



Bison Oil Well Cementing Tail & Lead

Date: 9/16/2018

Invoice # 666359

API#

Supervisor: Nick Vigil

Customer: Crestone Peak Resources

Well Name: Melbon Ranch 4D-17H

Consultant: Brett

County: Weld

Rig Name & Number: Ensign 153

State: Colorado

Distance To Location: 30 miles

Sec: 19

Units On Location: 4023/4032

Twp: 6N

Time Requested: 10:30

Range: 63W

Time Arrived On Location: 10:00

Time Left Location: 17:30

WELL DATA

Casing Size (in) : 9.625
Casing Weight (lb) : 36
Casing Depth (ft.) : 2,442
Total Depth (ft) : 2450
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 50%

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

8.921

Casing Grade

J-55 only used

Lead Calculated Results

HOC of Lead 1330.65 ft

Casing Depth - HOC Tail

Volume of Lead Cement 650.33 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 725.12 cuft

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

bbls of Lead Cement 193.72 bbls

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

Sacks of Lead Cement 639.81 sk

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

bbls of Lead Mix Water 137.10 bbls

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

Displacement 185.37 bbls

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

Total Water Needed: 459.26 bbls

Tail Calculated Results

Tail Cement Volume In Ann 514.35 cuft

(HOC Tail) X (OH Ann)

Total Volume of Tail Cement 495.25 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 1013.35 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: 2020.00 psi

Burst PSI: 3520.00 psi

X

Authorization To Proceed



Bison Oil Well Cementing
Two Cement Surface Pipe

Customer

Well Name

Crestone Peak Resources

Melbon Ranch 4D-17H

Date

INVOICE #

LOCATION

FOREMAN

9/16/2018

666359

Weld

Nick Vigil

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DESCRIPTION OF JOB EVENTS

Amount Pumped		Time/Date	Event	Description	Rate	BBLs	Pressure
Lead mixed bbls	194.7	10:00	Arrive On Location	Rig was rigging up to running casing.			
Lead % Excess	50%	10:05	Well Site Assessment	Hazard hunt, rig up safety meeting			
Lead Sacks	643	13:15	Rig Up Equipment				
		14:20	JSA	Held safety meeting with all personell involved in job.			
		14:54	Test Lines	Pressure tested lines to 2000 psi.			
Tail mixed bbls	90.9	14:56	Spacer Ahead	Fresh water with dye in second 10 bbls.	5.5	60	180
Tail % Excess	0%	15:06	Lead Cement	13.5 ppg	5.5	193.7	170
Tail Sacks	405	15:44	Tail Cement	15.2 ppg	5.5	91.6	190
		16:05	Shut Down				
Total Sacks	1048	16:07	Drop Plug	Plug was pre loaded.			
Water Temp	75	16:08	Displace	Fresh water	5.5	90	580
bbl Returns	60	16:50	Bump Plug	Bumped plug 410 psi over final lift (1910 psi)	2.4	185.3	1500
Notes:		16:54	Check Floats	Floats held (flowed back 2 bbls)			
		16:55	End Job				
		17:00	Rig Down Equipment				
		17:30	Crew Left Location				

X

Signature

X

Title

X

Date