



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/15/2014
Invoice #: 25070
API#: 05-123-38982
Foreman: Calvin Reimers

Customer: Anadarko Petroleum Corporation
Well Name: Kerr 28N-12HZ

County: Weld
State: Colorado
Sec: 13
Twp: 2N
Range: 67W

Consultant: Ellis
Rig Name & Number: Major 29
Distance To Location: 21 Miles
Units On Location: 4023-3104/4018-3204
Time Requested: 1130am
Time Arrived On Location: 1000am
Time Left Location: 2:15pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 1,053
Total Depth (ft) : 1069
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) :
Conductor ID :
Shoe Joint Length (ft) : 42
Landing Joint (ft) : 8

Max Rate: 7
Max Pressure: 2500

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 27%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 8
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
30bbls H2O+Dye in 2nd 10bbls

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.20 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 0.00 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 652.26 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 670.47 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 119.41 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 450 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 80.14 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 78.76 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 776.64 PSI

Pressure of the fluids inside casing

Displacement: 435.86 psi

Shoe Joint: 30.94 psi

Total 466.79 psi

Differential Pressure: 309.84 psi

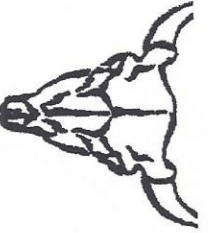
Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 208.90 bbls

X *Calvin Reimers* Major 29
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 Ull Well Cementing
Single Cement Surface Pipe

Customer
Well Name

Anadarko Petroleum Corporation
Kerr 28N-12HZ

INVOICE #
LOCATION
FOREMAN
Date

250/0
Weld
Calvin Reimers
10/15/2014

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DESCRIPTION OF JOB EVENTS

Safety Meeting	1225pm	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
	1135am 1246pm	BLS	Time	PSI	BLS	Time	PSI	BLS	Time	PSI	BLS	Time	PSI	BLS	Time	PSI
MIRU		0	111pm	80	0			0			0			0		
CIRCULATE		10	114pm	10	10			10			10			10		
Drop Plug		20	116pm	100	20			20			20			20		
		30	117pm	140	30			30			30			30		
		40	119pm	200	40			40			40			40		
		50	121pm	310	50			50			50			50		
M & P		60	123pm	310	60			60			60			60		
		70	125pm	340	70			70			70			70		
1252pm	450	80	128pm	310	80			80			80			80		
108pm		90	Bump	1280	90	130pm		90			90			90		
		100	Bump	1020	100	132pm		100			100			100		
		110			110			110			110			110		
% Excess	27%	120			120			120			120			120		
Mixed bbls	80.14	130			130			130			130			130		
Total Sacks	450	140			140			140			140			140		
bbl Returns	8	150			150			150			150			150		
Water Temp	62.8															

Notes:

The day

1/2 bbl back on bleed off

Work Performed

X *Steve Morris* *10/29*

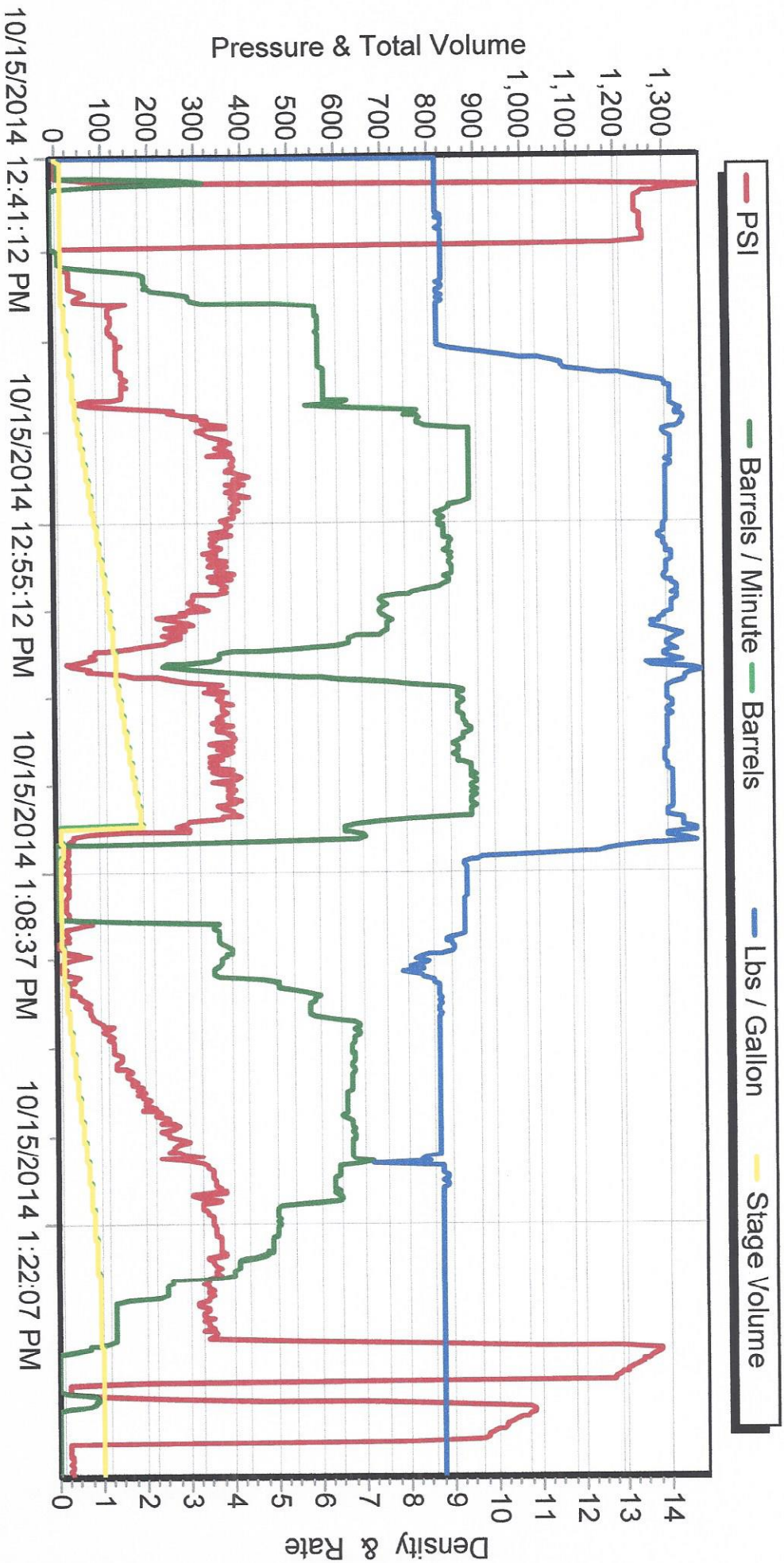
X

Title

X

Date

SERIES 2000



Release and Indemnification

Customer acknowledges and assumes the risks associated with oil well drilling, cementing and acidizing, including, without limitation, destabilization, loss of production, contamination, fracturing and loss of well control. Customer agrees to release Bison Oil Well Cementing, Inc., Bison Energy Services, Inc., its agents, employees and assigns, from any and all liability for any and all damages whatsoever to property of any kind owned by, in the possession of, or leased by customer and those persons or entities customer has the ability to bind by contract. Customer also agrees to indemnify and hold harmless Bison Oil Well Cementing, Inc., Bison Energy Services, Inc., its agents, employees and assigns, from and against any and all liability, claims, costs, expenses, attorneys fees and damages whatsoever for claims, costs, expenses, attorneys fees and damages whatsoever for personal injury, illness, death, property damage and loss resulting from: loss or reduction of production, destabilization loss of oil well control, failure of or contamination by acid stimulation, hydraulic fracturing, cementing, pumping services, incompatible fluid or other processes to stimulate, complete or end production, and/or any other condition. Customer's release, indemnity and hold harmless obligation shall apply even if the liability and claims are caused by the sole, concurrent, active or passive negligence, fault, or strict liability of Bison Oil Well Cementing, Inc. and/or Bison Energy Services, Inc. or any defect in the data, products, supplies, materials or equipment furnished by Bison Oil Well Cementing, Inc. whether in the design, manufacturing, maintenance, or marketing thereof or from failure to warn of such defect. In the event that any portion of this release and indemnity is found by a court of competent jurisdiction to be inoperable or unenforceable, the remaining portions and provisions shall apply, and customer agrees that the contract price herein shall be the limit of Bison Oil Well Cementing, Inc.'s liability, if any.