



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 5/26/2015
 Invoice #: 80138
 API#: 05-123-41347
 Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation
 Well Name: JESTER 40N-14HZ

County: Weld
 State: Colorado
 Sec: 15
 Twp: 3N
 Range: 67W
 Consultant: RICKY
 Rig Name & Number: PINN ENERGY 4
 Distance To Location: 16
 Units On Location: 4031-3107/ 4019-3205
 Time Requested: 1730
 Time Arrived On Location: 1700
 Time Left Location: 2200

WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: BFN III
Casing Weight (lb) : 36.00	Cement Density (lb/gal) : 14.2
Casing Depth (ft.) : 826	Cement Yield (cuft) : 1.49
Total Depth (ft) : 843	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 20%
Conductor Length (ft) : 60	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.25	BBL to Pit: 13.0
Shoe Joint Length (ft) : 43	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 10	H2O Wash Up (bbls): 20.0
Max Rate: 6	Spacer Ahead Makeup
Max Pressure: 1000	30BBL WATER/ DYE IN 2ND 10

Casing ID: 8.921 Casing Grade: J-55 only used

Calculated Results	Pressure of cement in annulus
cuft of Shoe 18.63 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: 61.33 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor 45.79 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: 609.55 PSI
cuft of Casing 449.41 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume 513.82 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 337.78 psi
bbls of Slurry 91.51 bbls (Total Slurry Volume) X (.1781)	Shoe Joint: 31.65 psi
Sacks Needed 345 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total 369.43 psi
Mix Water 61.42 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: 240.12 psi
	Collapse PSI: 2020.00 psi
	Burst PSI: 3520.00 psi
	Total Water Needed: 172.75 bbls

X Authorization To Proceed

Customers hereby acknowledges and specifically agrees to the terms and condition on this work order, including, without limitation, the provisions on this work order.

JESTER 40N-14HZ SURFACE

