



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 11/17/2014  
Invoice #: 45074  
API#: 05-123-38886  
Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation  
Well Name: BARCLAY 16C-26HZ

County: Weld  
State: Colorado  
Sec: 14  
Twp: 2N  
Range: 67W

Consultant: ELLIS  
Rig Name & Number: MAJORS 29  
Distance To Location: 20  
Units On Location: 4031-3106/ 4022-3213  
Time Requested: 1900  
Time Arrived: 1800  
Time Left Location: 2300

## WELL DATA

Casing Size OD (in) : 9.625  
Casing Weight (lb) : 36.00  
Casing Depth (ft) : 1,338  
Total Depth (ft) : 1354  
Open Hole Diameter (in.) : 13.50  
Conductor Length (ft) :  
Conductor ID :  
Shoe Joint Length (ft) : 43  
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: 21%  
Displacement Fluid lb/gal: 8.3  
BBL to Pit: 17.0  
Fluid Ahead (bbls): 30.0  
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup  
30 BBL WATER, DYE IN 2ND 10

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

cuft of Shoe 18.52 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 793.18 cuft  
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing  
Depth - Conductor Length )  
Total Slurry Volume 811.70 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)  
bbls of Slurry 144.56 bbls  
(Total Slurry Volume) X (.1781)  
Sacks Needed 545 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)  
Mix Water 97.02 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 100.75 bbls

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

## Pressure of cement in annulus

Hydrostatic Pressure: 987.01 PSI

## Pressure of the fluids inside casing

Displacement: 558.50 psi

Shoe Joint: 31.48 psi

Total 589.98 psi

Differential Pressure: 397.03 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 247.77 bbls

X *Jason Keleher* 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.





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FOREMAN  
Date

45074

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Weld

JASON KELEHER

Date \_\_\_\_\_

Anadarko Petroleum Corporation

BARCLAY 16C-26HZ

Customer  
Well Name

Treatment Report Page 2

## DESCRIPTION OF JOB EVENTS

[illegible]

Notes:

PERFORMED PRESSURE TEST TO 2000 PSI AT 2107, PUMPED 30 BBL WATER WITH DYE IN 2ND 10 AT 2109, MIXED AND PUMPED 545 SKS AT 14.2,

144.6 BBL AT 2116, SHUT DOWN AT 2144, STARTED DISPLACEMENT AT 2147, BUMPED PLUG AT 2211 AND PRESSURED UP TO 1430 PSI,

HELD FOR 2 MINUTES AND RELEASED AND GOT .5 BBL BACK, REPRESSURE TO 1000 PSI FOR 2 MINUTES AND RELEASED

X

X 5/11/20  
Work Performed

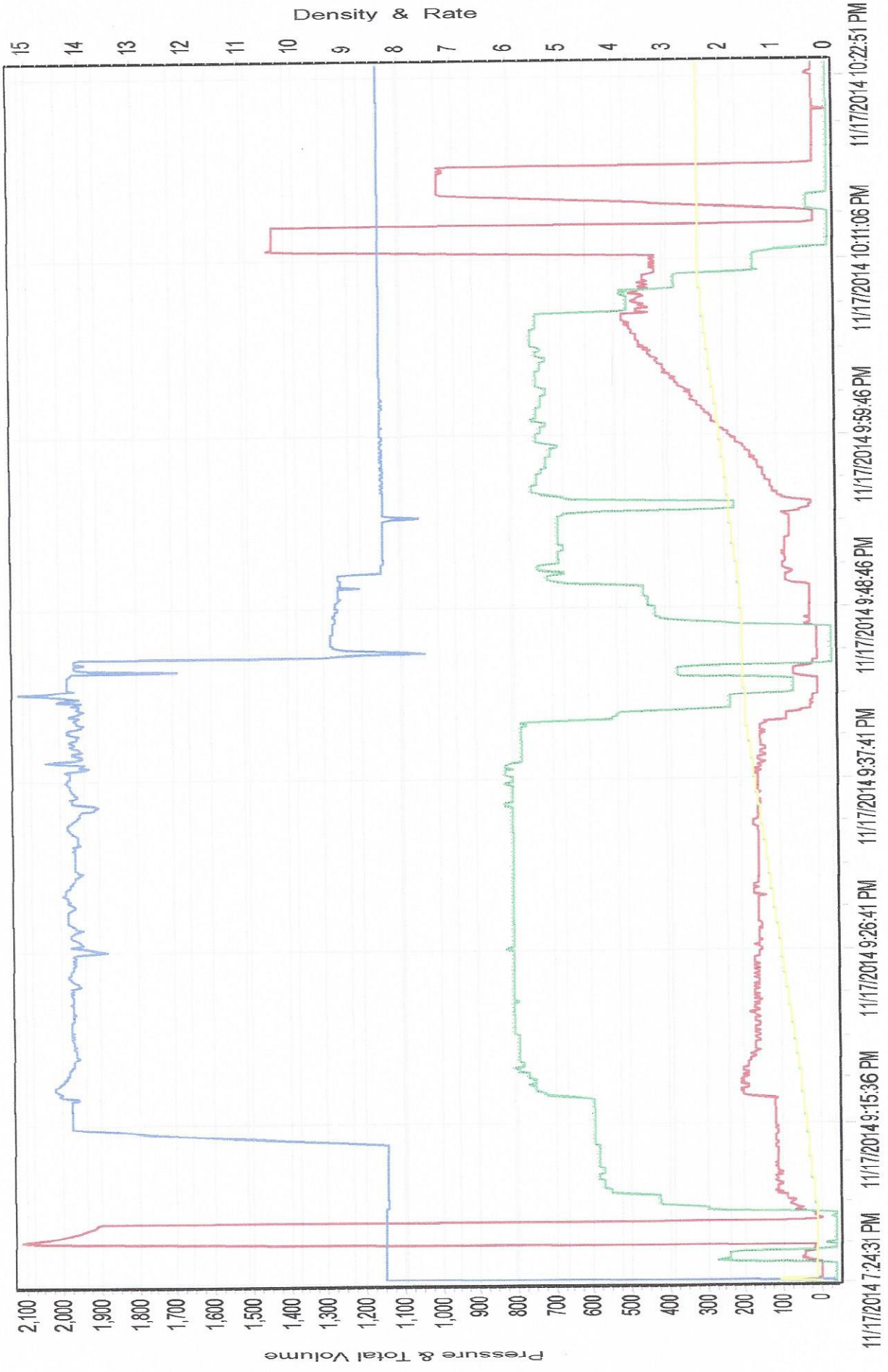
X

Title

X

Date \_\_\_\_\_

# BARCLAY 16C-26HZ SURFACE







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**Burst PSI:** 3520.00 **psi**

**Total Water Needed:** 247.77 **bbls**

X *Mr. Loring Majors 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.

## 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.