



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 1/3/2014
Invoice #: 12578
API#:
Foreman: Kirk

Customer: noble
Well Name: wells ranch st 21 66-1hm

County: weld
State: Colorado

Sec: 21
Twp: 6n
Range: 63w

Consultant: cliff
Rig Name & Number: h&p 277
Distance To Location:
Units On Location: 3103 3203
Time Requested: 1000 am
Time Arrived On Location: 800 am
Time Left Location: 2:30 pm

WELL DATA

Casing Size OD (in) : 9.6250
Casing Weight (lb) : 36
Casing Depth (ft.) : 897
Total Depth (ft) : 932
Open Hole Diameter (in.) : 13.75
Conductor Length (ft) : 100
Conductor ID : 15.5
Shoe Joint Length (ft) : 40
Landing Joint (ft) : 28

Max Rate:
Max Pressure:

Cement Data

Cement Name: BEN III
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 30%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls):
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 17.36 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 80.51 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X
(Conductor Length ft)
cuft of Casing 419.13 cuft
(Open Hole Squared) (Casing Size Squared) X (.005454) X (Casing
Depth - Conductor Length)
Total Slurry Volume 517.00 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 119.70 bbls
(Total Slurry Volume) X (.1781) X (% Excess Cement)
Sacks Needed 529 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 74.22 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 68.42 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe
Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 708.27 PSI

Pressure of the fluids inside casing

Displacement: 369.52 psi

Shoe Joint: 31.58 psi

Total 401.11 psi

Differential Pressure: 307.17 psi

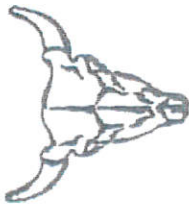
Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed 94.22 bbls

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
Single Cement Surface Pipe

Customer
Well Name

noble
wells ranch st 21-66-1hn

INVOICE # 12578
LOCATION weld
FOREMAN Kirk
Date 1/3/2014

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	108	20	0			0			0			0		
MIRU	10	110	80	10			10			10			10		
CIRCULATE	20	112	110	20			20			20			20		
Drop Plug	30	114	170	30			30			30			30		
108 pm	40	116	240	40			40			40			40		
	50	118	280	50			50			50			50		
M & P	60	120	310	60			60			60			60		
Time	70			70			70			70			70		
1235 pm	80			80			80			80			80		
105 pm stop	90			90			90			90			90		
	100			100			100			100			100		
	110			110			110			110			110		
% Excess	120			120			120			120			120		
Mixed bbls	130			130			130			130			130		
Total Sacks	140			140			140			140			140		
	150			150			150			150			150		
bbl Returns															

Notes:

bumped plug at 125 pm 420 psi 103-1 bbls slurry

X *WSS*

X *WSS*

X *1-3-14*