Bison Oil Well Cementing
Single Cement Surface Pipe

Date: 7/11/2014
Invoice # 45000
API# 05-123-3919
Foreman: JASON

Customer: Anadarko Petroleum Corporation
Well Name: DOLPH 3N-1HZ

County: Weld
State: Colorado
Sec: 1
Twp: 2N
Range: 66W

Consultant: ALLEN
Rig Name & Number: MAJORS 42
Distance To Location: 20
Units On Location: 4031-3106/ 4027-3204
Time Requested: 1230
Time Arrived On Location: 1100
Time Left Location: 1800

WELL DATA

Casing Size OD (in) :	9.625
Casing Weight (lb) :	36.00
Casing Depth (ft.) :	1,217
Total Depth (ft) :	1227
Open Hole Diameter (in.) :	13.50
Conductor Length (ft) :	
Conductor ID :	
Shoe Joint Length (ft) :	39
Landing Joint (ft) :	2
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:	21%
Displacement Fluid lb/gal:	8.3
BBL to Pit:	22.0
Fluid Ahead (bbls):	30.0
H20 Wash Up (bbls):	10.0

Spacer Ahead Makeup
30 BBL H2O, 2ND 10 WITH DYE

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results

cuft of Shoe 16.80 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 721.34 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 738.14 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 131.46 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 495 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 88.23 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 91.23 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 897.62 PSI

Pressure of the fluids inside casing

Displacement: 507.97 psi
Shoe Joint: 28.55 psi
Total 536.51 psi

Differential Pressure: 361.10 psi

Collapse PSI: 2020.00 psi
Burst PSI: 3520.00 psi

Total Water Needed: 219.46 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.

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INVOICE #	45000
LOCATION	Weld
FOREMAN	JASON
Date	7/11/2014

Customer	Anadarko Petroleum Corporation
Well Name	DOLPH 3N-1HZ

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DESCRIPTION OF JOB EVENTS

Safety Meeting	1530	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
MIRU	1345	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
CIRCULATE		0	1643	0	0			0			0			0		
Drop Plug		10	1645	50	10			10			10			10		
1643		20	1647	0	20			20			20			20		
		30	1650	70	30			30			30			30		
		40	1652	200	40			40			40			40		
M & P		50	1654	270	50			50			50			50		
Time	**Sacks**	60	1656	340	60			60			60			60		
1610-1640	495	70	1658	400	70			70			70			70		
		80	1700	400	80			80			80			80		
		90	1703	380	90			90			90			90		
		100	1705	400	100			100			100			100		
		110	BUMP	910	110			110			110			110		
% Excess	21%	120			120			120			120			120		
Mixed bbls	88.2	130			130			130			130			130		
Total Sacks	495	140			140			140			140			140		
bbl Returns	22	150			150			150			150			150		
Water Temp	73															

Notes:

The day

PRESSURE TESTED TO 1000 PSI, PUMPED 30 BBL WATER WITH DYE IN 2ND 10, MIX AND PUMPED 495 SKS AT 14.2, 131.4 BBLS, PLUG LANDED AT 400 PSI AND PRESSURED UP TO 910 PSI, HELD FOR 2 MINUTES AND RELEASED AND GOT .5 BBL BACK

X Allen Scott
Work Preformed

X
Title

X
Date


SERIES 2000
PSI
Barrels / Minute
Barrels
Lbs / Gallon
Stage Volume
Pressure & Total Volume
Density & Rate
1,000
950
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
7/11/2014 2:38:00 PM
7/11/2014 4:08:36 PM
7/11/2014 4:22:56 PM
7/11/2014 4:37:16 PM
7/11/2014 4:51:36 PM
7/11/2014 5:05:56 PM