



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/7/2014
 Invoice # 12130
 API# _____
 Foreman: monte

Customer: noble
 Well Name: cutthroat lc28-75-1ahnb

County: weld Consultant: jw
 State: colorado Rig Name & Number: h&p 273
 Distance To Location: 66.7
 Sec: 29 Units On Location: 4031-3105 4020-3112
 Twp: 9n Time Requested: 8:00pm
 Range: 59w Time Arrived On Location: 7:45pm
 Time Left Location: 1, 00

WELL DATA	Cement Data
Casing Size OD (in) : <u>9.625</u>	Cement Name: <u>BFN III</u>
Casing Weight (lb) : <u>38.00</u>	Cement Density (lb/gal) : <u>15.2</u>
Casing Depth (ft.) : <u>617</u>	Cement Yield (cuft) : <u>1.27</u>
Total Depth (ft) : <u>658</u>	Gallons Per Sack: <u>5.89</u>
Open Hole Diameter (in.) : <u>13.75</u>	% Excess: <u>10%</u>
Conductor Length (ft) : <u>124</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>15.25</u>	BBL to Pit: <u>8.0</u>
Shoe Joint Length (ft) : <u>41</u>	Fluid Ahead (bbls): <u>40.0</u>
Landing Joint (ft) : <u>28</u>	H2O Wash Up (bbls): <u>20.0</u>
Max Rate:	Spacer Ahead Makeup
Max Pressure:	10 fresh 10 dye 20 fresh

Calculated Results	Pressure of cement in annulus
Displacement: <u>46.69 bbls</u> (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	Hydrostatic Pressure: <u>487.18 PSI</u>
Pressure of the fluids inside casing	
cuft of Shoe <u>17.80 cuft</u> (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: <u>248.36 psi</u>
cuft of Conductor <u>94.63 cuft</u> (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Shoe Joint: <u>32.37 psi</u>
cuft of Casing <u>285.19 cuft</u> (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Total <u>280.73 psi</u>
Total Slurry Volume <u>397.61 cuft</u> (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Differential Pressure: <u>206.45 psi</u>
bbls of Slurry <u>70.81 bbls</u> (Total Slurry Volume) X (.1781)	Collapse PSI: <u>2020.00 psi</u>
Sacks Needed <u>313 sk</u> (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Burst PSI: <u>3520.00 psi</u>
Mix Water <u>43.91 bbls</u> (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total Water Needed: <u>150.60 bbls</u>

X Michael Meyer
 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: noble
cutthroat lc28-75-1ahnb

INVOICE # 12130
LOCATION weld
FOREMAN monte
Date 7/7/2014

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

	8:50	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
MIRU	8:10	BBLS	Time	PSI												
CIRCULATE	9:04	0	9:38	0	0			0			0			0		
Drop Plug		10	9:40	50	10			10			10			10		
9:38		20	9:43	70	20			20			20			20		
		30	9:46	150	30			30			30			30		
		40	9:48	230	40			40			40			40		
M & P		50	9:57	420	50			50			50			50		
Time Sacks		60			60			60			60			60		
9:15-9:35	313	70			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	43.91	130			130			130			130			130		
Total Sacks	313	140			140			140			140			140		
bbl Returns	4	150			150			150			150			150		
Water Temp	75															

Notes:

safty meeting. Miru, pressure test per company man. Circulate 50 bbls ahead with dye in 2nd 10, mix and pump 313 bbls at 15.2 lb at 10 % excess, drop plug and d bump plug at 9:57 pm at 420 psi hold 15 min, 4 bbls back to pit

X *Michael Magall*
Work Performed

X _____
Title

X _____
Date