



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/17/2014
 Invoice # 25025
 API# 05-123-39494
 Foreman: Calvin Reimers

Customer: Anadarko Petroleum Corporation

Well Name: Gwadar 27C-22HZ

County: Weld Consultant: Bob
 State: Colorado Rig Name & Number: Major 42
 Distance To Location: 20 Miles
 Sec: 22 Units On Location: 4023-3104/4020-3212
 Twp: 2N Time Requested: 600am
 Range: 67W Time Arrived On Location: 415am
 Time Left Location: 11:15 Am

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>1,329</u>	Cement Yield (cuft) : <u>1.49</u>
Total Depth (ft) : <u>1339</u>	Gallons Per Sack: <u>7.48</u>
Open Hole Diameter (in.) : <u>13.50</u>	% Excess: <u>20%</u>
Conductor Length (ft) :	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID :	BBL to Pit: <u>16</u>
Shoe Joint Length (ft) : <u>41</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>

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results	Pressure of cement in annulus
cuft of Shoe <u>17.62</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: <u>100.22</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>980.40</u> PSI
cuft of Casing <u>779.43</u> cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing Displacement: <u>555.53</u> psi
Total Slurry Volume <u>797.05</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Shoe Joint: <u>29.95</u> psi
bbls of Slurry <u>141.95</u> bbls (Total Slurry Volume) X (.1781)	Total <u>585.48</u> psi
Sacks Needed <u>535</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Differential Pressure: <u>394.92</u> psi
Mix Water <u>95.27</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>245.49</u> bbls

X Bob Reimers
 Authorization To Proceed



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

Customer
Well Name

Anadarko Petroleum Corporation
Gwadar 27C-22HZ

INVOICE #
LOCATION
FOREMAN
Date

25025
Weld
Calvin Reimers
7/17/2014

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DESCRIPTION OF JOB EVENTS

Safety Meeting		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
MIRU		BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI
CIRCULATE		0	959am	60	0			0			0			0		
Drop Plug		10	1002am	20	10			10			10			10		
958am		20	1004am	20	20			20			20			20		
		30	1006am	50	30			30			30			30		
		40	1008am	180	40			40			40			40		
M & P		50	1010am	240	50			50			50			50		
Time Sacks		60	1012am	300	60			60			60			60		
927am 535		70	1013am	370	70			70			70			70		
955am		80	1015am	410	80			80			80			80		
		90	1017am	450	90			90			90			90		
		100	1020am	400	100			100			100			100		
		110	Bump	870	110			110			110			110		
% Excess 20%		120			120			120			120			120		
Mixed bbls 95.27		130			130			130			130			130		
Total Sacks 535		140			140			140			140			140		
bbl Returns 16		150			150			150			150			150		
Water Temp 62.6																

Notes:

The day

1/2 bbl back on bleed off

X *Bob y Porter*
Work Performed

X _____
Title

X _____
Date

M/D TOTCO 2000 SERIES

