



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/27/2014
Invoice #: 25091
API#: 05-123-40535
Foreman: Calvin Reimers

Customer: Anadarko Petroleum Corporation
Well Name: Vollmar 29C-11HZ

County: Weld
State: Colorado
Sec: 14
Twp: 2N
Range: 67W

Consultant: Lester
Rig Name & Number: Major 42
Distance To Location: 21 Miles
Units On Location: 4023-3104/4024-3203
Time Requested: 800pm
Time Arrived On Location: 655pm
Time Left Location: 10:45pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 1,195
Total Depth (ft) : 1210
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) :
Conductor ID :
Shoe Joint Length (ft) : 42
Landing Joint (ft) : 8

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: 15%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 200 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 18.43 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 672.93 cuft

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

Total Slurry Volume 691.36 cuft

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

bbls of Slurry 123.13 bbls

(Total Slurry Volume) X (.1781)

Sacks Needed 464 sk

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

Mix Water 82.64 bbls

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

Displacement: 89.74 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 881.72 PSI

Pressure of the fluids inside casing

Displacement: 497.05 psi

Shoe Joint: 31.32 psi

Total 528.38 psi

Differential Pressure: 353.35 psi

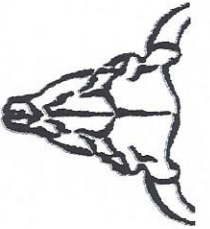
Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 222.37 bbls

X *7200*
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 # 230021
Single Cement Surface Pipe

Customer
Well Name

Anadarko Petroleum Corporation
Vollmar 29C-11HZ

LOCATION
FOREMAN
Date

Weld
Calvin Reimers
11/27/2014

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DESCRIPTION OF JOB EVENTS

| Safety Meeting | 846pm | Displace 1 | | | Displace 2 | | | Displace 3 | | | Displace 4 | | | Displace 5 | | |
|----------------|----------------|------------|-------|------|------------|-------|-----|------------|------|-----|------------|------|-----|------------|------|-----|
| | 700pm 906pm | BBLS | Time | PSI | BBLS | Time | PSI | BBLS | Time | PSI | BBLS | Time | PSI | BBLS | Time | PSI |
| MIRU | | 0 | 933pm | 50 | 0 | | | 0 | | | 0 | | | 0 | | |
| CIRCULATE | | 10 | 935pm | 20 | 10 | | | 10 | | | 10 | | | 10 | | |
| Drop Plug | | 20 | 936pm | 70 | 20 | | | 20 | | | 20 | | | 20 | | |
| | | 30 | 939pm | 90 | 30 | | | 30 | | | 30 | | | 30 | | |
| | | 40 | 940pm | 170 | 40 | | | 40 | | | 40 | | | 40 | | |
| | | 50 | 942pm | 260 | 50 | | | 50 | | | 50 | | | 50 | | |
| M & P | | 60 | 944pm | 350 | 60 | | | 60 | | | 60 | | | 60 | | |
| | | 70 | 945pm | 400 | 70 | | | 70 | | | 70 | | | 70 | | |
| 912pm | 464 | 80 | 947pm | 440 | 80 | | | 80 | | | 80 | | | 80 | | |
| 928pm | | 90 | 950pm | 380 | 90 | | | 90 | | | 90 | | | 90 | | |
| | | 100 | Bump | 1380 | 100 | 952pm | | 100 | | | 100 | | | 100 | | |
| | | 110 | | | 110 | | | 110 | | | 110 | | | 110 | | |
| % Excess | 15% | 120 | | | 120 | | | 120 | | | 120 | | | 120 | | |
| Mixed bbls | 82.64 | 130 | | | 130 | | | 130 | | | 130 | | | 130 | | |
| Total Sacks | 464 | 140 | | | 140 | | | 140 | | | 140 | | | 140 | | |
| bbl Returns | 18 | 150 | | | 150 | | | 150 | | | 150 | | | 150 | | |
| Water Temp | 54.5 | | | | | | | | | | | | | | | |

Notes:

The day

1/2 bbl Back on Bleed Off

X
Work Performed

X
Title *J. P. Cox*

X
Date

SERIES 2000

