



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/7/2015

Invoice # 45123

API# 05-123-40996

Foreman: JASON KELEHER

Customer: Anadarko Petroleum Corporation

Well Name: GRISWOLD 3N-11HZ

County: Weld

State: Colorado

Sec: 11

Twp: 1N

Range: 66W

Consultant: TOBY

Rig Name & Number: ADVANCED 10

Distance To Location: 27

Units On Location: 4031-3107, 4024-3203

Time Requested: 2300

Time Arrived On Location: 2200

Time Left Location: 230

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,744
Total Depth (ft) : 1759
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 47
Conductor ID : 15.25
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 5

Max Rate: 6

Max Pressure: 1500

Cement Data

Cement Name: BFN III

Cement Density (lb/gal) : 14.2

Cement Yield (cuft) : 1.49

Gallons Per Sack: 7.48

% Excess: 15%

Displacement Fluid lb/gal: 8.3

BBL to Pit: 2.0

Fluid Ahead (bbls): 30.0

H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

30 BBL WATER W/ DYE IN 2ND 10

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.76 cuft

(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 35.87 cuft

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

cuft of Casing 953.79 cuft

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

Total Slurry Volume 1008.41 cuft

(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 179.60 bbls

(Total Slurry Volume) X (.1781)

Sacks Needed 677 sk

(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 120.53 bbls

(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 131.87 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 1286.56 PSI

Pressure of the fluids inside casing

Displacement: 733.35 psi

Shoe Joint: 31.88 psi

Total 765.23 psi

Differential Pressure: 521.33 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 302.40 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
GRISWOLD 3N-11HZ

INVOICE #
LOCATION
FOREMAN
Date

45123
Weld
JASON KELEHER
2/7/2015

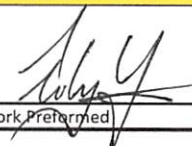
Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
MIRU		BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
CIRCULATE		0	1235	0	0			0			0			0		
Drop Plug		10	1237	40	10			10			10			10		
1235		20	1239	30	20			20			20			20		
		30	1242	40	30			30			30			30		
		40	1244	60	40			40			40			40		
M & P		50	1247	100	50			50			50			50		
Time Sacks		60	1251	150	60			60			60			60		
2354-0033		70	1254	250	70			70			70			70		
		80	1257	290	80			80			80			80		
		90	101	340	90			90			90			90		
		100	105	400	100			100			100			100		
		110	109	460	110			110			110			110		
% Excess		120	113	530	120			120			120			120		
Mixed bbls		130	118	590	130			130			130			130		
Total Sacks		140	BUMP	1500	140			140			140			140		
bbl Returns		150			150			150			150			150		
Water Temp																

Notes:

PERFORMED PRESSURE TEST TO 2000 PSI AT 2345, PUMPED 30 BBL WATER WITH DYE IN 2ND 10 AT 2347, MIXED AND PUMPED 677 SKS AT 14.2,
179.6 BBL AT 2354, SHUT DOWN AT 0033, STARTED DISPLACEMENT AT 0035, PLUG LANDED AT 590 PSI AT 0119 AND PRESSURED UP TO 1500, HELD
FOR 2 MINUTES AND RELEASED TO CHECK FLOATS, GOT .75 BBL BACK, FLOATS HELD, PRESSURED BACK UP TO 1000 PSI FOR 2 MINUTES AND RELEASED

X 
Work Performed

X _____
Title

X _____
Date

GRISWOLD 3N-11HZ SURFACE

