



# Bison Oil Well Cementing Single Cement Surface Pipe

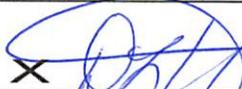
Date: 3/8/2014  
 Invoice # 12331  
 API# \_\_\_\_\_  
 Foreman: kirk

**Customer:** encana  
**Well Name:** McConahay 4e-34h-p266

County: weld Consultant: dave  
 State: Colorado Rig Name & Number: ensign 124  
 Distance To Location: \_\_\_\_\_  
 Sec: 34 Units On Location: 3103-3204  
 Twp: 2n Time Requested: 900 am  
 Range: 66w Time Arrived On Location: 800 am  
 Time Left Location: 5:30pm

WELL DATA	Cement Data
Casing Size OD (in) : <u>9.625</u>	Cement Name: <u>BFN III</u>
Casing Weight (lb) : <u>40.00</u>	Cement Density (lb/gal) : <u>15.2</u>
Casing Depth (ft.) : <u>1,096</u>	Cement Yield (cuft) : <u>1.27</u>
Total Depth (ft) : <u>1225</u>	Gallons Per Sack: <u>5.89</u>
Open Hole Diameter (in.) : <u>12.25</u>	% Excess: <u>40%</u>
Conductor Length (ft) : <u>100</u>	Displacement Fluid lb/gal: <u>8.3</u>
Conductor ID : <u>15.5</u>	BBL to Pit:
Shoe Joint Length (ft) : <u>39</u>	Fluid Ahead (bbls):
Landing Joint (ft) : <u>16</u>	H2O Wash Up (bbls): <u>20.0</u>
Max Rate:	Spacer Ahead Makeup
Max Pressure:	

Calculated Results	Pressure of cement in annulus
<b>cuft of Shoe</b> <u>16.60</u> <b>cuft</b> (Casing ID Squared) X (.005454) X (Shoe Joint ft)	<b>Displacement:</b> <u>81.36</u> <b>bbls</b> (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)
<b>cuft of Conductor</b> <u>80.51</u> <b>cuft</b> (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	<b>Hydrostatic Pressure:</b> <u>865.40</u> <b>PSI</b>
<b>cuft of Casing</b> <u>311.93</u> <b>cuft</b> (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	<b>Pressure of the fluids inside casing</b>
<b>Total Slurry Volume</b> <u>409.04</u> <b>cuft</b> (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	<b>Displacement:</b> <u>455.76</u> <b>psi</b>
<b>bbls of Slurry</b> <u>101.99</u> <b>bbls</b> (Total Slurry Volume) X (.1781) X (% Excess Cement)	<b>Shoe Joint:</b> <u>30.79</u> <b>psi</b>
<b>Sacks Needed</b> <u>451</u> <b>sk</b> (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	<b>Total</b> <u>486.55</u> <b>psi</b>
<b>Mix Water</b> <u>63.23</u> <b>bbls</b> (Sacks Needed) X (Gallons Per Sack) ÷ 42	<b>Differential Pressure:</b> <u>378.85</u> <b>psi</b>
	<b>Collapse PSI:</b> <u>#N/A</u> <b>psi</b>
	<b>Burst PSI:</b> <u>#N/A</u> <b>psi</b>
	<b>Total Water Needed:</b> <u>164.59</u> <b>bbls</b>

  
 Authorization To Proceed



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

Customer  
Well Name

encana  
McConahay 4e-34h-p266

INVOICE #  
LOCATION  
FOREMAN  
Date

12331  
weld  
kirk  
3/8/2014

Treatment Report Page 2

**DESCRIPTION OF JOB EVENTS**

		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
		BBLS	Time	PSI												
Safety Meeting	314 pm															
MIRU	100 pm															
CIRCULATE	345 pm	0	415p	10	0			0			0			0		
Drop Plug		10	417p	50	10			10			10			10		
415 pm		20	419p	120	20			20			20			20		
		30	421p	240	30			30			30			30		
		40	423p	330	40			40			40			40		
M & P		50	425p	410	50			50			50			50		
Time	Sacks	60	427p	440	60			60			60			60		
351 pm	451	70	429p	490	70			70			70			70		
412 pm stop		80	432p	440	80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	40%	120			120			120			120			120		
Mixed bbls	63.2	130			130			130			130			130		
Total Sacks	451	140			140			140			140			140		
bbl Returns	34	150			150			150			150			150		
Water Temp	0															

Notes:

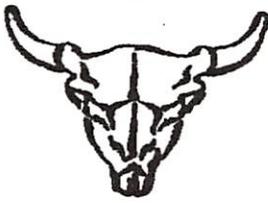
bumped plug at 435 pm 700 psi 82.3 bbls slurry

casing test 1500 psi 15 min

X   
Work Performed

X  
Title

X 3-8-14  
Date



# Bison Oil Well Cementing Single Cement Surface Pipe

## Cementing Customer Satisfaction Survey

Service Date	3/8/2014
Well Name	McConahay 4e-34h-p266
County	weld
State	Colorado
SEC	34
TWP	2n
RNG	66w

Invoice Number	12331
API #	0
Job Type	Single Cement Surface Pipe
Company Name	encana

Customer Representative **dave**

Supervisor Name **kirk**

Employee Name (Including Supervisor)
chris
jeff

Exposure Hours (Per Employee)
9.5
9.5

Total Exposure Hours **19**

Did we encounter any problems on this job?  Yes  No

### To Be Completed By Customer

#### Rating/Description

- 5 - Superior Performance (Established new quality/performance standards)
  - 4 - Exceeded Expectation (Provided more than what was required/expected)
  - 3 - Met Expectations (Did what was expected)
  - 2 - Below Expectations (Job problems/failures occurred - \*Recovery made)
  - 1 - Poor Performance (Job problems/failures occurred - \*Some recovery made)
- \*Recovery: resolved issue(s) on jobsite in a timely and professional manner

RATING	CATEGORY
3	Personnel -
3	Equipment -
3	Job Design -
3	Product/Material -
3	Health & Safety -
3	Environmental -
3	Timeliness -
3	Condition/Appearance -
3	Communication -

#### CUSTOMER SATISFACTION RATING

- Did our personnel perform to your satisfaction?
- Did our equipment perform to your satisfaction?
- Did we perform the job to the agreed upon design?
- Did our products and materials perform as you expected?
- Did we perform in a safe and careful manner (Pre/post mtgs, PPE, TSMR, etc..)?
- Did we perform in an environmentally sound manner (spills, leaks, cleanup, etc..)?
- Was job performed as scheduled (On time to site, accessible to customers, completed when expected)?
- Did the equipment condition and appearance meet your expectations?
- How well did our personnel communicate during mobilization, rig up and job execution?

Please Circle:

- Yes  No  Did an accident or injury occur?
- Yes  No  Did an injury requiring medical treatment occur?
- Yes  No  Did a first-aid injury occur?
- Yes  No  Did a vehicle accident occur?
- Yes  No  Was a post-job safety meeting held?

Please Circle:

- Yes  No  Was a pre-job safety meeting held?
- Yes  No  Was a job safety analysis completed?
- Yes  No  Were emergency services discussed?
- Yes  No  Did environmental incident occur?
- Yes  No  Did any near misses occur?

Additional Comments:

THE INFORMATION HEREIN IS CORRECT -

**X**

Customer Representative's Signature

DATE:

3-8-14

# M/D TOTCO 2000 SERIES

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

