



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/19/2014
 Invoice # 65001
 API# 05-123-3809300
 Foreman: Lee Sharp

Customer: Peterson Energy Management
Well Name: Grant Hurt 1G-14H-G268

County: Weld Consultant: IRA COX
 State: Colorado Rig Name & Number: PATERSON 326
 Sec: 14 Distance To Location: 21
 Twp: 2N Units On Location: 4023-3104 & 4020-3212
 Range: 68W Time Requested: 1:30
 Time Arrived On Location: 2:30
 Time Left Location: 5:15

WELL DATA	Cement Data
Casing Size OD (in) : <u>9.625</u>	Cement Name: <u>BFN III</u>
Casing Weight (lb) : <u>40.00</u>	Cement Density (lb/gal) : <u>15.2</u>
Casing Depth (ft.) : <u>811</u>	Cement Yield (cuft) : <u>1.27</u>
Total Depth (ft) : <u>865</u>	Gallons Per Sack: <u>5.89</u>
Open Hole Diameter (in.) : <u>12.25</u>	% Excess: <u>50%</u>
Conductor Length (ft) : <u>80</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>15.25</u>	BBL to Pit: <u>0.0</u>
Shoe Joint Length (ft) : <u>39</u>	Fluid Ahead (bbls): <u>30.0</u>
Landing Joint (ft) : <u>35</u>	H2O Wash Up (bbls): <u>20.0</u>
Max Rate: <u></u>	Spacer Ahead Makeup
Max Pressure: <u></u>	<u>10F-10D-10F</u>

Calculated Results	Displacement: 61.19 bbls
cuft of Shoe <u>16.63</u> 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 <u>61.05</u> cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus
cuft of Casing <u>343.40</u> cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Hydrostatic Pressure: <u>640.37 PSI</u>
Total Slurry Volume <u>421.08</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Pressure of the fluids inside casing
bbls of Slurry <u>74.99</u> bbls (Total Slurry Volume) X (.1781)	Displacement: <u>332.85 psi</u>
Sacks Needed <u>332</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Shoe Joint: <u>30.84 psi</u>
Mix Water <u>46.50</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total <u>363.69 psi</u>
	Differential Pressure: <u>276.68 psi</u>
	Collapse PSI: <u>2570.00 psi</u>
	Burst PSI: <u>3950.00 psi</u>
	Total Water Needed: <u>157.68 bbls</u>

X Lee Sharp
 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 Peterson Energy Management
Well Name Grant Hurt 1G-14H-G268

INVOICE # 65001
LOCATION Weld
FOREMAN Lee Sharp
Date 7/19/2014

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	3:20															
MIRU	3:00															
CIRCULATE	3:43	0	4:02	0	0			0			0			0		
Drop Plug		10	4:06	54	10			10			10			10		
	4:02		20	4:08	96	20		20			20			20		
			30	4:10	205	30		30			30			30		
			40	4:12	375	40		40			40			40		
			50	4:14	407	50		50			50			50		
M & P																
Time	Sacks	60	4:18	330	60			60			60			60		
	3:46	332	70	4:19	696	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	52%	120			120			120			120			120		
Mixed bbls	47	130			130			130			130			130		
Total Sacks	335	140			140			140			140			140		
bbl Returns	19	150			150			150			150			150		
Water Temp	60															

Notes:

JOB WENT WELL PLUG LANDED ON CALCULATED LANDED AT 696; PSI TEST 1504 FINAL PSI READING

X Lee Sharp
Work Performed

X Co Rep
Title

X 7-19-14
Date