



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 5/5/2014
Invoice #: 12145
API#: 05-123-38448
Foreman: Lee Sharp

Customer: Encana
Well Name: Bohrer 2C-19H E-368

County: Adams
State: Colorado
Sec: 19
Twp: 3N
Range: 68W
Consultant: NORMAN M.
Rig Name & Number: Paterson 326
Distance To Location:
Units On Location: 4027-3106;4018-3203
Time Requested: 6:30 AM
Time Arrived On Location: 5:20 AM
Time Left Location:

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 40.00
Casing Depth (ft.) : 879
Total Depth (ft) : 893
Open Hole Diameter (in.) : 12.25
Conductor Length (ft) : 100
Conductor ID : 15.5
Shoe Joint Length (ft) : 44
Landing Joint (ft) : 35

Max Rate:
Max Pressure:

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 50%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
30=10F+ 10D+ 10F

Casing ID 8.835 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 80.51 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 243.97 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 343.23 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 91.69 bbls
(Total Slurry Volume) X (.1781) X (% Excess Cement)

Sacks Needed 405 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 56.85 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 65.96 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 694.06 PSI

Pressure of the fluids inside casing

Displacement: 360.01 psi

Shoe Joint: 34.79 psi

Total 394.80 psi

Differential Pressure: 299.26 psi

Collapse PSI: #N/A psi

Burst PSI: #N/A psi

Total Water Needed: 172.81 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

Encana
Bohrer 2C-19H E-368

INVOICE #
LOCATION
FOREMAN
Date

12145
Adams
Lee Sharp
5/5/2014

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
MIRU	7:00	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
CIRCULATE	6:50	0	7:55		0			0			0			0		
Drop Plug	7:22	10	8:00	180	10			10			10			10		
8:00		20	8:02	280	20			20			20			20		
		30	8:04	360	30			30			30			30		
		40	8:06	400	40			40			40			40		
M & P		50	8:07	450	50			50			50			50		
Time	Sacks	60	8:10	410	60			60			60			60		
7:30	377	70	8:14	990	70			70			70			70		
		80			80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	33%	120			120			120			120			120		
Mixed bbls	53	130			130			130			130			130		
Total Sacks	378	140			140			140			140			140		
bbl Returns	29	150			150			150			150			150		
Water Temp	80															

Notes:

Job went well... Plug indicator switch was in wrong position, it did not show plug left. Removed the top of dropper to check plug. Plug landed at 8:14 at calculated D

Treatment report calculations not correct.....377 sacks 52.8 mix bbl 63.16 bbl displacement 85.27 bbl slurry 50% excess

15.2 lb/gal; 5.89 gal/sk; 1.27 yield

annulus factor .3132; casing cap .0758; conductor annulus factor.7842

X

Work Performed

X

Title

X

Date