



Plunger Lift Evaluation

ABC Energy Company

Well Name

Location

FIELD: Northern AB

FORMATION: Name

Test Date: February 14, 2011
(Analysis Provided by DefOpt)

FIELD CONTACT:

Mr. Engineer

PREPARED BY:

Riley Moore

DATE:

April 7, 2011

Well Parameters	
Tubing ID (mm)	= 50.67
Midpoint of Perfs Depth (m)	= 1038.25
% CO2	= 0.1
% H2S	= 0
Casing ID (mm)	= 101.6
Gas Flow Rate (e3m3/d)	= 9.5
Water Flow Rate (m3/d)	= 0.1
Condensate Flow Rate (m3/d)	= 0
Flowing Tubing Pressure (kPa)	= 810
Flowing Casing Pressure (kPa)	= 1245
Tubing Length (m)	= 1034.99
Reservoir Pressure (kPa)	= 2865
Tubing OD (mm)	= 60.3
Top of Perfs (m)	= 1036
Plunger Set Depth (m)	= 1033.88

Well Results	
Calculated Critical Rate (e3m3/d)	= 9.8
Current Flowing B. Hole Pressure (kPa)	= 1347
Optimized Flowing B. Hole Pressure (kPa)	= 959.2
Est'd Optimized Rate (Decline)	= 10.0
Est'd Optimized Rate (IPR) (e3m3/d)	= 10.9
Optimized Bottom Hole Velocity (m/s)	= 5.9
Est'd Optimized Surface Velocity (m/s)	= 6.1

Recommended Operation	
Recommended Cycles Per Day	= 3
Est'd Max Req. Casing Build Pressure (kPa)	= 1276.5
Expected Slug Size (m3/Cycle)	= 0.0351
Est'd Min Total Shutin Time (Conventional) (hrs/day)	= 1.0

Comments & Recommendations

This Plunger evaluation was completed using Customer supplied data. Some assumptions had to be made to complete portions of the evaluation due to missing or incomplete information. Using the 60.3mm production tubing as the producing string, the Critical rate to lift liquids was calculated @ 9.8 e3m3. Current production is above the Critical Rate to lift liquids. The wells completion & gas velocities will accommodate the operation of a plunger system.

A Decline trend and IPR curve were developed to determine the possible Optimized gas rate of 10.7 - 13.3 e3m3. Fluid volumes and build pressures will accommodate the operation of a plunger system @ 3 "Recommended" cycles / day. We recommend that a Conventional plunger system be used to relieve the fluid column, and unload the well.

Evaluated by: Riley Moore	Date: Oct. 10, 2010
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