



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/3/2014
 Invoice # 45047
 API# 05-123-39592
 Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation
Well Name: STEWARD 14N-6HZ

County: Weld
 State: Colorado
 Sec: 6
 Twp: 1N
 Range: 65W

Consultant: RANDY
 Rig Name & Number: MAJORS 29
 Distance To Location: 22
 Units On Location: 4031-3106/ 4024-3203
 Time Requested: 1830
 Time Arrived: 1700
 Time Left Location: 2230

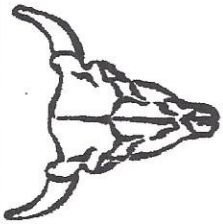
WELL DATA	
Casing Size OD (in) :	9.625
Casing Weight (lb) :	36.00
Casing Depth (ft) :	1,614
Total Depth (ft) :	1630
Open Hole Diameter (in.) :	13.50
Conductor Length (ft) :	
Conductor ID :	
Shoe Joint Length (ft) :	42
Landing Joint (ft) :	6
Max Rate:	7
Max Pressure:	2500

Cement Data	
Cement Name:	BFN III
Cement Density (lb/gal) :	14.2
Cement Yield (cuft) :	1.49
Gallons Per Sack:	7.48
% Excess:	22%
Displacement Fluid lb/gal:	8.3
BBL to Pit:	34.0
Fluid Ahead (bbls):	30.0
H2O Wash Up (bbls):	20.0
Spacer Ahead Makeup	
30 BBL WATER, DYE IN 2ND 10	

Calculated Results	Displacement: 121.96 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Shoe 18.29 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of cement in annulus Hydrostatic Pressure: 1190.46 PSI
cuft of Conductor 0.00 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	
cuft of Casing 960.62 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing Displacement: 677.65 psi Shoe Joint: 31.08 psi Total 708.73 psi Differential Pressure: 481.73 psi
Total Slurry Volume 978.90 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	
bbls of Slurry 174.34 bbls (Total Slurry Volume) X (.1781)	
Sacks Needed 657 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Collapse PSI: 2020.00 psi Burst PSI: 3520.00 psi
Mix Water 117.01 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total Water Needed: 288.97 bbls

Randy Case
 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.



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 LOCATION Weld
 FOREMAN JASON KELEHER
 Date 10/3/2014

Customer Anadarko Petroleum Corporation
 Well Name STEWARD 14N-6HZ

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	1930														
MIRU	1815														
CIRCULATE	2024														
Drop Plug		0	2112	0			0			0			0		
		10	2115	0			10			10			10		
		20	2117	30			20			20			20		
		30	2121	0			30			30			30		
		40	2123	120			40			40			40		
		50	2125	180			50			50			50		
M & P		60	2127	280			60			60			60		
Time		70	2129	300			70			70			70		
2032-2110		80	2130	450			80			80			80		
		90	2132	490			90			90			90		
		100	2135	520			100			100			100		
		110	2136	550			110			110			110		
% Excess		120	2139	560			120			120			120		
Mixed bbls		130	2140	400			130			130			130		
Total Sacks		140	BUMP	1390			140			140			140		
bbl Returns		150					150			150			150		
Water Temp															
Notes:	PERFORMED PRESSURE TEST TO 2000 PSI AT 2020, PUMPED 30 BBL WATER W/ DYE IN 2ND 10 AT 2024, MIXED AND PUMPED 657 SKS AT 14.2, 174.3 BBL AT 2032, SHUT DOWN AT 2110, STARTED DISPLACEMENT AT 2112, LANDED PLUG AT 400 PSI AT 2140 AND PRESSURED UP TO 1390 PSI, HELD FOR 2 MINUTES AND CHECKED FLOATS, GOT .5 BBL BACK, REPRESSURED WELL TO 1000 PSI FOR 2 MINUTES AND RELEASED.														

Notes:

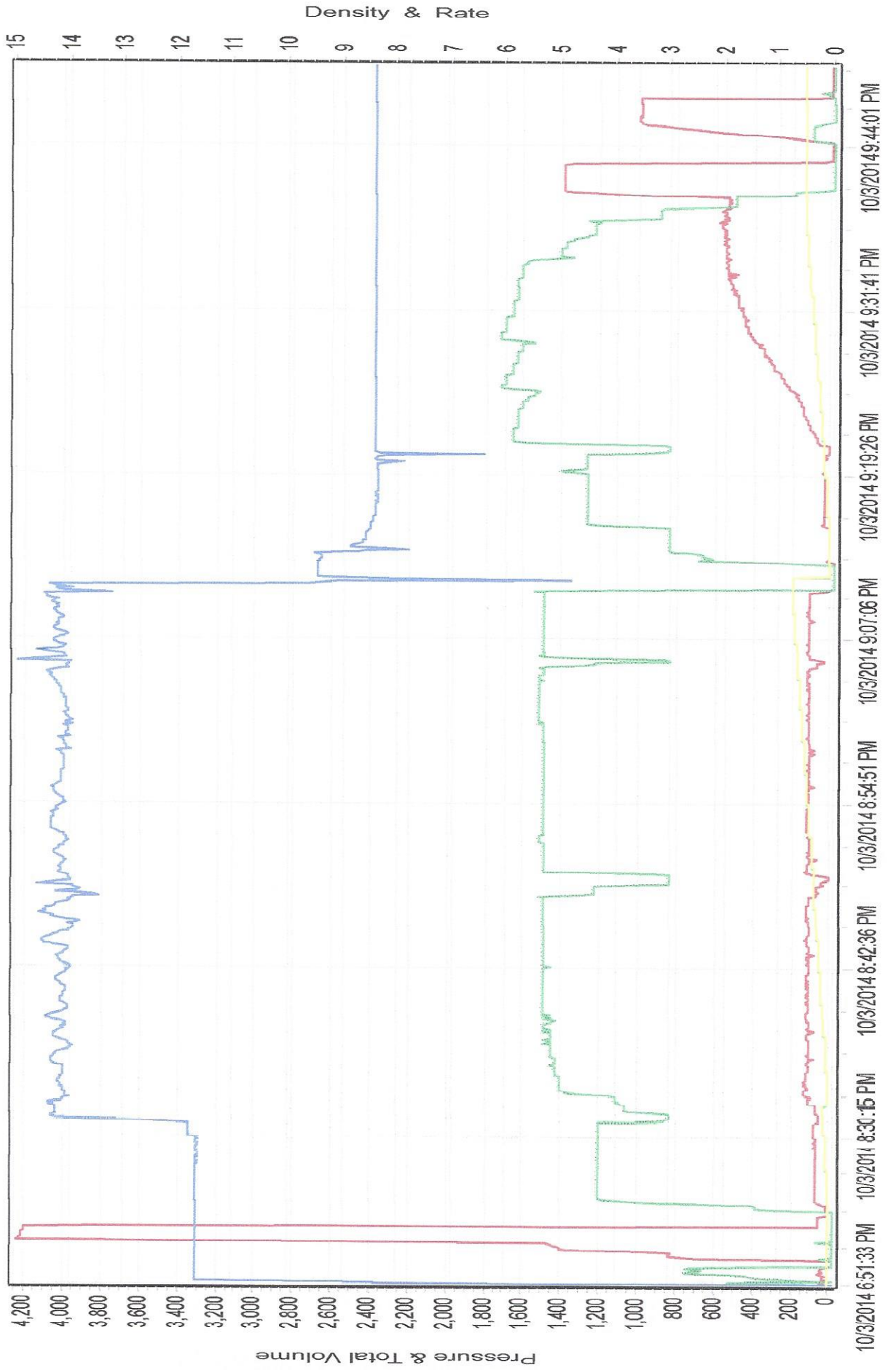
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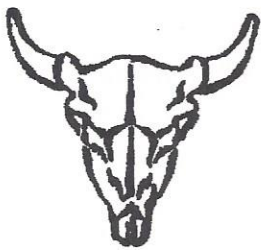
X Randy Case
 Work Performed

X APC Consultant
 Title

X 10/03/2014
 Date

STEWARD 14N-6HZ SURFACE





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Displacement Fluid lb/gal:	8.3
BBL to Pit:	
Fluid Ahead (bbls):	30.0
H2O Wash Up (bbls):	20.0
Spacer Ahead Makeup	
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cuft of Conductor 0.00 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	
cuft of Casing 955.88 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing Displacement: 677.65 psi Shoe Joint: 31.08 psi Total 708.73 psi Differential Pressure: 481.73 psi
Total Slurry Volume 974.17 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	
bbls of Slurry 173.50 bbls (Total Slurry Volume) X (.1781)	
Sacks Needed 654 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Collapse PSI: 2020.00 psi Burst PSI: 3520.00 psi
Mix Water 116.44 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total Water Needed: 288.40 bbls

[Signature]
 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.

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.