BISON OIL WELL CEMENTING, INC.

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

SERVICE INVOICE

№ 12664

WELL NO. AND FARM	COUNTY	STATE	DATE
Doyle 1D-34H	Weld	CO	9-24-13

CHARGE TO	WELL LOCATION	CONTRACTOR
Encana	SEC. 34 TWP. 3N RANGE 66W	Chris

DELIVERED TO	LOCATION 1	CODE
28-31	Shop	

SHIPPED VIA	LOCATION 2	CODE
3104 - 3204	28 + 31	

TYPE AND PURPOSE OF JOB	LOCATION 3	CODE
Surface	Shop	

	WELL TYPE	CODE
	Gas	

PRICE REFERENCE	DESCRIPTION	UNITS QTY.	UNITS MEAS.	UNIT PRICE	AMOUNT
	Pump Charge	1	ea	1500.00	1500 00
	BFN III 390 BCC-1 .25lb BFLA-1	395	SKS	22.45	8867 75
	BC LY-1	3	QT	25.00	75 00
	mullage 400 Per mile 60mile mm Round trip	1	ea	240.00	480 00
	mullage 150 Per mile 60mile mm Round trip	1	ea	90.00	90 00
	Datta Aee	1	ea	225.00	225 00
	Form Inspection	1	ea	500.00	500 00
	Wait time	2	hr	150.00	300 00
	Blue dye	16	oz	15.00	240 00
	Total Weight / Loaded Miles		Ton Miles		

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 ½% which is equal to an ANNUAL PERCENTAGE RATE OF 18%.

TAX REFERENCES

SUB TOTAL 12277 75

TAX

TOTAL

SUBJECT TO CORRECTION

Encana Oil & Gas (USA) Inc.
DJ Basin
Well: Doyle 1D-34H
AFE: 131741491
Major/Minor CC: 8715.618
Signature:
Approver:

"TAXES WILL BE ADDED AT CORPORATE OFFICE"

RC: KB# 12,277.75

Customer or His Agent

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 # 12664
LOCATION 28+31
FOREMAN monte

TREATMENT REPORT

DATE	WELL NAME	SECTION	TWP	RGE	COUNTY
9-24-13	Divoie 1D-34H	34	3N	66W	weld

BILL TO: Encana
CONSULTANT: chris
OWNER:
RIG NAME & NUMBER: Patterson 272
MAILING ADDRESS:
DISTANCE TO LOCATION: 14.1
UNITS ON LOCTION: 3104 + 3204
CITY:
TIME REQUESTED: 800A
TIME ARRIVED ON LOCATION: 300A
STATE, ZIP:
TIME LEFT LOCATION:

WELL DATA

HOLE SIZE	TUBING SIZE	PERFORATIONS
12 1/4		
TOTAL DEPTH	TUBING DEPTH	SHOTS/FT
1030		
CASING SIZE	TUBING WEIGHT	OPEN HOLE
9 5/8		
CASING DEPTH	TUBING CONDITION	TREATMENT VIA
1018		
CASING WEIGHT	PACKER DEPTH	
40		

CASING CONDITION: Good
Max Rate:
Max Pressure:

Cement Makeup

Cement Blend: BFN III 30% BCC + .25 lb BFLA-1

Cement - Specs	lbs	Yield	Water Requirements
	15.2	1.27	5.89

Annulus Factor	Capacity Factor
.3131	.0759

TYPE OF TREATMENT

☒ Surface Pipe ☐ Production ☐ Squeeze
☐ MISC Pump ☐ P&A

HYD HHP = RATE X PRESSURE / 40.8

% Excess: 27%
BBL to Pit: 17

DESCRIPTION OF JOB EVENTS

Safty meeting rig RU Pressure test Per Company man Circulate 30 bbls Ahead dye in 2nd 10 mix + Pump 395 sks cement Drop Plug & Disp 74.1 bbls H2O Bump Plug 150 lbs over lift Pressure hold 5 min Release Pressure wash up Rig down

X _____ Authorization To Proceed

WSL Title

x 9-24-13 Date

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Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting	835
MIRU	800
CIRCULATE	839
Drop Plug	
1043	
M & P	

Time	Sacks
948	395
1022 stop	
mix 55.39	
slurry 89.34	

Displace 1			Displace 2			Displace 3			Displace 4			Displace 5			Displace 5		
BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
0	1027	10	0			0			0			0			0		
10	1029	10	10			10			10			10			10		
20	1029	60	20			20			20			20			20		
30	1032	170	30			30			30			30			30		
40	1034	280	40			40			40			40			40		
50	1037	350	50			50			50			50			50		
60	1039	380	60			60			60			60			60		
70	1041	400	70			70			70			70			70		
~~80~~	1043	530	80			80			80			80			80		
90			90			90			90			90			90		
100			100			100			100			100			100		
110			110			110			110			110			110		
120			120			120			120			120			120		
130			130			130			130			130			130		
140			140			140			140			140			140		
150			150			150			150			150			150		

Notes:

circulate 30 bbls Ahead with Dye In 2nd 10 mix & Pump 395 sks at 27 % excess 15.2 lb 1.27 yield 5.89 H2O drop plug & disp bbls H2O Bump Plug at 1043 Am at 530 lbs Pressure hold 5 min wash up Rig down 17 bbls Back To Surface

X _____
Work Preformed

X WSL
Title

X 9-24-13
Date

Bison Oil Well Cementing
Single Cement Surface Pipe

Invoice # 12664
API# 445564
Foreman: monte

Customer: encana
Well Name: divore ID - 39H

County: Weld
State: Colorado

Sec: 34
Twp: 3n
Range: 66w

Consultant: Chris
Rig Name & Number: patterson 272
Distance To Location: 14.1
Units On Location: 3104 & 3204
Time Requested: 500
Time Arrived On Location: 300
Time Left Location:

WELL DATA

Casing Size OD (in) :	9.6250
Casing Weight (lb) :	40
Casing Depth (ft.) :	1,018
Total Depth (ft) :	1030
Open Hole Diameter (in.) :	12.25
Conductor Length (ft) :	119
Conductor ID :	16
Shoe Joint Length (ft) :	40
Landing Joint (ft) :	30
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:	27%
Displacement Fluid lb/gal:	8.3
BBL to Pit:	
Fluid Ahead (bbls):	76.4
H20 Wash Up (bbls):	20.0

Spacer Ahead Makeup
10 fresh 10 dye 10 fresh

Casing ID 8.835 Casing Grade J-55 only used

Calculated Results

cuft of Shoe 16.97 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 272.15 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length - Landing Joint)

Total Slurry Volume 395.14 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 89.38 bbls
(Total Slurry Volume) X (.1781) X (% Excess Cement)

Sacks Needed 394 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 55.24 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 76.44 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 803.81 PSI

Pressure of the fluids inside casing

Displacement: 421.76 psi
Shoe Joint: 31.47 psi
Total 453.23 psi

Differential Pressure: 350.59 psi

Collapse PSI: 2570.00 psi
Burst PSI: 3950.00 psi

Total Water Needed: 151.68 bbls

X _____
Authorization To Proceed

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