



Bison Oil Well Cementing Single Cement Surface Pipe

Invoice # 12693

API# 05-123-37203-00

Foreman: Calvin Reimers

Customer: Noble

Well Name: Cockroft B15-69-1HNM

County: Weld County
State: Colorado

Sec: 14
Twp: 5N
Range: 64W

Consultant: Martin / John

Rig Name & Number: H&P 315

Distance To Location: 21

Units On Location: 3103/3211

Time Requested: 200am

Time Arrived On Location: 120am

Time Left Location:

WELL DATA	Cement Data
Casing Size OD (in) : 9.6250	Cement Name: BFN III
Casing Weight (lb) : 36	Cement Density (lb/gal) : 15.2
Casing Depth (ft.) : 610	Cement Yield (cuft) : 1.27
Total Depth (ft) : 640	Gallons Per Sack: 5.89
Open Hole Diameter (in.) : 13.75	% Excess: 0%
Conductor Length (ft) : 100	Displacement Fluid lb/gal: 8.3
Conductor ID : 16	BBL to Pit:
Shoe Joint Length (ft) : 45	Fluid Ahead (bbls):
Landing Joint (ft) : 29	H2O Wash Up (bbls): 20.0
Max Rate: 7	Spacer Ahead Makeup
Max Pressure: 2500	50bbls with Dye in 2nd 10bbls

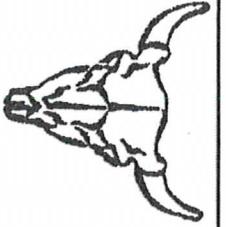
Casing ID 8.921 Casing Grade J-55 only used

Calculated Results	Pressure Calculations
cuft of Shoe 19.58 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: 45.94 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor 89.10 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus Hydrostatic Pressure: 481.99 PSI
cuft of Casing 268.42 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing Displacement: 243.75 psi Shoe Joint: 35.63 psi Total 279.37 psi
Total Slurry Volume 377.10 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Differential Pressure: 202.61 psi
bbls of Slurry 67.16 bbls (Total Slurry Volume) X (.1781) X (% Excess Cement)	Collapse PSI: 2020.00 psi Burst PSI: 3520.00 psi
Sacks Needed 297 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total Water Needed: 61.64 bbls
Mix Water 41.64 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	



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
Cockroft B15-69-1HNM

INVOICE #
LOCATION
FOREMAN

12693
Weld County
Calvin Reimers

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting MIRU CIRCULATE Drop Plug 500am M & P	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
	BLS	Time	PSI	BLS	Time	PSI	BLS	Time	PSI	BLS	Time	PSI	BLS	Time	PSI
	0	501am	50	0			0			0			0		
	10	504am	70	10			10			10			10		
	20	506am	160	20			20			20			20		
	30	507am	240	30			30			30			30		
	40	510am	240	40			40			40			40		
	50	514am	220	50			50			50			50		
Time	60	Bump	460	60			60			60			60		
438am	70			70			70			70			70		
458am	80			80			80			80			80		
	90			90			90			90			90		
	100			100			100			100			100		
	110			110			110			110			110		
% Excess	120			120			120			120			120		
Mixed bbls	130			130			130			130			130		
Total Sacks	140			140			140			140			140		
bbl Returns	150			150			150			150			150		

Notes:

The day

Casing PSI test 516am 1000 Psi to 531am 950 Psi

15 bbls Slurry back to surface

X

Work Performed

X

Title

X

Date