



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/21/2016
 Invoice #: 900019
 API#: 05-123-42786
 Foreman: JASON

Customer: Anadarko Petroleum Corporation
Well Name: JZM 3N-W3HZ

County: Weld
 State: Colorado
 Sec: 10
 Twp: 1N
 Range: 67W
 Consultant: JEREMY
 Rig Name & Number: SIDEWINDER 105
 Distance To Location: 34
 Units On Location: 1027-3103,4024-3213,4033-320:
 Time Requested: 2330
 Time Arrived On Location: 2230
 Time Left Location: 630

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.) :	2,220	Cement Yield (cuft) :	1.48
Total Depth (ft) :	2263	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:	15.0
Shoe Joint Length (ft) :	43	Fluid Ahead (bbls):	30.0
Landing Joint (ft) :	30	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: 170.64 bbls	
cuft of Shoe	18.54	cuft	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
(Casing ID Squared) X (.005454) X (Shoe Joint ft)			Pressure of cement in annulus	
cuft of Conductor	61.05	cuft	Hydrostatic Pressure: 1637.69 PSI	
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)			Pressure of the fluids inside casing	
cuft of Casing	1171.39	cuft	Displacement: 938.80 psi	
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)			Shoe Joint: 31.51 psi	
Total Slurry Volume	1250.98	cuft	Total 970.32 psi	
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)			Differential Pressure: 667.38 psi	
bbls of Slurry	222.80	bbls	Collapse PSI: 2020.00 psi	
(Total Slurry Volume) X (.1781)			Burst PSI: 3520.00 psi	
Sacks Needed	845	sk	Total Water Needed: 371.38 bbls	
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)				
Mix Water	150.74	bbls		
(Sacks Needed) X (Gallons Per Sack) ÷ 42				

X Jeremy W. White
 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.

JZM 3N-W3HZ SURFACE

