



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 5/26/2014  
Invoice # 12031  
API#  
Foreman: Kirk Kallhoff

Customer: Encana  
Well Name: zisch 3a-6h-m368

County: weld  
State: Colorado  
Sec: 6  
Twp: 3n  
Range: 68w

Consultant: dave  
Rig Name & Number: ensign 124  
Distance To Location: 30  
Units On Location: 3103-3211  
Time Requested: 800 am  
Time Arrived On Location: 715 am  
Time Left Location: 2:30 pm

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 40.00  
Casing Depth (ft) : 827  
Total Depth (ft) : 855  
Open Hole Diameter (in.) : 12.25  
Conductor Length (ft) : 100  
Conductor ID : 16  
Shoe Joint Length (ft) : 43  
Landing Joint (ft) : 20

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): 30.0  
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

Casing ID

8.835

Casing Grade

J-55 only used

## Calculated Results

**cuft of Shoe** 18.31 cuft  
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

**cuft of Conductor** 89.10 cuft  
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

**cuft of Casing** 341.52 cuft  
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

**Total Slurry Volume** 448.92 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 79.95 bbls  
(Total Slurry Volume) X (.1781)

**Sacks Needed** 353 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 49.57 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 60.96 bbls  
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

## Pressure of cement in annulus

**Hydrostatic Pressure:** 653.00 PSI

## Pressure of the fluids inside casing

**Displacement:** 338.05 psi

**Shoe Joint:** 33.95 psi

**Total** 372.00 psi

**Differential Pressure:** 281.00 psi

**Collapse PSI:** 2570.00 psi

**Burst PSI:** 3950.00 psi

**Total Water Needed:** 160.53 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

Encana  
zisch 3a-6h-m368

INVOICE #  
LOCATION  
FOREMAN  
Date

12031  
weld  
Kirk Kallhoff  
5/26/2014

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**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	1207pm															
MIRU	950am															
CIRCULATE	1238pm	0	116pm	10	0			0			0			0		
Drop Plug		10	118pm	70	10			10			10			10		
116pm		20	120pm	160	20			20			20			20		
		30	122pm	260	30			30			30			30		
		40	124pm	350	40			40			40			40		
M & P		50	126pm	380	50			50			50			50		
Time	Sacks	60			60			60			60			60		
1245 pm	353	70			70			70			70			70		
113 pm stop		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	49.5	130			130			130			130			130		
Total Sacks	353	140			140			140			140			140		
bbl Returns	60	150			150			150			150			150		
Water Temp																

Notes:

bumped plug at 131 pm 530 psi 79.9 bbls slurry

casing test 1500 psi for 15 min

X

Work Preformed

X

Title

X

Date