



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/6/2015

Invoice # 80104

API# 05-123-40963

Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation

Well Name: CREAM STATE 2C-21HZ

County: Weld

State: Colorado

Sec: 28

Twp: 3N

Range: 65W

Consultant: VIVIAN

Rig Name & Number: ADVANCED 10

Distance To Location: 12

Units On Location: 4031-3107, 4022-3213

Time Requested: 1100

Time Arrived On Location: 1000

Time Left Location: 1430

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 1,213
Total Depth (ft) : 1228
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 45
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: 25%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 22.0
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 18.76 **cuft**
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 34.34 **cuft**
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 713.48 **cuft**
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 766.58 **cuft**
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 136.53 **bbls**
(Total Slurry Volume) X (.1781)

Sacks Needed 514 **sk**
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 91.63 **bbls**
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 90.81 **bbls**

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

Pressure of cement in annulus

Hydrostatic Pressure: 894.75 **PSI**

Pressure of the fluids inside casing

Displacement: 504.34 **psi**

Shoe Joint: 31.89 **psi**

Total 536.23 **psi**

Differential Pressure: 358.52 **psi**

Collapse PSI: 2020.00 **psi**

Burst PSI: 3520.00 **psi**

Total Water Needed: 232.44 **bbls**

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
CREAM STATE 2C-21HZ

INVOICE #
LOCATION
FOREMAN
Date

80104
Weld
JASON KELEHER
3/6/2015

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DESCRIPTION OF JOB EVENTS

Safety Meeting		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
MIRU		BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI
CIRCULATE	1130	0	1255	0	0			0			0			0		
Drop Plug	1015	10	1257	20	10			10			10			10		
1255	1203	20	1300	30	20			20			20			20		
		30	1306	70	30			30			30			30		
		40	1308	130	40			40			40			40		
M & P		50	1310	300	50			50			50			50		
Time	Sacks	60	1312	350	60			60			60			60		
1216-1253	514	70	1314	420	70			70			70			70		
		80	1316	360	80			80			80			80		
		90	1319	400	90			90			90			90		
		100	BUMP	960	100			100			100			100		
		110			110			110			110			110		
% Excess	25%	120			120			120			120			120		
Mixed bbls	91.5	130			130			130			130			130		
Total Sacks	514	140			140			140			140			140		
bbl Returns	22	150			150			150			150			150		
Water Temp	47															

Notes:

PERFORMED PRESSURE TEST TO 1500 PSI AT 1200, PUMPED 30 BBL WATER WITH DYE IN 2ND 10 AT 1203, MIXED AND PUMPED 514 SKS AT 14.2, 136.4 BBL AT 1216, SHUT DOWN AT 1253, STARTED DISPLACEMENT AT 1255, PLUG LANDED AT 400 PSI AT 1319 AND PRESSURED UP TO 960, HELD FOR 5 MINUTES AND RELEASED TO CHECK FLOATS, GOT .5 BBL WATER BACK, FLOATS HELD.

x V. B.
Signature

x Foreman
Title

x 3/6/15
Date

CREAM STATE 2C-21HZ SURFACE

