



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/16/2015

Invoice # 80111

API# 05-123-40950

Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation

Well Name: CHEESE 16N-28HZ

County: Weld

State: Colorado

Sec: 28

Twp: 3N

Range: 65W

Consultant: RANDY

Rig Name & Number: ADVANCED 10

Distance To Location: 12

Units On Location: 4031-3107, 4030-3203

Time Requested: 1930

Time Arrived On Location: 1830

Time Left Location: 2230

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft) : 1,179  
Total Depth (ft) : 1195  
Open Hole Diameter (in.) : 13.50  
Conductor Length (ft) : 40  
Conductor ID : 15.25  
Shoe Joint Length (ft) : 41  
Landing Joint (ft) : 5

Max Rate: 6  
Max Pressure: 1500

## Cement Data

Cement Name: BFN III  
Cement Density (lb/gal) : 14.2  
Cement Yield (cuft) : 1.49  
Gallons Per Sack: 7.48  
% Excess: 20%  
Displacement Fluid lb/gal: 8.3  
BBL to Pit: 20.0  
Fluid Ahead (bbls): 30.0  
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

30 BBL WATER W/ DYE IN 2ND 10

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

**cuft of Shoe** 17.63 cuft  
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

**cuft of Conductor** 30.53 cuft  
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

**cuft of Casing** 670.09 cuft  
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

**Total Slurry Volume** 718.25 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 127.92 bbls  
(Total Slurry Volume) X (.1781)

**Sacks Needed** 482 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 85.85 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 88.38 bbls  
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

## Pressure of cement in annulus

**Hydrostatic Pressure:** 869.59 PSI

## Pressure of the fluids inside casing

**Displacement:** 490.75 psi

**Shoe Joint:** 29.97 psi

**Total** 520.72 psi

**Differential Pressure:** 348.87 psi

**Collapse PSI:** 2020.00 psi

**Burst PSI:** 3520.00 psi

**Total Water Needed:** 224.24 bbls

X *Randy Case*  
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

Anadarko Petroleum Corporation  
CHEESE 16N-28HZ

INVOICE #  
LOCATION  
FOREMAN  
Date

80111  
Weld  
JASON KELEHER  
3/16/2015

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**DESCRIPTION OF JOB EVENTS**

Safety Meeting MIRU CIRCULATE Drop Plug 2054 M & P Time 2019-2053 % Excess Mixed bbls Total Sacks bbl Returns Water Temp	1940 1830 2010 2054 M & P Time 2019-2053 % Excess Mixed bbls Total Sacks bbl Returns Water Temp	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
		0	2054	0	0			0			0			0		
		10	2056	10	10			10			10			10		
		20	2058	10	20			20			20			20		
		30	2101	20	30			30			30			30		
		40	2105	110	40			40			40			40		
		50	2108	200	50			50			50			50		
		60	2111	250	60			60			60			60		
		70	2115	290	70			70			70			70		
		80	2118	340	80			80			80			80		
		90	2122	360	90			90			90			90		
		100	BUMP	870	100			100			100			100		
		110			110			110			110			110		
		120			120			120			120			120		
		130			130			130			130			130		
		140			140			140			140			140		
		150			150			150			150			150		

Notes:

PERFORMED PRESSURE TEST TO 1500 PSI AT 2008, PUMPED 30 BBL WATER WITH DYE IN 2ND 10 AT 2010, MIXED AND PUMPED 482 SKS AT 14.2, 127.9 BBL AT 2019, SHUT DOWN AT 2053, STARTED DISPLACEMENT AT 2054, PLUG LANDED AT 360 PSI AT 2122 AND PRESSURED UP TO 870, HELD FOR 5 MINUTES AND RELEASED TO CHECK FLOATS, GOT .5 BBL WATER BACK, FLOATS HELD.

X   
Signature

X APC Consultant  
Title

X 03/16/2015  
Date

# CHEESE 16N-28HZ SURFACE

