



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/24/2014
Invoice #: 25041
API#: 05-123-39180
Foreman: Calvin Reimers

Customer: Anadarko Petroleum Corporation

Well Name: Burkhardt 16C-3HZ

County: Weld
State: Colorado
Sec: 3
Twp: 1N
Range: 66W

Consultant: Bob
Rig Name & Number: Major 42
Distance To Location: 25 Miles
Units On Location: 4034-3104/4024-3203
Time Requested: 400am
Time Arrived On Location: 300am
Time Left Location: 12:00pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 1,645
Total Depth (ft) : 1655
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) :
Conductor ID :
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 8

Max Rate: 7
Max Pressure: 2500

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 26%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 24
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
30 bbls H2O+Dye in 2nd 10 bbls

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.66 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 0.00 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 1009.77 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1028.44 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 183.16 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 690 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 122.93 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 124.47 bbls

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 1213.52 PSI

Pressure of the fluids inside casing

Displacement: 690.75 psi

Shoe Joint: 31.72 psi

Total 722.47 psi

Differential Pressure: 491.04 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 297.39 bbls

X
Authorization To Proceed



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

Customer
Well Name

Anadarko Petroleum Corporation
Burkhardt 16C-3HZ

INVOICE #
LOCATION
FOREMAN
Date

25041
Weld
Calvin Reimers
8/24/2014

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DESCRIPTION OF JOB EVENTS

Safety Meeting MIRU CIRCULATE Drop Plug 1047am M & P Time Sacks 1009am 1044am % Excess Mixed bbls Total Sacks bbl Returns Water Temp	945am 905am 1003am 1047am M & P Time Sacks 1009am 1044am % Excess Mixed bbls Total Sacks bbl Returns Water Temp	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
		0	1048am	60	0			0			0			0		
		10	1050am	10	10			10			10			10		
		20	1052am	30	20			20			20			20		
		30	1054am	60	30			30			30			30		
		40	1056am	160	40			40			40			40		
		50	1057am	210	50			50			50			50		
		60	1059am	260	60			60			60			60		
		70	1101am	330	70			70			70			70		
		80	1103am	400	80			80			80			80		
		90	1104am	440	90			90			90			90		
		100	1106am	500	100			100			100			100		
		110	1108am	540	110			110			110			110		
		120	1110am	520	120			120			120			120		
		130	1113am	500	130			130			130			130		
		140	Bump	1000	140			140			140			140		
		150			150			150			150			150		

Notes:

The day

1/2 BBL Back on Bleed Off

X Calvin Reimers
Work Performed

X _____
Title

X _____
Date

SERIES 2000

