



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 3/18/2015

Invoice # 80061

API#

Foreman: kirk kallhoff

Customer: Anadarko Petroleum Corporation

Well Name: cheese state 27n-21hz

County: Weld

State: Colorado

Sec: 28

Twp: 3n

Range: 65w

Consultant: randy

Rig Name & Number: advanced 10

Distance To Location: 11

Units On Location: 4038-3103/4034-3211

Time Requested: 830 pm

Time Arrived On Location: 700 pm

Time Left Location: 11:30 pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft.) : 1,170
Total Depth (ft) : 1187
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) : 40
Conductor ID : 16
Shoe Joint Length (ft) : 40
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 17.36 cuft

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

cuft of Conductor 35.64 cuft

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

cuft of Casing 662.72 cuft

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

Total Slurry Volume 715.72 cuft

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

bbls of Slurry 127.47 bbls

(Total Slurry Volume) X (.1781)

Sacks Needed 480 sk

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

Mix Water 85.55 bbls

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

Displacement: 87.98 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 863.11 PSI

Pressure of the fluids inside casing

Displacement: 487.23 psi

Shoe Joint: 29.51 psi

Total 516.74 psi

Differential Pressure: 346.37 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 213.52 bbls

X *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.



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

Customer
Well Name

Anadarko Petroleum Corporation
cheese state 27n-21hz

INVOICE #
LOCATION
FOREMAN
Date

80061
Weld
kirk kallhoff
3/18/2015

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DESCRIPTION OF JOB EVENTS

Safety Meeting		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
MIRU	900pm	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
CIRCULATE	700pm	0	1041p	10	0			0			0			0		
Drop Plug	1004p	10	1043p	50	10			10			10			10		
1041 pm		20	1045p	50	20			20			20			20		
		30	1047p	90	30			30			30			30		
		40	1049p	140	40			40			40			40		
M & P		50	1051p	210	50			50			50			50		
Time	Sacks	60	1053p	300	60			60			60			60		
1010 pm	480	70	1055p	360	70			70			70			70		
1037 pm stop		80	1057p	360	80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	20%	120			120			120			120			120		
Mixed bbls	85.5	130			130			130			130			130		
Total Sacks	480	140			140			140			140			140		
bbl Returns	14	150			150			150			150			150		
Water Temp																

Notes:

bumped plug at 1102 pm 880psi

floats held

cellar pump quit during jsa

X Randy Case
Work Performed

X APC Consultant
Title

X 3-18-15
Date

M/D TOTCO 2000 SERIES

— PSI — Barrels / Minute — Barrels — Lbs / Gallon — Stage Volume

