



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/16/2014
Invoice #: 25106
API#: 05-123-37943
Foreman: Calvin Reimers

Customer: Noble Energy Inc.
Well Name: Oscar Y 11-79HN

County: Weld
State: Colorado
Sec: 10
Twp: 2N
Range: 64W
Consultant:
Rig Name & Number: H&P 277
Distance To Location: 27 Miles
Units On Location: 4023-3104/4020-3212
Time Requested: 300pm
Time Arrived On Location: 250pm
Time Left Location: 7:30pm

WELL DATA		Cement Data	
Casing Size OD (in) :	9.625	Cement Name:	BEN III
Casing Weight (lb) :	36.00	Cement Density (lb/gal) :	14.2
Casing Depth (ft) :	1,132	Cement Yield (cuft) :	1.49
Total Depth (ft) :	1161	Gallons Per Sack:	7.48
Open Hole Diameter (in.) :	13.50	% Excess:	25%
Conductor Length (ft) :	100	Displacement Fluid lb/gal:	8.3
Conductor ID :	16	BBL to Pit:	28
Shoe Joint Length (ft) :	45	Fluid Ahead (bbls):	40.0
Landing Joint (ft) :	28	H2O Wash Up (bbls):	20.0
Max Rate:	7	Spacer Ahead Makeup	
Max Pressure:	2500	40bbls H2O+Dye in 2nd 10bbls	

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results			Displacement: 86.20 bbls
cuft of Shoe	19.58	cuft	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor	89.10	cuft	Pressure of cement in annulus
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)			Hydrostatic Pressure: 835.18 PSI
cuft of Casing	630.55	cuft	Pressure of the fluids inside casing
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)			Displacement: 468.70 psi
Total Slurry Volume	739.23	cuft	Shoe Joint: 33.29 psi
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)			Total: 501.99 psi
bbls of Slurry	131.66	bbls	Differential Pressure: 333.19 psi
(Total Slurry Volume) X (.1781)			Collapse PSI: 2020.00 psi
Sacks Needed	496	sk	Burst PSI: 3520.00 psi
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)			Total Water Needed: 234.56 bbls
Mix Water	88.36	bbls	
(Sacks Needed) X (Gallons Per Sack) ÷ 42			

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 Energy Inc.
Oscar Y 11-79HN

INVOICE #
LOCATION
FOREMAN
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25106
Weld
Calvin Reimers
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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	455pm														
MIRU	420pm														
CIRCULATE	540pm														
Drop Plug															
610pm															
M & P															
Time	Sacks														
545pm	496														
608pm															
% Excess	25%														
Mixed bbls	88.36														
Total Sacks	496														
bbl Returns	28														
Water Temp	71.4														

Notes:

The day

1/2 bbl back on bleed off

Casing PSI Test 629pm 1030psi to 644pm 1010psi

X

X Title

X Date