



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/21/2015

Invoice # 80114

API# 05-123-39283

Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation

Well Name: TROUDT 13N-33HZ

County: Weld

State: Colorado

Sec: 33

Twp: 2N

Range: 67W

Consultant: RANDY

Rig Name & Number: ADVANCED 10

Distance To Location: 24

Units On Location: 4031-3107, 4030-3203

Time Requested: 2300

Time Arrived On Location: 2200

Time Left Location: 130

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 1,155
Total Depth (ft) : 1171
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 40
Conductor ID : 15.25
Shoe Joint Length (ft) : 44
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: 16%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 10.0
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 18.99 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 630.14 cuft

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

Total Slurry Volume 679.65 cuft

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

bbls of Slurry 121.04 bbls

(Total Slurry Volume) X (.1781)

Sacks Needed 456 sk

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

Mix Water 81.24 bbls

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

Displacement: 86.32 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 852.29 PSI

Pressure of the fluids inside casing

Displacement: 479.30 psi

Shoe Joint: 32.27 psi

Total 511.57 psi

Differential Pressure: 340.73 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 217.56 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
TROUDT 13N-33HZ

INVOICE #
LOCATION
FOREMAN
Date

80114
Weld
JASON KELEHER
3/21/2015

Treatment Report Page 2

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		0	1218	0	0			0			0			0		
Drop Plug		10	1219	90	10			10			10			10		
1217		20	1221	40	20			20			20			20		
		30	1223	20	30			30			30			30		
		40	1227	170	40			40			40			40		
M & P		50	1229	200	50			50			50			50		
Time Sacks		60	1231	270	60			60			60			60		
2353-0016		70	1233	320	70			70			70			70		
		80	1235	390	80			80			80			80		
		90	1237	360	90			90			90			90		
		100	BUMP	910	100			100			100			100		
		110			110			110			110			110		
% Excess		120			120			120			120			120		
Mixed bbls		130			130			130			130			130		
Total Sacks		140			140			140			140			140		
bbl Returns		150			150			150			150			150		
Water Temp																

Notes:

PERFORMED PRESSURE TEST TO 1500 PSI AT 2345, PUMPED 30 BBL WATER WITH DYE IN 2ND 10 AT 2346, MIXED AND PUMPED 456 SKS AT 14.2,
121 BBL AT 2353, SHUT DOWN AT 0016, STARTED DISPLACEMENT AT 0018, PLUG LANDED AT 360 PSI AT 0037 AND PRESSURED UP TO 910, HELD
FOR 5 MINUTES AND RELEASED TO CHECK FLOATS, GOT .5 BBL WATER BACK, FLOATS HELD.

X Randy Case
Signature

X APC Consultant
Title

X 03/21/2015
Date

TROUDT 13N-33HZ SURFACE

