

Bison Oil Well Cementing Single Cement Surface Pipe

Date: 10/1/2014
 Invoice # 45046
 API# 05-123-40179
 Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation
Well Name: SUMMIT 35N-32HZ

County: Weld
 State: Colorado
 Sec: 29
 Twp: 2N
 Range: 65W

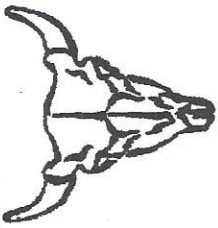
Consultant: ALLEN
 Rig Name & Number: MAJORS 42
 Distance To Location: 18
 Units On Location: 4031-3106/ 4018-3204
 Time Requested: 1800
 Time Arrived: 1630
 Time Left Location: 2230

WELL DATA	Cement Data
Casing Size OD (in) : 9.625	Cement Name: BFN III
Casing Weight (lb) : 36.00	Cement Density (lb/gal) : 14.2
Casing Depth (ft.) : 1,093	Cement Yield (cuft) : 1.49
Total Depth (ft) : 1103	Gallons Per Sack: 7.48
Open Hole Diameter (in.) : 13.50	% Excess: 15%
Conductor Length (ft) :	Displacement Fluid lb/gal: 8.3
Conductor ID :	BBL to Pit: 23.0
Shoe Joint Length (ft) : 41	Fluid Ahead (bbls): 30.0
Landing Joint (ft) : 2	H2O Wash Up (bbls): 20.0
Max Rate: 7	Spacer Ahead Makeup
Max Pressure: 2500	30 BBL WATER, DYE IN 2ND 10

Calculated Results	Pressure of cement in annulus
cuft of Shoe 17.80 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Displacement: 81.48 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
cuft of Conductor 0.00 cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure: 806.25 PSI
cuft of Casing 615.34 cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing
Total Slurry Volume 633.14 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement: 453.56 psi Shoe Joint: 30.26 psi Total 483.82 psi
bbls of Slurry 112.76 bbls (Total Slurry Volume) X (.1781)	Differential Pressure: 322.43 psi
Sacks Needed 425 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Collapse PSI: 2020.00 psi Burst PSI: 3520.00 psi
Mix Water 75.68 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Total Water Needed: 207.15 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.



**Bison Oil Well Cementing
Single Cement Surface Pipe**

INVOICE #
LOCATION
FOREMAN
Date

45046
Weld
JASON KELEHER
10/1/2014

Customer
Well Name

Anadarko Petroleum Corporation
SUMMIT 35N-32HZ

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	2000														
MIRU	1900														
CIRCULATE	2030														
Drop Plug															
	2108														
M & P															
Time															
Sacks	60	2123	380	60	2123	380	60	2123	380	60	2123	380	60	2123	380
2043-2106	70	2125	370	70	2125	370	70	2125	370	70	2125	370	70	2125	370
	80	2129	390	80	2129	390	80	2129	390	80	2129	390	80	2129	390
	90	2130	390	90	2130	390	90	2130	390	90	2130	390	90	2130	390
	100	BUMP	1360	100	BUMP	1360	100	BUMP	1360	100	BUMP	1360	100	BUMP	1360
	110			110			110			110			110		
	120			120			120			120			120		
	130			130			130			130			130		
	140			140			140			140			140		
	150			150			150			150			150		
% Excess			15%												
Mixed bbbls			75.65												
Total Sacks			425												
bbbl Returns			23												
Water Temp			58												

Notes:

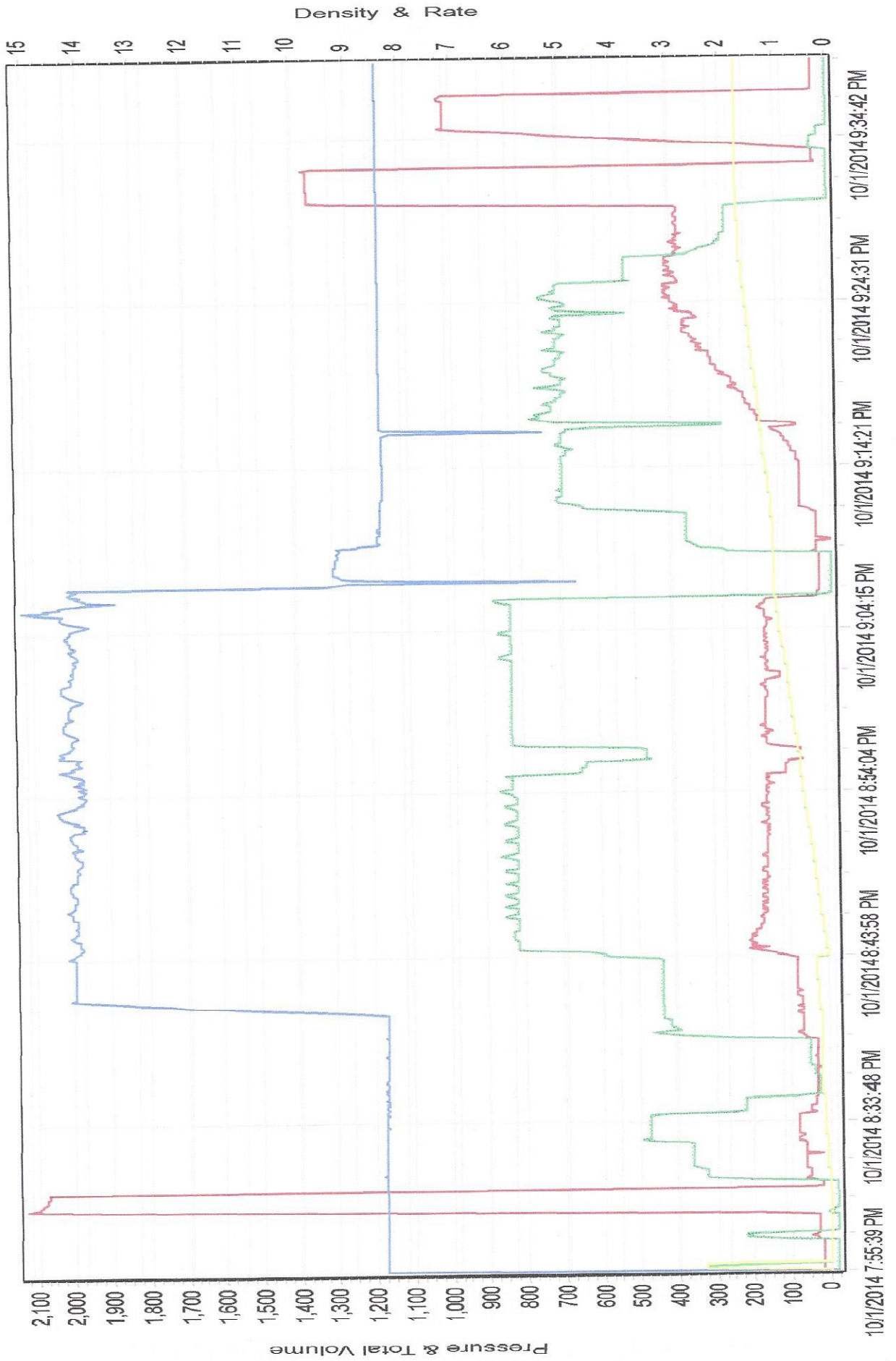
PERFORMED PRESSURE TEST TO 2000 PSI AT 2028, PUMPED 30 BBL WATER W/ DYE IN 2ND 10 AT 2030, MIXED AND PUMPED 6425 SKS AT 14.2, 112.7
BBL AT 2043, SHUT DOWN AT 2106, STARTED DISPLACEMENT AT 2108, LANDED PLUG AT 390 PSI AT 2130 AND PRESSURED UP TO 1360 PSI, HELD FOR
2 MINUTES AND CHECKED FLOATS, GOT .5 BBL BACK, REPRESSED WELL TO 1000 PSI FOR 2 MINUTES AND RELEASED.

X *John Seard*
Title

X
Date

Work Performed

SUMMIT 35N-32HZ SURFACE



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.