



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 8/31/2014
 Invoice #: 55017
 API#
 Foreman: monte

Customer: Bill Barrett Corp.
 Well Name: anschutz equus farms 4-62-16 0560ch

County: Weld
 State: Colorado
 Sec: 16
 Twp: 4n
 Range: 62w
 Consultant: casey
 Rig Name & Number: major 43
 Distance To Location: 46
 Units On Location: 4028-3201 40217-3211
 Time Requested: 6:00pm
 Time Arrived On Location: 5:00pm
 Time Left Location: 1100 pm

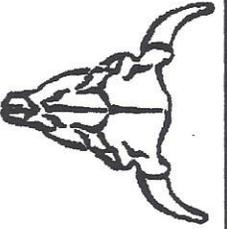
WELL DATA	
Casing Size OD (in) :	9.625
Casing Weight (lb) :	36.00
Casing Depth (ft) :	751
Total Depth (ft) :	800
Open Hole Diameter (in.) :	13.50
Conductor Length (ft) :	
Conductor ID :	15.6
Shoe Joint Length (ft) :	44
Landing Joint (ft) :	8
Max Rate:	5
Max Pressure:	2000

Cement Data	
Cement Name:	BFN III
Cement Density (lb/gal) :	15.2
Cement Yield (cuft) :	1.27
Gallons Per Sack:	5.89
% Excess:	20%
Displacement Fluid lb/gal:	8.3
BBL to Pit:	
Fluid Ahead (bbls):	60.0
H2O Wash Up (bbls):	20.0
Spacer Ahead Makeup	10 fresh 10 dye 40 fresh

Calculated Results	Displacement: 55.28 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Shoe 19.10 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of cement in annulus
cuft of Conductor 0.00 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: 592.99 PSI
cuft of Casing 440.44 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume 459.54 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 304.85 psi
bbls of Slurry 81.84 bbls (Total Slurry Volume) X (.1781)	Shoe Joint: 34.74 psi
Sacks Needed 362 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total 339.59 psi
Mix Water 50.74 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure: 253.40 psi
	Collapse PSI: 2020.00 psi
	Burst PSI: 3520.00 psi
	Total Water Needed: 186.02 bbls

X *Casey*
 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

Bill Barrett Corp.
 Anschutz equus farms 4-62-16 0560cf

INVOICE #
 LOCATION
 FOREMAN
 Date

55019
 Weld
 monte
 8/31/2014

DESCRIPTION OF JOB EVENTS

Safety Meeting	7:10	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
	6:25 7:25	BLS	Time	PSI												
MIRU		0	8:10	180	0			0			0			0		
CIRCULATE		10	8:12	200	10			10			10			10		
Drop Plug		20	8:14	250	20			20			20			20		
	8:18	30	8:16	360	30			30			30			30		
		40	8:18	410	40			40			40			40		
		50	8:21	500	50			50			50			50		
M & P		60	8:23	730	60			60			60			60		
Time	Sacks	70			70			70			70			70		
7:40-8:00	362	80			80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	20%	120			120			120			120			120		
Mixed bbls	50.74	130			130			130			130			130		
Total Sacks	362	140			140			140			140			140		
bbl Returns	3	150			150			150			150			150		
Water Temp	66															

Notes:

Safety Meeting, miru, pressure test per company man circulate 60 bbls ahead with dye in 2nd 10, mix and pump 362 sks at 20 % excess. drop plug and displace 55.28 bbls h2o

X *Casey* Title *Co-man* Date