



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/10/2014
 Invoice #: 25031
 API#: 05-123-39624
 Foreman: Calvin Reimers

Customer: Anadarko Petroleum Corporation

Well Name: Sack 26N-30HZ

County: Weld
 State: Colorado
 Sec: 31
 Twp: 1N
 Range: 67W

Consultant: Allen
 Rig Name & Number: Major 42
 Distance To Location: 42
 Units On Location: 4032-3104/4019-3204
 Time Requested: 900am
 Time Arrived On Location: 645am
 Time Left Location: 2:45 pm

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.) : 1,312	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1322	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 25%
Conductor Length (ft) :	Displacement Fluid lb/gal: 8.3
Conductor ID :	BBL to Pit: 18
Shoe Joint Length (ft) : 42	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 8	H2O Wash Up (bbls): 20.0
Max Rate: 7	Spacer Ahead Makeup
Max Pressure: 2500	30bbls H2O+Dye in 2nd 10bbls

Calculated Results	Pressure of cement in annulus
cuft of Shoe 18.33 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: 98.79 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor 0.00 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: 967.90 PSI
cuft of Casing 801.55 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume 819.88 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 547.52 psi Shoe Joint: 31.16 psi Total: 578.68 psi
bbls of Slurry 146.02 bbls (Total Slurry Volume) X (.1781)	Differential Pressure: 389.22 psi
Sacks Needed 550 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Collapse PSI: 2020.00 psi Burst PSI: 3520.00 psi
Mix Water 98.00 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total Water Needed: 246.78 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.



**Bison Oil Well Cementing
Single Cement Surface Pipe**

Customer
Well Name

Anadarko Petroleum Corporation
Sack 26N-30HZ

INVOICE #
LOCATION
FOREMAN
Date

25031
Weld
Calvin Reimers
8/10/2014

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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	1150am															
MIRU	1000am															
CIRCULATE	1232pm	0	136pm	50	0			0			0			0		
Drop Plug		10	139pm	40	10			10			10			10		
135pm		20	141pm	40	20			20			20			20		
		30	143pm	120	30			30			30			30		
		40	145pm	190	40			40			40			40		
M & P		50	146pm	270	50			50			50			50		
Time	Sacks	60	148pm	380	60			60			60			60		
100pm	550	70	150pm	400	70			70			70			70		
133pm		80	152pm	420	80			80			80			80		
		90	154pm	540	90			90			90			90		
		100	158pm	450	100			100			100			100		
		110	Bump	1468	110	200pm		110			110			110		
% Excess	25%	120	Bump	1020	120	202pm		120			120			120		
Mixed bbls	98	130			130			130			130			130		
Total Sacks	550	140			140			140			140			140		
bbl Returns	18	150			150			150			150			150		
Water Temp	73.1															

Notes:

The day

1/2 bbl back on bleed off

X Altu Seem
Work Performed

X Consultant
Title

X
Date

SERIES 2000

