



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/4/2014
Invoice #: 12123
API#: 05-123-37763
Foreman: LEE

Customer: PROCESION 829
Well Name: Sandau K25-65-1HN

County: WELD
State: Colorado
Sec: 25
Twp: 4N
Range: 66W
Consultant: LYNE F
Rig Name & Number: PRECISION 829
Distance To Location: 2
Units On Location: 4027-3106, 4014-3205
Time Requested: 21:00
Time Arrived On Location: 18:00
Time Left Location: 5:15

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.) : 635	Cement Yield (cuft) : 1.27
Total Depth (ft) : 679	Gallons Per Sack: 5.89
Open Hole Diameter (in.) : 13.75	% Excess: 42%
Conductor Length (ft) : 100	Displacement Fluid lb/gal: 8.3
Conductor ID : 15.5	BBL to Pit: 30.0
Shoe Joint Length (ft) : 41	Fluid Ahead (bbls):
Landing Joint (ft) : 33	H2O Wash Up (bbls): 20.0
Max Rate:	Spacer Ahead Makeup
Max Pressure:	

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement: 48.49 bbls	
cuft of Shoe 17.61 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)		(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
cuft of Conductor 80.51 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Pressure of cement in annulus	
cuft of Casing 281.52 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Hydrostatic Pressure: 501.65 PSI	
Total Slurry Volume 379.63 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Pressure of the fluids inside casing	
bbls of Slurry 96.01 bbls (Total Slurry Volume) X (.1781) X (% Excess Cement)		Displacement: 256.45 psi	
Sacks Needed 424 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)		Shoe Joint: 32.03 psi	
Mix Water 59.53 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42		Total 288.48 psi	
		Differential Pressure: 213.17 psi	
		Collapse PSI: 2020.00 psi	
		Burst PSI: 3520.00 psi	
		Total Water Needed: 79.53 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

Customer
Well Name

PROCESSION 829
Sandau K25-65-1HN

INVOICE #
LOCATION
FOREMAN
Date

12123
WELD
LEE
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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	2:20															
MIRU	2:56															
CIRCULATE	3:10	0	3:39	70	0			0			0			0		
Drop Plug		10	3:42	170	10			10			10			10		
3:39		20	3:43	240	20			20			20			20		
		30	3:45	280	30			30			30			30		
		40	3:46	280	40			40			40			40		
M & P		50			50			50			50			50		
Time	Sacks	60			60			60			60			60		
3:15	428	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	43%	120			120			120			120			120		
Mixed bbls	60	130			130			130			130			130		
Total Sacks	428	140			140			140			140			140		
		150			150			150			150			150		
bbl Returns	30															

Notes:

The day PUMPED 42% EXCESS 30 BBL OF RETURNS

X
Work Performed

X
Title

X
Date

[Signature]

WSS

3-5-14