



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/12/2015
Invoice #: 80059
API#:
Foreman: kirk kallhoff

Customer: Anadarko Petroleum Corporation

Well Name: cream state 28c-21hz

County: Weld
State: Colorado

Sec: 28
Twp: 3n
Range: 65w

Consultant: randy
Rig Name & Number: advanced 10
Distance To Location: 10
Units On Location: 4038-3103/4034-3211
Time Requested: 430 am
Time Arrived On Location: 300 am
Time Left Location: 7:30 am

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 1,199
Total Depth (ft) : 1217
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 45
Conductor ID : 16
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 8

Max Rate:
Max Pressure:

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 14.2
Cement Yield (cuft) : 1.49
Gallons Per Sack: 7.48
% Excess: 20%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 10.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.66 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 40.09 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 676.79 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 735.55 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 131.00 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 494 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 87.92 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 89.99 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 884.50 PSI

Pressure of the fluids inside casing

Displacement: 498.45 psi

Shoe Joint: 31.72 psi

Total 530.17 psi

Differential Pressure: 354.34 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 217.90 bbls

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

Anadarko Petroleum Corporation
cream state 28c-21hz

INVOICE #
LOCATION
FOREMAN
Date

80059
Weld
kirk kallhoff
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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	530am															
MIRU	330am															
CIRCULATE	558am	0	635am	10	0			0			0			0		
Drop Plug		10	637am	50	10			10			10			10		
635 am		20	639am	50	20			20			20			20		
		30	641am	110	30			30			30			30		
		40	643am	170	40			40			40			40		
M & P		50	645am	240	50			50			50			50		
Time	Sacks	60	647am	300	60			60			60			60		
605 am	494	70	649am	360	70			70			70			70		
632 am stop		80	651am	400	80			80			80			80		
		90	655am	380	90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	20%	120			120			120			120			120		
Mixed bbls	87.9	130			130			130			130			130		
Total Sacks	494	140			140			140			140			140		
bbl Returns	22	150			150			150			150			150		
Water Temp																

Notes:

bumped plug at 655 am 920 psi

floats held

X

Work Preformed

X

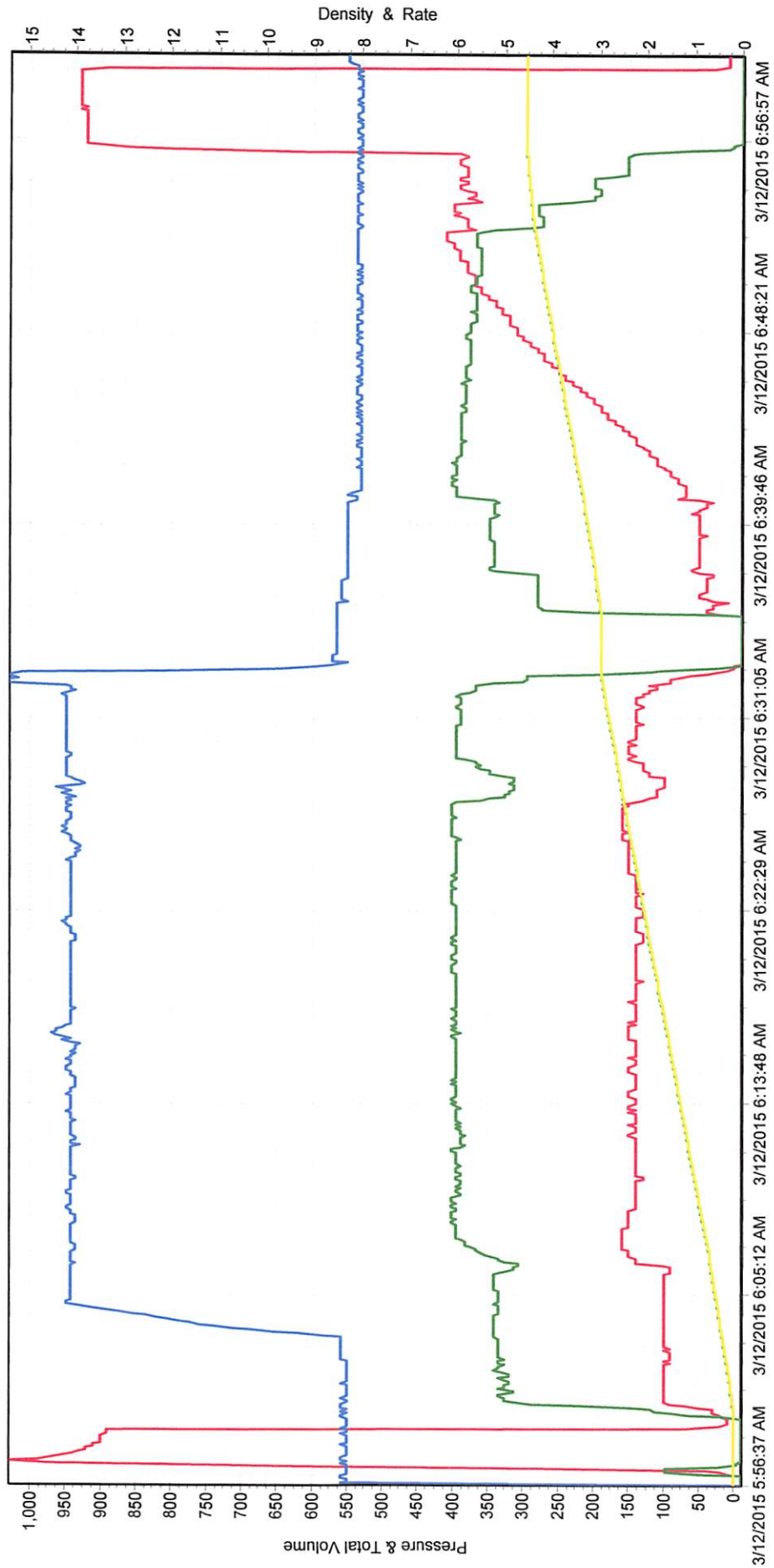
Title

X

Date

3-12-15

M/D TOTCO 2000 SERIES



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.