



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 4/26/2014

Invoice # 12143

API# 05-123-38681

Foreman: LEE SHARP

Customer: NOBLE

Well Name: WELLS RANCH STATE AE 30-62-1HNC

County: WELD

State: Colorado

Sec: \_\_\_\_\_

Twp: \_\_\_\_\_

Range: \_\_\_\_\_

Consultant: MATT SETTEL

Rig Name & Number: H&P 3443

Distance To Location: 33

Units On Location: 4027-3106,

Time Requested: 3:00

Time Arrived On Location: 2:45

Time Left Location: \_\_\_\_\_

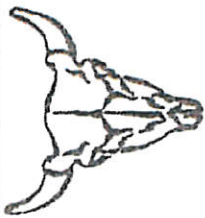
WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: BFN III
Casing Weight (lb) : 36.00	Cement Density (lb/gal) : 15.2
Casing Depth (ft) : 636	Cement Yield (cuft) : 1.27
Total Depth (ft) : 645	Gallons Per Sack: 5.89
Open Hole Diameter (in.) : 13.75	% Excess: 10%
Conductor Length (ft) : 100	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.5	BBL to Pit: 0.0
Shoe Joint Length (ft) : 40	Fluid Ahead (bbls): 15.0
Landing Joint (ft) : 30	H2O Wash Up (bbls): 20.0
Max Rate: _____	Spacer Ahead Makeup
Max Pressure: _____	40BBL 10F+10DYE+10F+10F

Casing ID	R 921	Casing Grade	J-55 only used
<b>Calculated Results</b>		<b>Displacement:</b>	<b>48.39 bbls</b>
<b>cuft of Shoe</b> 17.36 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)		(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
<b>cuft of Conductor</b> 80.51 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)		<b>Pressure of cement in annulus</b>	
<b>cuft of Casing</b> 281.82 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		<b>Hydrostatic Pressure:</b> 502.11 PSI	
<b>Total Slurry Volume</b> 379.69 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		<b>Pressure of the fluids inside casing</b>	
<b>bbls of Slurry</b> 74.39 bbls (Total Slurry Volume) X (.1781) X (% Excess Cement)		<b>Displacement:</b> 256.94 psi	
<b>Sacks Needed</b> 329 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		<b>Shoe Joint:</b> 31.58 psi	
<b>Mix Water</b> 46.12 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42		<b>Total</b> 288.52 psi	
		<b>Differential Pressure:</b> 213.58 psi	
		<b>Collapse PSI:</b> #N/A psi	
		<b>Burst PSI:</b> #N/A psi	
		<b>Total Water Needed:</b> 129.51 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

INVOICE #  
LOCATION  
FOREMAN  
Date

12143  
WELD  
LEE SHARP  
4/26/2014

Customer  
Well Name

NOBLE  
WELLS RANCH STATE AE 30-62-1HNC

Treatment Report Page 2

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	3:30			0			0			0			0		
MIRU	3:50			10	4:47	200	10			10			10		
CIRCULATE	4:12			20	4:49	290	20			20			20		
Drop Plug				30	4:51	310	30			30			30		
	4:42			40	4:55	1020	40			40			40		
M & P				50			50			50			50		
Time				60			60			60			60		
Sacks	4:26			70			70			70			70		
				80			80			80			80		
				90			90			90			90		
				100			100			100			100		
				110			110			110			110		
				120			120			120			120		
% Excess	10%			130			130			130			130		
Mixed bbls	46			140			140			140			140		
Total Sacks	328			150			150			150			150		
bbl Returns	16														
Water Temp	60														

Notes:

The day JOB WENT WELL WITH NO ISSUES

X *[Signature]*

X *WSJ*

X *4/26/14*

Work Performed

Title

Date