



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/19/2015

Invoice # 45130

API# 05-123-41001

Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation

Well Name: MILK STATE 29N-21HZ

County: Weld

State: Colorado

Sec: 21

Twp: 3N

Range: 65W

Consultant: RANDY

Rig Name & Number: ADVANCED 10

Distance To Location: 11

Units On Location: 4031-3107, 4030-3203

Time Requested: 1730

Time Arrived On Location: 1700

Time Left Location: 2300

WELL DATA

Casing Size OD (in) : 9.625
 Casing Weight (lb) : 36.00
 Casing Depth (ft.) : 1,203
 Total Depth (ft) : 1218
 Open Hole Diameter (in.) : 13.50
 Conductor Length (ft) : 46
 Conductor ID : 15.25
 Shoe Joint Length (ft) : 43
 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: 15%
 Displacement Fluid lb/gal: 8.3
 BBL to Pit: 17.0
 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 18.55 cuft

(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 35.10 cuft

(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 652.69 cuft

(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 706.34 cuft

(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 125.80 bbls

(Total Slurry Volume) X (.1781)

Sacks Needed 474 sk

(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 84.43 bbls

(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 90.11 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 887.65 PSI

Pressure of the fluids inside casing

Displacement: 500.40 psi

Shoe Joint: 31.52 psi

Total 531.92 psi

Differential Pressure: 355.73 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 224.53 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
MILK STATE 29N-21HZ

INVOICE #
LOCATION
FOREMAN
Date

45130
Weld
JASON KELEHER
2/19/2015

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DESCRIPTION OF JOB EVENTS

	2015	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	1700															
MIRU	2043	0	2117	0	0			0			0			0		
CIRCULATE		10	2119	50	10			10			10			10		
Drop Plug		20	2121	50	20			20			20			20		
2117		30	2124	50	30			30			30			30		
		40	2129	100	40			40			40			40		
		50	2135	210	50			50			50			50		
M & P		60	2137	260	60			60			60			60		
Time	Sacks	60	2137	260	60			60			60			60		
2049-2115	474	70	2141	360	70			70			70			70		
		80	2145	380	80			80			80			80		
		90	2150	410	90			90			90			90		
		100	BUMP	920	100			100			100			100		
		110			110			110			110			110		
% Excess	15%	120			120			120			120			120		
Mixed bbls	84.4	130			130			130			130			130		
Total Sacks	474	140			140			140			140			140		
bbl Returns	17	150			150			150			150			150		
Water Temp	48															

Notes:

PERFORMED PRESSURE TEST TO 1500 PSI AT 2041, PUMPED 30 BBL WATER WITH DYE IN 2ND 10 AT 2043, MIXED AND PUMPED 474 SKS AT 14.2, 125.8 BBL AT 2049, SHUT DOWN AT 2115, STARTED DISPLACEMENT AT 2117, PLUG LANDED AT 410 PSI AT 2150 AND PRESSURED UP TO 920, HELD FOR 5 MINUTES AND RELEASED TO CHECK FLOATS, GOT .5 BBL BACK, FLOATS HELD.

X Randy Luse
Work Performed

X APC Consultant
Title

X 02/19/2015
Date

MILK STATE 29N-21HZ SURFACE

