radius rw	0.3 ft
Pay Zone h	58 ft
Form. compr.	3E-6 psi-1
Water Salt (ppm)	10000
Reservoir T	80 °F
Reservoir P	1147 psia
Fluid type	Gas

Gas

Gas Gravity	0.7
Pseudo-Critical P	663.573 psia
Pseudo-Critical T	377.26 °R

Sour gas composition

Hydrogen sulphide	0
Carbon dioxide	0
Nitrogen	0

Water

Salinity, ppm	10000
Temperature	80 °F
Pressure	1147 psia
Properties	@ Reservoir T&P

Gas

Z	0.186434
Mug	0.0636066 cp
Bg	0.00247904 cf/scf
cg	3.07702E-4 psi-1
Rhog	0.75513 g/cc

Water

Rsw	167.649 scf/stb
Bw	1.04506 B/STB
cw	7.52225E-6 psi-1
Muw	0.967738 cp
Rhow	0.964246 g/cc

Total Compr. ct	1.60612E-4 psi-1
Connate Water (%)	50

Default values are used!

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