



Bison Oil Well Cementing Tail & Lead

Customer: Crestone Peak Resources
Well Name: Sam 3K-25H M166

Date: 5/31/2018
Invoice #: 666325
API#: 05-123-
Supervisor: Nick Vigil

County: Weld Consultant: Clarence
State: Colorado Rig Name & Number: Ensign 122
Distance To Location: 40 Miles
Units On Location: 3
Time Requested: 3:00
Time Arrived On Location: 2:45
Time Left Location:
Sec: 4
Twp: 1N
Range: 65W

WELL DATA

Casing Size (in) : 9.625
Casing Weight (lb) : 40
Casing Depth (ft.) : 2,415
Total Depth (ft) : 2430
Open Hole Diameter (in) : 13.50
Conductor Length (ft) : 111
Conductor ID : 15.25
Shoe Joint Length (ft) : 83
Landing Joint (ft) :

Sacks of Tail Requested 190
HOC Tail (ft): 0

One or the other, cannot have quantity in both

Max Rate: 8
Max Pressure: 2500

Cement Data

Lead

Cement Name:
Cement Density (lb/gal) : 13.5
Cement Yield (cuft) : 1.7
Gallons Per Sack 9.00
% Excess 25%

Tail

Cement Name:
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 0%

Fluid Ahead (bbls) 60.0
H2O Wash Up (bbls) 20.0

Spacer Ahead Makeup

Dye in 2nd 10 bbl.

Casing ID 8.835

Casing Grade J-55 only used

Lead Calculated Results

HOC of Lead 1882.57 ft
Casing Depth - HOC Tail
Volume of Lead Cement 920.07 cuft
HOC of Lead X Open Hole Ann
Volume of Conductor 84.71 cuft
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X
(Conductor Length ft)
Total Volume of Lead Cement 1004.78 cuft
(cuft of Lead Cement) + (Cuft of Conductor)
bbls of Lead Cement 223.69 bbls
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)
Sacks of Lead Cement 738.81 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
bbls of Lead Mix Water 158.32 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42
Displacement 176.77 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)
Total Water Needed: 441.73 bbls

Tail Calculated Results

Tail Cement Volume In Ann 241.30 cuft
(HOC Tail) X (OH Ann)
Total Volume of Tail Cement 205.96 Cuft
(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)
bbls of Tail Cement 42.98 bbls
(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)
HOC Tail 421.43 ft
(Tail Cement Volume) ÷ (OH Ann)
Sacks of Tail Cement 190.00 sk
(Total Volume of Tail Cement) ÷ (Cement Yield)
bbls of Tail Mix Water 26.65 bbls
(Sacks of Tail Cement X Gallons Per Sack) ÷ 42
Pressure of cement in annulus
Hydrostatic Pressure 585.23 PSI
Collapse PSI: 2570.00 psi
Burst PSI: 3950.00 psi

X Satch Bowe

Authorization To Proceed

x 5-31-18
Date