



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/27/2014

Invoice # 45026

API# 05-123-39332

Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation

Well Name: DOLPH 15C-1HZ

County: Weld
State: Colorado

Sec: 1
Twp: 2N
Range: 66W

Consultant: MIKE
Rig Name & Number: ENSIGN 145

Distance To Location: 22
Units On Location: 4031-3106/ 4017-3203

Time Requested: 1830
Time Arrived On Location: 1800
Time Left Location: 230

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 1,399
Total Depth (ft) : 1423
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) :
Conductor ID :
Shoe Joint Length (ft) : 42
Landing Joint (ft) : 37

Max Rate: 7
Max Pressure: 2500

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 23%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 62.0
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
30BBL H2O W/KCL, Dye in 2nd 10

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.36 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 0.00 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 838.37 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 856.73 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 152.58 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 575 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 102.40 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 107.74 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1032.18 PSI

Pressure of the fluids inside casing

Displacement: 585.06 psi

Shoe Joint: 31.21 psi

Total 616.27 psi

Differential Pressure: 415.91 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 260.14 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

Anadarko Petroleum Corporation
DOLPH 15C-1HZ

INVOICE #
LOCATION
FOREMAN
Date

45026
Weld
JASON KELEHER
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Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting MIRU CIRCULATE Drop Plug 1241 M & P Time 1127-1238 % Excess Mixed bbls Total Sacks bbl Returns Water Temp	1030 830 1119 23% 102.4 575 62 63	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	1241	0	0			0			0			0		
		10	1244	40	10			10			10			10		
		20	1247	110	20			20			20			20		
		30	1249	300	30			30			30			30		
		40	1250	360	40			40			40			40		
		50	1252	400	50			50			50			50		
		60	1257	330	60			60			60			60		
		70	100	520	70			70			70			70		
		80	102	540	80			80			80			80		
		90	104	490	90			90			90			90		
		100	107	490	100			100			100			100		
		110	109	520	110			110			110			110		
		120	BUMP	1000	120			120			120			120		
		130			130			130			130			130		
		140			140			140			140			140		
		150			150			150			150			150		

Notes:

The day

PRESSURE TESTED TO 1500 PSI AT 2315, PUMPED 30 BBL WATER 2ND 10 HAVING DYE AT 2319, MIXED AND PUMPED 575 SKS AT 14.2, 152.5 BBL AT 2327, SHUT DOWN AT 2335 DUE TO THE RIGS PUMP IN THE CELLAR GOING DOWN, STARTED BACK UP AT 0002, SHUT DOWN AT 0038, DROPPED PLUG AT 0041, STARTED DISPLACEMENT AT 0041, BUMPED PLUG AT 0109, LANDING AT 520 PSI AND PRESSURING UP TO 1000 PSI, HELD FOR 2 MINUTES AND RELEASED AND GOT .5 BBL BACK, AT 0115 REPRESSURED UP WELL TO 1000 PSI FOR 5 MINUTES AND RELEASED

X

Work Performed

X

Title

X

Date

DOLPH 15C-1H2

