



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 4/11/2015

Invoice # 80125

API# 05-123-40925

Foreman: JASON KELEHER

Customer: Noble Energy Inc.

Well Name: COLT A13-662

County: Weld

State: Colorado

Sec: 17

Twp: 6N

Range: 63W

Consultant: STEVE

Rig Name & Number: H&P 343

Distance To Location: 27

Units On Location: 4031-3107/ 4032-3210

Time Requested: 2200

Time Arrived On Location: 2130

Time Left Location: 200

WELL DATA

Casing Size OD (in) : 9.625
 Casing Weight (lb) : 36.00
 Casing Depth (ft.) : 898
 Total Depth (ft) : 930
 Open Hole Diameter (in.) : 13.50
 Conductor Length (ft) : 100
 Conductor ID : 15.25
 Shoe Joint Length (ft) : 45
 Landing Joint (ft) : 29

Max Rate: 6
 Max Pressure: 1000

Cement Data

Cement Name: BFN III
 Cement Density (lb/gal) : 14.2
 Cement Yield (cuft) : 1.49
 Gallons Per Sack: 7.48
 % Excess: 15%
 Displacement Fluid lb/gal: 8.3
 BBL to Pit: 10.0
 Fluid Ahead (bbls): 60.0
 H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

60 BBL WATER/ DYE IN 2ND 10

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.44 cuft
 (Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 76.31 cuft
 (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 448.60 cuft
 (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 544.35 cuft
 (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 96.95 bbls
 (Total Slurry Volume) X (.1781)

Sacks Needed 365 sk
 (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 65.06 bbls
 (Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 68.21 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 662.57 PSI

Pressure of the fluids inside casing

Displacement: 367.96 psi

Shoe Joint: 33.04 psi

Total 401.00 psi

Differential Pressure: 261.57 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 213.28 bbls

X *Steve Record*

Authorization To Proceed



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

Customer
Well Name

Noble Energy Inc.
COLT A13-662

INVOICE #
LOCATION
FOREMAN
Date

80125
Weld
JASON KELEHER
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Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Amount Pumped	Time/Date	Event	Description	Rate	BBLs	Pressure
% Excess 15%	2130	ARRIVE ON LOCATION	WELL SITE ASSESMENT/ HAZARD HUNT			
Mixed bbls 65	2300	MIRU	SPOT EQUIPMENT			
Total Sacks 365	2335	JSA	REVIEW JOB/ HAZARDS/ EMERGENCIAS			
bbl Returns 10	2351	Pressure Test	TEST LINES TO 1500			1500
Water Temp 53	2353	Spacer Ahead	60 BBL WATER/ DYE IN 2ND 10	5.5	60	110
	1204	Cement	14.2 PPG CEMENT (365)	6	96.8	160
Notes:	1223	Shutdown				
	1225	Drop Plug	PLUG PRELOADED			
	1225	Start Displacement	FRESH WATER	2.4	68	260
	1245	Bump Plug	BUMP PLUG 500 PSI OVER			710
	1247	Pressure Test Casing	TEST CASING TO 1000 PSI FOR 15 MINUTES			1030
	102	Check Floats	FLOATS HELD/ .5 BBL BACK			1040
	110	Rig Down	HOLD RIG DOWN JSA			
	145	Leave Location	HOLD PRE JOURNEY MEETING			

X Steve Reed
Customer Signature

X W.S.S
Title

X 4-11-15
Date