



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/3/2015
Invoice #: 80461
API#: 05-123-40733
Foreman: Calvin Reimers

Customer: Noble Energy Inc.

Well Name: Moser H22-776

County: Weld
State: Colorado
Sec: 22
Twp: 3N
Range: 65W

Consultant: Dave / Mike
Rig Name & Number: H&P 273
Distance To Location: 24 Miles
Units On Location: 4023-3104/4019-3210
Time Requested: 800pm
Time Arrived On Location: 620pm
Time Left Location: 1215am

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 816
Total Depth (ft) : 845
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 100
Conductor ID : 16
Shoe Joint Length (ft) : 45
Landing Joint (ft) : 29

Max Rate: 7
Max Pressure: 1750

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 10%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 21.0
Fluid Ahead (bbls): 60.0
H2O Wash Up (bbls): 10.0

Spacer Ahead Makeup

60 bbls H2O+Dye in 2nd 10 bbls

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.53 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 89.10 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 384.68 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 493.30 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 87.86 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 331 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 58.96 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 61.83 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 601.62 PSI

Pressure of the fluids inside casing

Displacement: 332.24 psi

Shoe Joint: 33.20 psi

Total 365.44 psi

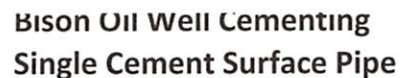
Differential Pressure: 236.19 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 190.79 bbls

Authorization To Proceed



Moser H22-776

11/4/2015

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DESCRIPTION OF JOB EVENTS

X	Work Preformed
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X	Title
1	1. The first title
2	2. The second title
3	3. The third title
4	4. The fourth title
5	5. The fifth title
6	6. The sixth title
7	7. The seventh title
8	8. The eighth title
9	9. The ninth title
10	10. The tenth title

X
Date