Bison Oil Well Cementing
Tail & Lead

Date:	11/30/2013
Invoice #	45083
API#	05-123-38204
Foreman:	JASON KELEHER

Customer: Noble Energy Inc.
Well Name: OSCAR Y10-74-1HN

Consultant:	MIKE
Rig Name & Number:	H&P 315
Distance To Location:	27
Units On Location:	3
Time Requested:	1930
Time Arrived On Location:	1830
Time Left Location:	100

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

WELL DATA

Casing Size (in)	9.625
Casing Weight (lb)	36
Casing Depth (ft)	1,154
Total Depth (ft):	1184
Open Hole Diameter (in):	13.50
Conductor Length (ft)	80
Conductor ID	15.25
Shoe Joint Length (ft)	43
Landing Joint (ft)	30

Sacks of Tail Requested	100
HOC Tail (ft):	0

One or the other, cannot have quantity in both

Max Rate:	6
Max Pressure:	1500

Casing ID 8.921

Cement Data

Lead

Cement Name:	
Cement Density (lb/gal):	13.1
Cement Yield (cuft):	1.84
Gallons Per Sack:	10.06
% Excess	31%

Tail

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

Fluid Ahead (bbls)	50.0
H20 Wash Up (bbls)	20.0

Spacer Ahead Makeup
50 BBL WATER W/KCL, DYE IN 2ND 10

Casing Grade J-55 only used

Lead Calculated Results

HOC of Lead	822.64 ft
Casing Depth - HOC Tail	
Volume of Lead Cement	402.05 cuft
HOC of Lead X Open Hole Ann	
Volume of Conductor	61.05 cuft
(Conductor ID Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	
Total Volume of Lead Cement	463.10 cuft
(cuft of Lead Cement) + (Cuft of Conductor)	
bbls of Lead Cement	108.21 bbls
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)	
Sacks of Lead Cement	330.21 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	
bbls of Lead Mix Water	79.09 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42	
Displacement	88.20 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)	
Total Water Needed	251.32 bbls

Tail Calculated Results

Tail Cement Volume In Ann	127.00 cuft
(HOC Tail) X (OH Ann)	
Total Volume of Tail Cement	108.22 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	221.44 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

Hydrostatic Pressure	585.23 PSI
Collapse PSI:	2020.00 psi
Burst PSI:	3520.00 psi

X _~~signature~~_

Authorization To Proceed

Bison Oil Well Cementing
Two Cement Surface Pipe

Date	11/30/2013
INVOICE #	45083
LOCATION	Weld
FOREMAN	JASON KELEHER

Customer: Noble Energy Inc.
Well Name: OSCAR Y10-74-1HN

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	2150	0	2336	0	0			0			0			0		
MIRU	1945	10	2339	10	10			10			10			10		
CIRCULATE	2240	20	2341	20	20			20			20			20		
Drop Plug		30	2344	30	30			30			30			30		
2336		40	2346	110	40			40			40			40		
		50	2348	150	50			50			50			50		
M & P		60	2350	190	60			60			60			60		
Time	Sacks	70	2352	240	70			70			70			70		
2252-2321	330	80	2354	250	80			80			80			80		
2321-2332	100	90	2358	230	90			90			90			90		
		100	BUMP	700	100			100			100			100		
		110			110			110			110			110		
		120			120			120			120			120		
Lead mixed bbls	79	130			130			130			130			130		
Lead % Excess	31%	140			140			140			140			140		
Lead Sacks	330	150			150			150			150			150		

Notes:

PERFORMED PRESSURE TEST TO 1500 PSI AT 2237, PUMPED 50 BBL WATER W/KCL, DYE IN 2ND 10 AT 2240, MIXED AND PUMPED 330 SKS AT 13.1, 108.1 BBL AT 2252, MIXED AND PUMPED 100 SKS AT 15.2, 22.6 BBL AT 2321, SHUT DOWN AT 2332, STARTED DISPLACEMENT AT 2336, BUMPED PLUG AT 230 PSI AT 2358 AND TOOK IT TO 700 PSI, HELD FOR 2 MINUTES AND THEN PRESSURED UP TO 1000 PSI FOR 15 MINUTES, RELEASED AND GOT .5 BBL BACK, FLOATS HELD

Tail mixed bbls	14
Tail % Excess	0%
Tail Sacks	100
Total Sacks	430
Water Temp	55
bbl Returns	31

X _____
Work Preformed

X _____
Title

X _____
Date