



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/2/2014
 Invoice # 25028
 API# 05-123-39422
 Foreman: Calvin Reimers

Customer: Anadarko Petroleum Corporation
Well Name: Sack 28N-30HZ

County: Weld Consultant: Allen
 State: Colorado Rig Name & Number: Major 42
 Distance To Location: 42 Miles
 Sec: 31 Units On Location: 4023-3104/4019-3204
 Twp: 1N Time Requested: 200pm
 Range: 67W Time Arrived On Location: 100pm
 Time Left Location: 900pm

WELL DATA	Cement Data
Casing Size OD (in) : <u>9.625</u>	Cement Name: <u>BFN III</u>
Casing Weight (lb) : <u>36.00</u>	Cement Density (lb/gal) : <u>14.2</u>
Casing Depth (ft.) : <u>1,311</u>	Cement Yield (cuft) : <u>1.49</u>
Total Depth (ft) : <u>1321</u>	Gallons Per Sack: <u>7.48</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>25%</u>
Conductor Length (ft) : _____	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : _____	BBL to Pit: <u>20.0</u>
Shoe Joint Length (ft) : <u>39</u>	Fluid Ahead (bbls): <u>30.0</u>
Landing Joint (ft) : <u>8</u>	H2O Wash Up (bbls): <u>20.0</u>
Max Rate: <u>7</u>	Spacer Ahead Makeup
Max Pressure: <u>2500</u>	<u>30BBLS H2O+Dye in 2nd 10BBLS</u>

Calculated Results	Pressure Calculations
cuft of Shoe <u>16.95</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: <u>98.97</u> bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor <u>0.00</u> cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus Hydrostatic Pressure: <u>967.29</u> PSI
cuft of Casing <u>802.96</u> cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing Displacement: <u>548.54</u> psi
Total Slurry Volume <u>819.91</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Shoe Joint: <u>28.81</u> psi
bbls of Slurry <u>146.03</u> bbls (Total Slurry Volume) X (.1781)	Total <u>577.34</u> psi
Sacks Needed <u>550</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Differential Pressure: <u>389.94</u> psi
Mix Water <u>98.00</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Collapse PSI: <u>2020.00</u> psi
	Burst PSI: <u>3520.00</u> psi
	Total Water Needed: <u>246.97</u> bbls

X Randy Case
 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.



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Single Cement Surface Pipe**

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Well Name: Sack 28N-30HZ

INVOICE #: 25028
LOCATION: Weld
FOREMAN: Calvin Reimers
Date: 8/2/2014

DESCRIPTION OF JOB EVENTS

		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
		BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
Safety Meeting	651pm															
MIRU	620pm															
CIRCULATE	722pm	0	756pm	80	0			0			0			0		
Drop Plug		10	759pm	30	10			10			10			10		
755pm		20	801pm	40	20			20			20			20		
		30	804pm	130	30			30			30			30		
		40	805pm	160	40			40			40			40		
M & P		50	807pm	240	50			50			50			50		
Time	Sacks	60	809pm	300	60			60			60			60		
728pm	550	70	811pm	390	70			70			70			70		
753pm		80	812pm	430	80			80			80			80		
		90	814pm	470	90			90			90			90		
		100	818pm	420	100			100			100			100		
		110	Bump	1470	110	820pm		110			110			110		
% Excess	25%	120	Bump	1040	120	822pm		120			120			120		
Mixed bbls	98	130			130			130			130			130		
Total Sacks	550	140			140			140			140			140		
bbl Returns	20	150			150			150			150			150		
Water Temp	80.3															

Notes:

The day

1/2 bbl back on bleed off

X Randy Case
Work Performed

X ARC
Title

X 08/02/14
Date

M/D TOTCO 2000 SERIES

