



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/6/2014

Invoice # 12124

API# 05-123-XXXX-0000

Foreman: LEE

Customer: H&P 522

Well Name: VOGAL MCOY 2A 5H E267

County: WELD

State: Colorado

Sec: 5

Twp: 2N

Range: 67W

Consultant: NATE

Rig Name & Number: H&P 522

Distance To Location: 60

Units On Location: 4027-3106

Time Requested: 23:00

Time Arrived On Location: 23:09

Time Left Location:

## WELL DATA

Casing Size OD (in) : 9.6250  
 Casing Weight (lb) : 40  
 Casing Depth (ft.) : 813  
 Total Depth (ft) : 862  
 Open Hole Diameter (in.) : 12.25  
 Conductor Length (ft) : 100  
 Conductor ID : 15.5  
 Shoe Joint Length (ft) : 40  
 Landing Joint (ft) : 38

Max Rate:

Max Pressure:

## Cement Data

Cement Name: BFN III  
 Cement Density (lb/gal) : 15.2  
 Cement Yield (cuft) : 1.27  
 Gallons Per Sack: 5.89  
 % Excess: 50%  
 Displacement Fluid lb/gal: 8.3  
 BBL to Pit:  
 Fluid Ahead (bbls):  
 H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

40 BBL DIE 2ND 10

Casing ID

8.835

Casing Grade

J-55 only used

## Calculated Results

**cuft of Shoe** 16.91 cuft  
 (Casing ID Squared) X (.005454) X (Shoe Joint ft)

**cuft of Conductor** 80.51 cuft  
 (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

**cuft of Casing** 223.30 cuft  
 (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

**Total Slurry Volume** 320.72 cuft  
 (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 85.68 bbls  
 (Total Slurry Volume) X (.1781) X (% Excess Cement)

**Sacks Needed** 379 sk  
 (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 53.12 bbls  
 (Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement: 61.48 bbls**

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

## Pressure of cement in annulus

**Hydrostatic Pressure: 641.94 PSI**

## Pressure of the fluids inside casing

**Displacement: 333.42 psi**

**Shoe Joint: 31.37 psi**

**Total 364.79 psi**

**Differential Pressure: 277.15 psi**

**Collapse PSI: 2570.00 psi**

**Burst PSI: 3950.00 psi**

**Total Water Needed: 73.12 bbls**

x *Nate Custer*  
 Authorization To Proceed



**Bison Oil Well Cementing  
Single Cement Surface Pipe**

Customer  
Well Name

H&P 522  
VOGAL MCOY 2A 5H E267

INVOICE #  
LOCATION  
FOREMAN  
Date

12124  
WELD  
LEE  
3/6/2014

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**DESCRIPTION OF JOB EVENTS**

		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
		BBLS	Time	PSI												
Safety Meeting	3:00															
MIRU	3:40															
CIRCULATE	4:30	0	5:32	90	0			0			0			0		
Drop Plug		10	5:33	140	10			10			10			10		
	5:32	20	5:35	220	20			20			20			20		
		30	5:37	300	30			30			30			30		
		40	5:38	320	40			40			40			40		
M & P		50	5:40	380	50			50			50			50		
Time	Sacks	60	5:42	280	60			60			60			60		
4:52	389	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	50%	120			120			120			120			120		
Mixed bbls	53	130			130			130			130			130		
Total Sacks	378	140			140			140			140			140		
		150			150			150			150			150		
bbl Returns	30															

Notes:

The day-- JOB WENT WITHOUT ISSUE, RIGS FLOATS DID NOT HOLD SO HEAD WAS CLOSED IN AND LEFT WITH RIG @6:30

X Sandy Pelly  
Work Performed

X \_\_\_\_\_  
Title

X 3-7-14  
Date