

1738 Wynkoop St., Ste. 102  
Denver, Colorado 80202  
Phone: 303-296-3010  
Fax: 303-298-8143  
E-mail: [bisonoil1@qwestoffice.net](mailto:bisonoil1@qwestoffice.net)



Nº 127 18

WELL NO. AND FARM Devore 1B-3414		COUNTY weld	STATE CO	DATE 10-9-13	
CHARGE TO Ensign		WELL LOCATION SEC. 34 TWP. 3N RANGE 66W		CONTRACTOR Satch	
			DELIVERED TO 28+31	LOCATION 1 Shop	CODE
			SHIPPED VIA 3104-3204	LOCATION 2 28+31	CODE
			TYPE AND PURPOSE OF JOB Surface	LOCATION 3 Shop	CODE
				WELL TYPE Gas	CODE

PRICE REFERENCE	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT	
		QTY.	MEAS.			
	Pump charge	1	ea	1400 <sup>00</sup>	1400	00
	BFW # 3970 BCC-1 .25/b BFWA-1	380	sks	22 45	\$531	00
	millage 150 per mile 60 mile min Round trip	1	ea	90 <sup>00</sup>	90	00
	millage 400 Per mile 60 mile min Round Trip	2	ea	240 <sup>00</sup>	480	00
	Blue Dye	16	oz	15 <sup>00</sup>	240	00
	Data Ace	1	ea	225 <sup>00</sup>	225	00
	BFLY-1	3	qt	25 <sup>00</sup>	75	00
	Ton Inspection	1	ea	500 <sup>00</sup>	500	00

If this account is not paid within 30 days of invoice date a FINANCE CHARGE will be made. Computed at a single monthly rate of 1 1/2% which is equal to an ANNUAL PERCENTAGE RATE of 18%.

## TAX REFERENCES

**SUB TOTAL**

11541	00
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TAX

TOTAL

**SUBJECT TO CORRECTION**

Well: Devore 1B-34H

AFE: 13174891

~~"TAXES WILL BE ADDED AT CORPORATE OFFICE"~~

Major/Minor CC: 8715-618

Signature: Francis Bowe

Approver: RS:KB \$11,541.00

Approver: RB  
Francis Bowe  
Customer or His Agent

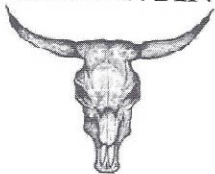
monte Beelox

**Bison Oil Well Cementing, Inc. Representative**

Customers hereby acknowledges and specifically agrees to the terms and conditions on this work order, including, without limitation, the provisions on the reverse side hereof which include the release and indemnity.

# BISON OIL WELL CEMENTING, INC.

1547 Gaylord Street  
Denver, Colorado 80206  
Phone: 303-296-3010  
Fax: 303-298-8143  
E-mail: bisonoil1@qwestoffice.net



INVOICE #

12718

LOCATION

28+31

FOREMAN

mate

## TREATMENT REPORT

DATE	WELL NAME	SECTION	TWP	RGE	COUNTY
10-9-13	Divore 1B-34H	34	3N	66W	weld
BILL TO	CONSULTANT				
Encana	seth				
OWNER	RIG NAME & NUMBER				
	Patterson 272				
MAILING ADDRESS	DISTANCE TO LOCATION				
	14.2				
CITY	UNITS ON LOCATION				
	3104-3264				
STATE, ZIP	TIME REQUESTED				
	1200				
	TIME ARRIVED ON LOCATION				
	1245				
	TIME LEFT LOCATION				
	500				

## WELL DATA

HOLE SIZE	TUBING SIZE	PERFORATIONS
12 1/4		
TOTAL DEPTH	TUBING DEPTH	SHOTS/FT
990		
CASING SIZE	TUBING WEIGHT	OPEN HOLE
9 5/8		
CASING DEPTH	TUBING CONDITION	TREATMENT VIA
963		
CASING WEIGHT	PACKER DEPTH	
40		

CASING CONDITION Good

Max Rate

Max Pressure

## Cement Makeup

Cement Blend	BFN 370 BCC-1, 2516 BFLA7		
Cement - Specs	lbs	Yield	Water Requirements
	15.2	1.27	5.89
Annulus Factor	Capacity Factor		
.3131	10758		

## TYPE OF TREATMENT

<input checked="" type="checkbox"/> Surface Pipe	<input type="checkbox"/> Production	<input type="checkbox"/> Squeeze
<input type="checkbox"/> MISC Pump	<input type="checkbox"/> P&A	

HYD HHP = RATE X PRESSURE / 40.8

% Excess

25%

BBL to Pit

20

## DESCRIPTION OF JOB EVENTS

safety meeting mPRU Pressure test Per Company man circulate  
30 bbls Ahead with dye + n 2nd 10 mix + Pump 380 sks at  
25% excess Drop plug + Displace 733 bbls H2O. Pump plug  
at 150 PSI above 1. ft Pressure Hold 5 min Release Pressure  
wash up Rig down

X Francis Bowe  
Authorization To Proceed

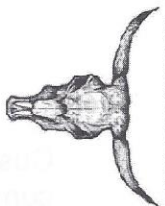
Co Rep  
Title

X 10-9-13  
Date

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INVOICE #  
LOCATION  
FOREMAN

122718  
28431  
mewide

Treatment Report Page 2

## DESCRIPTION OF JOB EVENTS

Safety Meeting	140	Displace 1		Displace 2		Displace 3		Displace 4		Displace 5		Displace 5	
MIRU	150	BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI
CIRCULATE	230	0	310	50	0			0			0		
Drop Plug		10	312	110	10			10			10		
307		20	314	110	20			20			20		
		30	316	210	30			30			30		
		40	318	320	40			40			40		
M & P		50	320	380	50			50			50		
Time	Sacks	60	323	420	60			60			60		
236	380	70	327	420	70			70			70		
303 stop		780	330	650	80			80			80		
		90			90			90			90		
		100			100			100			100		
		110			110			110			110		
		120			120			120			120		
		130			130			130			130		
		140			140			140			140		
		150			150			150			150		

m18 5818  
31011 86103

Notes:

circulate 30 bbls ahead with Dye In and 10  
mix + Pump 380 sacks cement  
Drop plug + Disp 73.3 bbls H<sub>2</sub>O  
Bump plug at 650 PSI at 3304m  
Hold 5 min Release pressure  
Wash up Rig down

X Francis Borel

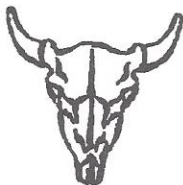
Work Performed

X Lo Rey

Title

X 10-9-13

Date



Bison Oil Well Cementing, Inc  
1738 Wynkoop St., Ste. 102  
Denver, CO 80202  
303-296-3010  
www.Bisonoilwell.com

### Cementing Customer Satisfaction Survey

Service Date 10-9-13 Invoice Number 12718  
Invoice Amount \_\_\_\_\_ Well Permit Number \_\_\_\_\_  
Well Name Devore 1B-341H Well Type \_\_\_\_\_  
Well Location 28 f31 Well Number 1B-34H  
County Weld Lease \_\_\_\_\_  
SEC/TWP/RNG 34 3N 66W Job Type Surface  
State CO Company Name Encana  
Supervisor Name Monty Customer Representative Stach  
Customer Phone Number \_\_\_\_\_

Employee Name

Exposure Hours (Per Employee)

Pueblo  
Steven

4 1/2  
4 1/2

Total Exposure Hours 9

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 Expectations ( 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

#### Opportunity

- Best Practices
- Potential Best Practice
- Prevention/Improvement

#### RATING / CATEGORY

- \_\_\_\_\_ Personnel -
- \_\_\_\_\_ Equipment -
- \_\_\_\_\_ Job Design -
- \_\_\_\_\_ Product / Material -
- \_\_\_\_\_ Health & Safety -
- \_\_\_\_\_ Environmental -
- \_\_\_\_\_ Timeliness -
- \_\_\_\_\_ Condition / Appearance -
- \_\_\_\_\_ Communication -
- \_\_\_\_\_ Improvement -

#### 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 customer, completed when expected)?
- Did the equipment condition and appearance meet your expectation?
- How well did our personnel communicate during mobilization, rig up, and job execution?
- What can we do to improve our service?

#### 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?

Additional Comments:

#### 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?

THE INFORMATION HEREIN IS CORRECT -

Francis Bowe

Customer Representative's Signature

10-9-13

Date

Any additional Customer Comments or HSE concerns should be described on the back of this form



# Bison Oil Well Cementing Single Cement Surface Pipe

Invoice # 12718  
API# 445564  
Foreman: monte

Customer: noble  
Well Name: divorce 1b-34h

County: Weld  
State: Colorado  
Sec: 34  
Twp: 3n  
Range: 66w  
Consultant: satch  
Rig Name & Number: patterson 272  
Distance To Location: 14.2  
Units On Location: 3104-3204  
Time Requested: 1200  
Time Arrived On Location: 1245  
Time Left Location:

## WELL DATA

Casing Size OD (in) : 9.6250  
Casing Weight (lb) : 36  
Casing Depth (ft) : 963  
Total Depth (ft) : 990.5  
Open Hole Diameter (in.) : 12.25  
Conductor Length (ft) : 119  
Conductor ID : 16  
Shoe Joint Length (ft) : 40  
Landing Joint (ft) : 4

Max Rate:  
Max Pressure:

## Cement Data

Cement Name: BFN III  
Cement Density (lb/gal) : 15.2  
Cement Yield (cuft) : 1.274  
Gallons Per Sack: 5.89  
% Excess: 25%  
Displacement Fluid lb/gal: 8.3  
BBL to Pit:  
Fluid Ahead (bbls): 71.7  
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup  
10 fresh 10 dye 10 fresh

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

**cuft of Casing** 263.07 cuft  
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length - Landing Joint)

**Total Slurry Volume** 386.46 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 86.03 bbls  
(Total Slurry Volume) X (.1781) X (% Excess Cement)

**Sacks Needed** 379 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 53.18 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 77.86 bbls

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

## Pressure of cement in annulus

**Hydrostatic Pressure:** 760.38 PSI

## Pressure of the fluids inside casing

**Displacement:** 397.98 psi

**Shoe Joint:** 31.58 psi

**Total** 429.56 psi

**Differential Pressure:** 330.82 psi

**Collapse PSI:** 2020.00 psi

**Burst PSI:** 3520.00 psi

**Total Water Needed:** 144.84 bbls

X *Francis Bowe*  
Authorization To Proceed

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**Mix Water** 53.18 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 71.66 bbls  
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

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## Pressure of the fluids inside casing

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