



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 5/31/2014
Invoice #: 12062
API#: 05-123-38684
Foreman: JASON

Customer: NOBLE
Well Name: WELLS RANCH AE 30-63-1BHNA

County: Weld County
State: Colorado
Sec: 29
Twp: 6N
Range: 62W
Consultant: MATT
Rig Name & Number: H&P 343
Distance To Location: 34
Units On Location: 4027-3106, 4022-3212
Time Requested: 1230
Time Arrived On Location: 1130
Time Left Location: 1500

WELL DATA

Casing Size OD (in): 9.625
Casing Weight (lb): 38.00
Casing Depth (ft): 592
Total Depth (ft): 626
Open Hole Diameter (in): 13.75
Conductor Length (ft): 100
Conductor ID: 15.25
Shoe Joint Length (ft): 44
Landing Joint (ft): 29

Max Rate: 7
Max Pressure: 2500

Cement Data

Cement Name: BFN III
Cement Density (lb/gal): 15.2
Cement Yield (cuft): 1.27
Gallons Per Sack: 5.89
% Excess: 15%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 11.0
Fluid Ahead (bbls): 45.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
45 BBL H2O+KCL+DYE IN 2ND 10

Casing ID 8.921

Casing Grade J-55 only used

Calculated Results

cuft of Shoe 19.28 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 297.49 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 393.09 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 80.51 bbls
(Total Slurry Volume) X (.1781) X (% Excess Cement)

Sacks Needed 310 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 43.41 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 44.57 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 467.37 PSI

Pressure of the fluids inside casing

Displacement: 236.07 psi

Shoe Joint: 35.07 psi

Total 271.14 psi

Differential Pressure: 196.23 psi

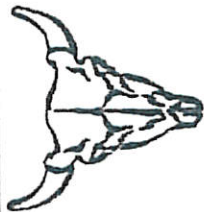
Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 152.97 bbls

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
Single Cement Surface Pipe

Customer
Well Name

NOBLE
WELLS RANCH AE 30-63-1BHNA

INVOICE #
LOCATION
FOREMAN
Date

12062
Weld County
JASON
5/31/2014

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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	1240														
MIRU	1200														
CIRCULATE															
Drop Plug															
1332															
M & P															
Time	Sacks														
1314-1329	310														
% Excess	0%														
Mixed bbls	43.5														
Total Sacks	310														
bbl Returns	11														
Water Temp	64														

Notes:

The day

PUMPED 45 BBL H2O AHEAD, MIX AND PUMP 310 SKS AT 15.2, 70.1 BBLs OF SLURRY, PRESSURE TEST CASING FOR 150 MINUTES AT 1000 PSI, .5 BBL

BACK WHEN PRESSURE RELEASED

X 11/12/14

X

X

Date