



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/25/2016
 Invoice #: 900020
 API#: 05-123-42311
 Foreman: JASON

Customer: Anadarko Petroleum Corporation
Well Name: BBKB 36E-35HZ

County: Weld
 State: Colorado
 Sec: 35
 Twp: 3N
 Range: 67W

Consultant: LUKE
 Rig Name & Number: XTREME 22
 Distance To Location: 24
 Units On Location: 4027-3103,4033-3203
 Time Requested: 500
 Time Arrived On Location: 400
 Time Left Location: 1400

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.) : 1,901	Cement Yield (cuft) : 1.48
Total Depth (ft) : 1928	Gallons Per Sack: 7.49
Open Hole Diameter (in.) : 13.50	% Excess: 12%
Conductor Length (ft) : 80	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.25	BBL to Pit: 14.0
Shoe Joint Length (ft) : 44	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 17	H2O Wash Up (bbls): 20.0
Max Rate: 8	Spacer Ahead Makeup
Max Pressure: 2000	30 BBL WATER DYE IN 2ND 10

Calculated Results	Pressure of cement in annulus
Displacement: 144.87 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	Hydrostatic Pressure: 1402.71 PSI
cuft of Shoe 19.31 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of the fluids inside casing
cuft of Conductor 61.05 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Displacement: 800.69 psi
cuft of Casing 997.03 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Shoe Joint: 32.81 psi
Total Slurry Volume 1077.38 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Total 833.51 psi
bbls of Slurry 191.88 bbls (Total Slurry Volume) X (.1781)	Differential Pressure: 569.20 psi
Sacks Needed 728 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Collapse PSI: 2020.00 psi
Mix Water 129.82 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Burst PSI: 3520.00 psi
	Total Water Needed: 324.69 bbls

X *Luke Rain*
 Authorization To Proceed

BBKB 36E-35HZ SURFACE

