



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/5/2014
Invoice #: 25094
API#: 05-123-40563
Foreman: Calvin Reimers

Customer: Anadarko Petroleum Corporation
Well Name: Copperhead 28N-15HZ

County: Weld
State: Colorado
Sec: 22
Twp: 2N
Range: 67W

Consultant: Ellis
Rig Name & Number: Major 29
Distance To Location: 20 Miles
Units On Location: 4023-3104/4027-3211
Time Requested: 1100am
Time Arrived On Location: 940am
Time Left Location: 1:00pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,311
Total Depth (ft) : 1328
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) :
Conductor ID :
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 8

Max Rate: 5
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: 18
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
30bbls H2O+Dye in 2nd 10bbls

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.61 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 778.57 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 797.18 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 141.98 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 535 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 95.28 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 98.69 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 967.43 PSI

Pressure of the fluids inside casing

Displacement: 546.97 psi

Shoe Joint: 31.63 psi

Total 578.60 psi

Differential Pressure: 388.83 psi

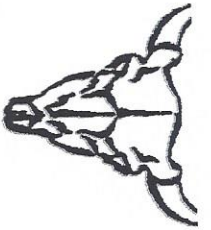
Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 243.97 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.



INVOICE #
Single Cement Surface Pipe

Customer
Well Name

Anadarko Petroleum Corporation
Copperhead 28N-15HZ

LOCATION
FOREMAN
Date

Weld
Calvin Reimers
12/5/2014

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DESCRIPTION OF JOB EVENTS

	Safety Meeting	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
		1043am	Displace 1	PSI	1106am	Displace 2	PSI	Displace 3	PSI	Displace 4	PSI	Displace 5	PSI	Displace 5	PSI	Displace 5
MIRU		945am	BBLS	Time	0	BBLS	Time	0	BBLS	Time	0	BBLS	Time	0	BBLS	Time
CIRCULATE		1106am	10	1144am	60	10	1146am	30	20	1148am	30	20	1150am	40	30	1153am
Drop Plug			20	1150am	40	30	1153am	100	40	1155am	210	50	1157am	280	60	1159am
1143am			30	1150am	40	30	1153am	100	40	1155am	210	50	1157am	280	60	1159am
			40	1153am	100	40	1155am	210	50	1157am	280	60	1159am	320	70	1201pm
M & P			50	1155am	210	50	1157am	280	60	1159am	320	70	1201pm	380	80	1203pm
Time		Sacks	60	1157am	280	60	1159am	320	70	1201pm	380	80	1203pm	350	90	1206pm
1112am		535	70	1159am	320	70	1201pm	380	80	1203pm	350	90	1206pm	1330	110	1208pm
1141am			80	1201pm	380	80	1203pm	350	90	1206pm	1330	110	1208pm	120	120	1210pm
			90	1203pm	380	80	1206pm	1330	110	1208pm	120	120	1210pm	130	130	
			100	1206pm	350	90	1208pm	120	120	1210pm	130	130		140	140	
			110	Bump	1330	110	Bump	1000	130	130		150	150			
			120	Bump	1000	120	Bump		140	140						
% Excess		21%	120	Bump	1000	120	Bump		150	150						
Mixed bbls		95.28	130			130			140	140						
Total Sacks		535	140			140			150	150						
bbl Returns		18	150			150										
Water Temp		52.6														

Notes:

The day

1/2 bbl Back on Bleed Off

X

X

X

Work Performed

Title

Date

SERIES 2000

