



Bison Oil Well Cementing Tail & Lead

Date: 9/21/2018

Invoice # 666364

API#

Supervisor: Nick Vigil

Customer: Crestone Peak Resources

Well Name: Melbon Ranch 4I-17H

County: Weld

State: Colorado

Sec: 19

Twp: 6N

Range: 63W

Consultant: Buddy

Rig Name & Number: Ensign 153

Distance To Location: 30 miles

Units On Location: 4023/4032/4030

Time Requested: 19:30

Time Arrived On Location: 19:00

Time Left Location: 0:30

WELL DATA

Casing Size (in) : 9.625
Casing Weight (lb) : 40
Casing Depth (ft.) : 2,409
Total Depth (ft) : 2424
Open Hole Diameter (in) : 13.50
Conductor Length (ft) : 98
Conductor ID : 15.25
Shoe Joint Length (ft) : 44
Landing Joint (ft) :

Sacks of Tail Requested 405
HOC Tail (ft): 0

One or the other, cannot have quantity in both

Max Rate: 8
Max Pressure: 2000

Cement Data

Lead

Cement Name:
Cement Density (lb/gal) : 13.5
Cement Yield (cuft) : 1.7
Gallons Per Sack 9.00
% Excess 38%

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 second 10 bbl

Casing ID

8.835

Casing Grade

J-55 only used

Lead Calculated Results

HOC of Lead 1296.91 ft

Casing Depth - HOC Tail

Volume of Lead Cement 633.84 cuft

HOC of Lead X Open Hole Ann

Volume of Conductor 74.79 cuft

(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

Total Volume of Lead Cement 708.62 cuft

(cuft of Lead Cement) + (Cuft of Conductor)

bbls of Lead Cement 174.16 bbls

(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)

Sacks of Lead Cement 575.24 sk

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

bbls of Lead Mix Water 123.26 bbls

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

Displacement 179.27 bbls

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

Total Water Needed: 439.33 bbls

Tail Calculated Results

Tail Cement Volume In Ann 514.35 cuft

(HOC Tail) X (OH Ann)

Total Volume of Tail Cement 495.62 Cuft

(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)

bbls of Tail Cement 91.61 bbls

(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)

HOC Tail 1014.09 ft

(Tail Cement Volume) ÷ (OH Ann)

Sacks of Tail Cement 405.00 sk

(Total Volume of Tail Cement) ÷ (Cement Yield)

bbls of Tail Mix Water 56.80 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

Authorization To Proceed

