

Bison Oil Well Cementing Tail & Lead

Customer: encana
Well Name: lochbuie 2e-31h

Date: 1-8-20014
Invoice #: 12580
API#:
Foreman: kirk

County: Weld
State: Colorado
Sec: 31
Twp: 1n
Range: 65w

Consultant: roy
Rig Name & Number: h&p 522
Distance To Location:
Units On Location: 3103-3204
Time Requested: 400 am
Time Arrived On Location: 215 am
Time Left Location: 10:00 am

WELL DATA

Casing Size (in) : 9.625
Casing Weight (lb) : 40
Casing Depth (ft) : 1.472
Total Depth (ft) : 1512
Open Hole Diameter (in) : 12.25
Conductor Length (ft) : 90
Conductor ID : 15.5
Shoe Joint Length (ft) : 42
Landing Joint (ft) : 30

Sacks of Tail Requested : 120
HOC Tail (ft) : 0

One or the other, cannot have quantity in both

Max Rate:
Max Pressure:

Cement Data

Lead

Cement Name:
Cement Density (lb/gal) : 13.1
Cement Yield (cuft) : 1.69
Gallons Per Sack : 8.64
% Excess : 60%

Tail

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

Fluid Ahead (bbls) : 110.7
H2O Wash Up (bbls) : 20.0

Spacer Ahead Makeup

Casing ID

8.835

Casing Grade

J-55 only used

Lead Calculated Results

HOC of Lead : 922.47 ft
Casing Depth - HOC Tail :
Volume of Lead Cement : 288.90 cuft
HOC of Lead X Open Hole Ann :
Volume of Conductor : 72.46 cuft
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
Total Volume of Lead Cement : 361.35 cuft
(cuft of Lead Cement) + (Cuft of Conductor)
bbis of Lead Cement : 102.97 bbis
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)
Sacks of Lead Cement : 342.11 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
bbis of Lead Mix Water : 70.38 bbis
(Sacks Needed) X (Gallons Per Sack) ÷ 42
Displacement : 110.67 bbis
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)
Total Water Needed: 201.04 bbis

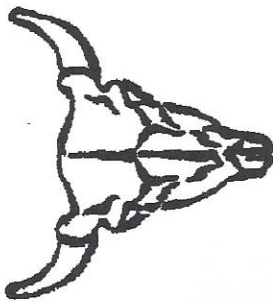
Tail Calculated Results

Tail Cement Volume In Ann : 152.40 cuft
(HOC Tail) X (OH Ann)
Total Volume of Tail Cement : 134.52 Cuft
(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)
bbis of Tail Cement : 27.14 bbis
(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)
HOC Tail : 429.53 ft
(Tail Cement Volume) ÷ (OH Ann)
Sacks of Tail Cement : 120.00 sk
(Total Volume of Tail Cement) ÷ (Cement Yield)
bbis of Tail Mix Water : 16.83 bbis
(Sacks of Tail Cement X Gallons Per Sack) ÷ 42
Pressure of cement in annulus :
Hydrostatic Pressure : 1001.70 PSI
Collapse PSI: 2570.00 psi
Burst PSI: 3950.00 psi

X

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.



**Bison Oil Well Cementing
Two Cement Surface Pipe**

Customer
Well Name

encana
lochbuie 2e-31h

Date
INVOICE #
LOCATION
FOREMAN

1-8-20014
12580
Weld
kirk

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
	BbLS	Time	PSI	BbLS	Time	PSI	BbLS	Time	PSI	BbLS	Time	PSI	BbLS	Time	PSI
Safety Meeting	0	837	20	0			0			0			0		
MIRU	10	840	60	10			10			10			10		
CIRCULATE	20	842	60	20			20			20			20		
Drop Plug	30	843	70	30			30			30			30		
837 am	40	845	70	40			40			40			40		
	50	847	70	50			50			50			50		
M & P	60	849	160	60			60			60			60		
Time	70	851	220	70			70			70			70		
808 am	80	853	290	80			80			80			80		
834 am stop	90	855	380	90			90			90			90		
	100	857	440	100			100			100			100		
	110	903	430	110			110			110			110		
	120			120			120			120			120		
	130			130			130			130			130		
	140			140			140			140			140		
	150			150			150			150			150		

Notes:

Tail mixed bbls	16.8	bumped plug at 903am 800 psi
Tail % Excess	0%	
Tail Sacks	120	
Total Sacks	463	
bbl Returns	30	

X *Sandy Taylor*

X Title

X 1-8-14

Date

Work Performed