



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 6/10/2014
 Invoice # 12066
 API# 05-123-38618
 Foreman: JASON

Customer: NOBLE
 Well Name: TINA LC 29-73-1HNA

County: Weld County
 State: Colorado
 Sec: 29
 Twp: 9N
 Range: 59W

Consultant: GARY
 Rig Name & Number: H&P 326
 Distance To Location: 67
 Units On Location: 4027-3106, 4022-3212
 Time Requested: 1900
 Time Arrived On Location: 1800
 Time Left Location: 2300

WELL DATA	
Casing Size OD (in) :	9.625
Casing Weight (lb) :	36.00
Casing Depth (ft) :	605
Total Depth (ft) :	645
Open Hole Diameter (in.) :	13.75
Conductor Length (ft) :	100
Conductor ID :	15.25
Shoe Joint Length (ft) :	45
Landing Joint (ft) :	35
Max Rate:	7
Max Pressure:	2500

Cement Data	
Cement Name:	BFN III
Cement Density (lb/gal) :	15.2
Cement Yield (cuft) :	1.27
Gallons Per Sack:	5.89
% Excess:	15%
Displacement Fluid lb/gal:	8.3
BBL to Pit:	13.0
Fluid Ahead (bbls):	50.0
H2O Wash Up (bbls):	20.0
Spacer Ahead Makeup	
50 BBL H2O+KCL+DYE IN 2ND 10	

Calculated Results	Displacement: 45.99 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Shoe 19.38 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of cement in annulus Hydrostatic Pressure: 477.71 PSI
cuft of Conductor 76.31 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	
cuft of Casing 305.41 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing Displacement: 241.62 psi Shoe Joint: 35.25 psi Total 276.86 psi
Total Slurry Volume 401.10 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	
bbls of Slurry 82.15 bbls (Total Slurry Volume) X (.1781) X (% Excess Cement)	Differential Pressure: 200.84 psi Collapse PSI: 2020.00 psi Burst PSI: 3520.00 psi
Sacks Needed 316 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	
Mix Water 44.29 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total Water Needed: 160.28 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.



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Single Cement Surface Pipe**

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INVOICE #: **12066**
LOCATION: **Weld County**
FOREMAN: **JASON**
Date: **6/10/2014**

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DESCRIPTION OF JOB EVENTS

		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
		BBLS	Time	PSI												
Safety Meeting	2045															
MIRU	1930															
CIRCULATE		0	2201	0	0			0			0			0		
Drop Plug		10	220	70	10			10			10			10		
2200		20	2205	140	20			20			20			20		
		30	2208	290	30			30			30			30		
		40	2210	250	40			40			40			40		
M & P		50	2213	240	50			50			50			50		
Time	Sacks	60	BUMP	420	60			60			60			60		
2117-2157	316	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	44.3	130			130			130			130			130		
Total Sacks	316	140			140			140			140			140		
bbl Returns	13	150			150			150			150			150		
Water Temp	76															

Notes:

The day
 PUMPED 50 BBL H2O AHEAD, SECOND 10 WITH DYE, MIX AND PUMP 316 SKS AT 15.2, 71.4 BBLs OF SLURRY, RELEASED PRESSURE AND GOT .5 BBLs
 BACK

X WSS
 Work Performed

X WSS
 Title

X June 10, 2014
 Date