



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 5/16/2014
Invoice #: 12148
API#: 05-123-39035
Foreman: LEE

Customer: Noble
Well Name: NCLP AA 06-67-1AAHNA

County: WELD
State: Colorado
Sec: 4
Twp: 6N
Range: 63W

Consultant: JOSH
Rig Name & Number: H & P 321
Distance To Location: 39
Units On Location: 4018- 4022-3105
Time Requested: 10:PM
Time Arrived On Location: 8:55
Time Left Location:

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 882
Total Depth (ft) : 891
Open Hole Diameter (in.) : 13.75
Conductor Length (ft) : 100
Conductor ID : 15.5
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 0

Max Rate:
Max Pressure:

Cement Data

Cement Name: BEN III
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 16%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 15.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
50=10F+10D+30F

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.52 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 80.51 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 476.92 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 575.95 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 102.58 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 454 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 63.60 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 64.87 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 696.28 PSI

Pressure of the fluids inside casing

Displacement: 361.82 psi

Shoe Joint: 33.69 psi

Total 395.51 psi

Differential Pressure: 300.76 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 163.47 bbls

X
Authorization To Proceed

Customer hereby acknowledges and specifically agrees to the terms and conditions on this work order, including, without limitation, the provisions on this work order.



Bison Oil Well Cementing
Single Cement Surface Pipe

Customer
Well Name

Noble
NCLP AA 06-67-1AAHNA

INVOICE #
LOCATION
FOREMAN
Date

12148
WELD
LEE
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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	11:40															
MIRU	11:00															
CIRCULATE	11:44	0	12:34	0	0			0			0			0		
Drop Plug		10	12:36	80	10			10			10			10		
	12:34	20	12:37	210	20			20			20			20		
		30	12:38	360	30			30			30			30		
		40	12:40	340	40			40			40			40		
M & P		50	12:42	380	50			50			50			50		
Time	Sacks	60	12:44	340	60			60			60			60		
	11:57	70	12:50	810	70			70			70			70		
		80			80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	0%	120			120			120			120			120		
Mixed bbls	63.6	130			130			130			130			130		
Total Sacks	45.4	140			140			140			140			140		
bbl Returns	10	150			150			150			150			150		
Water Temp	100															

Notes:

The day JOB WENT AS PLANNED NO ISSUES PLUG LANDED AT CALCULATED BBL OF 65.08

X
Work performed

X
Title

X 5-16-14
Date