



Bison Oil Well Cementing Tail & Lead

Date: 11/30/2013
Invoice # 65030
API# 05 123 37942
Foreman: Lee Sharp

Customer: Noble Energy
Well Name: Oscar Y10-72-1HC

County: Weld
State: Colorado
Sec: 10
Twp: 2N
Range: 64W

Consultant: Kevin
Rig Name & Number: H&P 277
Distance To Location: 26.4
Units On Location: 4028-3104; 4020-3212
Time Requested: 4:00
Time Arrived On Location: 3:05
Time Left Location: 2:45 Am

WELL DATA

Casing Size (in) : 9 625
Casing Weight (lb) : 36
Casing Depth (ft) : 1 146
Total Depth (ft) : 1149
Open Hole Diameter (in) : 13.50
Conductor Length (ft) : 104
Conductor ID : 15.5
Shoe Joint Length (ft) : 43
Landing Joint (ft) :

Sacks of Tail Requested : 100
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 : 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) : 85.2
H2O Wash Up (bbls) : 20.0

Spacer Ahead Makeup
40bbl=10F+10D+20F

Casing ID:

8.921

Casing Grade

J-55 only used

Lead Calculated Results

HOC of Lead : 820.22 ft
Casing Depth - HOC Tail
Volume of Lead Cement : 400.86 cuft
HOC of Lead X Open Hole Ann
Volume of Conductor : 83.73 cuft
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
Total Volume of Lead Cement : 484.59 cuft
(cuft of Lead Cement) + (Cuft of Conductor)
bbls of Lead Cement : 107.88 bbls
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)
Sacks of Lead Cement : 358.42 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
bbls of Lead Mix Water : 73.73 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42
Displacement : 85.24 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)
Total Water Needed : 278.25 bbls

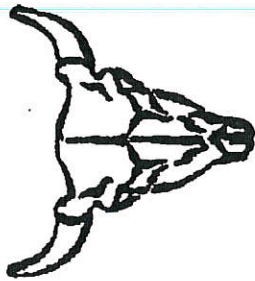
Tail Calculated Results

Tail Cement Volume In Ann : 127.00 cuft
(HOC Tail) X (OH Ann)
Total Volume of Tail Cement : 108.31 Cuft
(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)
bbls of Tail Cement : 22.62 bbls
(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)
HOC Tail : 221.61 ft
(Tail Cement Volume) ÷ (OH Ann)
Sacks of Tail Cement : 100.00 sk
(Total Volume of Tail Cement) ÷ (Cement Yield)
bbls of Tail Mix Water : 14.02 bbls
(Sacks of Tail Cement X Gallons Per Sack) ÷ 42
Pressure of cement in annulus : 779.74 PSI
Hydrostatic Pressure : 2020.00 psi
Collapse PSI: 3520.00 psi
Burst PSI:

X

Authorization To Proceed

Customer 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

Date	11/30/2013
INVOICE #	65030
LOCATION	Weld
FOREMAN	Lee Sharp

Customer
Well Name

Noble Energy
Oscar Y10-72-1HC

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

	12:20 11:30 12:45	Displace 1		Displace 2		Displace 3		Displace 4		Displace 5	
		BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	BBLs	Time
Safety Meeting		0	1:18		0			0		0	
MIRU		10	1:21	60	10			10		10	
CIRCULATE		20	1:24	60	20			20		20	
Drop Plug		30	1:27	80	30			30		30	
1:18		40	1:29	180	40			40		40	
		50	1:31	220	50			50		50	
M & P		60	1:32	280	60			60		60	
Time		70	1:34	350	70			70		70	
12:55-01:16	458	80	1:36	340	80			80		80	
		90	1:38	Land	90			90		90	
		100			100			100		100	
		110			110			110		110	
		120			120			120		120	
Lead mixed bbls	73.73	130			130			130		130	
Lead % Excess		140			140			140		140	
Lead Sacks		150			150			150		150	

Notes:

Job completed with no issues
Plug landed on calculated 85.25, bumped @ 795 psi held for 3 minutes bleed back and floats held
rig down and clean up

Tail mixed bbls	14.02
Tail % Excess	
Tail Sacks	
Total Sacks	
Water Temp	62
bbl Returns	18

X Title X Date X 11-21/

Work Performed