



Bison Oil Well Cementing Single Cement Surface Pipe

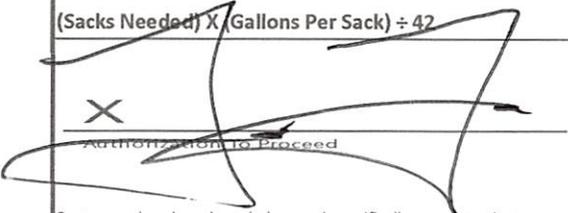
Date: 2/28/2017
 Invoice #: 900055
 API#: 05-123-43342
 Foreman: JASON

Customer: Anadarko Petroleum Corporation
 Well Name: CAMENISCH 29N-35HZ

County: Weld
 State: Colorado
 Consultant: LANE
 Rig Name & Number: WM 252
 Distance To Location: 32
 Units On Location: 4027-3103,4034-3201,4032-3214
 Time Requested: 2200
 Time Arrived On Location: 2100
 Time Left Location: 230
 Sec: 2
 Twp: 1N
 Range: 67W

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.) : 1,830	Cement Yield (cuft) : 1.48
Total Depth (ft) : 1854	Gallons Per Sack: 7.49
Open Hole Diameter (in.) : 13.50	% Excess: 15%
Conductor Length (ft) : 80	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.25	BBL to Pit: 25.0
Shoe Joint Length (ft) : 45	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 15	H2O Wash Up (bbls): 20.0
Max Rate: 8	Spacer Ahead Makeup
Max Pressure: 2000	30 BBL WATER DYE IN 2ND 10

Calculated Results	Displacement: 139.15 bbls
cuft of Shoe 19.53 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor 61.05 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus Hydrostatic Pressure: 1349.99 PSI
cuft of Casing 983.57 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing Displacement: 769.66 psi Shoe Joint: 33.20 psi Total: 802.85 psi
Total Slurry Volume 1064.15 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Differential Pressure: 547.14 psi
bbls of Slurry 189.53 bbls (Total Slurry Volume) X (.1781)	Collapse PSI: 2020.00 psi Burst PSI: 3520.00 psi
Sacks Needed 719 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total Water Needed: 317.38 bbls
Mix Water 128.23 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	


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 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.

CAMENISCH 29N-35HZ SURFACE

