



BISON

Bison Oil Well Cementing Inc.
1547 Gaylord Street
Denver, CO 80206
303-296-3010

Invoice

Date	Invoice #
9/27/2013	12480

Bill To
Noble Energy Inc. Attn: Accounting 1625 Broadway Ste 2000 Denver, CO 80202

Location	Well Name & No.	Terms	Job Type		
Weld CO	Crow Creek St. AC36-75-111	Net 30	Surface Pipe		
Item	Description	Qty	U/M	Rate	Amount
Pump surface	PUMP Charge-surface pipe	1			
Discount 15%	Discount 15%				
MILEAGE	Mileage charge	360			
Discount 15%	Discount 15%				
Data Acquisition ...	Data Acquisition Charge	1			
Discount 15%	Discount 15%				
HOURS	Wait Time	1			
	Subtotal of Services				
BFN III Summer ...	BFN III Blend	388	Sack		
Discount 15%	Discount 15%				
Dye - 4880	Dye (Hot Pink 4880)	16	oz		
Discount 15%	Discount 15%				
KCL Mud Flush	(BHS 117)	5	qt		
Discount 15%	Discount 15%				
	Subtotal of Materials				

Please Remit Payment To:

Bison Oil Well Cementing, Inc.
P.O. Box 29671
Thornton, CO 80229

Subtotal	
Sales Tax	
Total	
Balance	

BISON OIL WELL CEMENTING, INC.

1547 Gaylord Street
Denver, Colorado 80206
Phone: 303-296-3010
Fax: 303-298-8143
E-mail: blisonoil1@qwestoffice.net



INVOICE #
LOCATION
FOREMAN

12480
Hwy 392 cr 74
Randy Lynch

TREATMENT REPORT

DATE	WELL NAME	SECTION	TWP	RGE	COUNTY
9/27/13	Crow Creek St. AC	36	7N	63W	Weld
BILL TO		CONSULTANT			
Noble		MARTIN			
OWNER		RIG NAME & NUMBER			
Noble		H+P 277			
MAILING ADDRESS		DISTANCE TO LOCATION		UNITS ON LOCATION	
		33		3102 / 3204	
CITY		TIME REQUESTED		TIME ARRIVED ON LOCATION	
		6:00 PM		6:00 PM	
STATE, ZIP		TIME LEFT LOCATION			
WELL DATA			Cement Makeup		
HOLE SIZE	TUBING SIZE	PERFORATIONS	Cement Blend		
13 3/4			BIN 3% BCCA-1.25 lb/sk BFLA-1		
TOTAL DEPTH	TUBING DEPTH	SHOTS/FT	Cement - Specs	lbs	Yield
641			15.2	1.27	5.89
CASING SIZE	TUBING WEIGHT	OPEN HOLE	Annulus Factor		
9 5/8			.5259		
CASING DEPTH	TUBING CONDITION	TREATMENT VIA	Capacity Factor		
615.58			.0773		
CASING WEIGHT	PACKER DEPTH		TYPE OF TREATMENT		
36 lb.			<input checked="" type="checkbox"/> Surface Pipe <input type="checkbox"/> Production <input type="checkbox"/> Squeeze <input type="checkbox"/> MISC Pump <input type="checkbox"/> P&A		
CASING CONDITION	HYD HHP = RATE X PRESSURE / 40.8				
Good					
Max Rate	% Excess				
7					
Max Pressure	BBL to Pit				
2000					

DESCRIPTION OF JOB EVENTS

MIRU Softmeeting, Psi test to 1000 psi, Circ 40 bbls H₂O with Kel + pink Dye in 2 to bbls, mix + pump till good dye is seen at 15.2 lbs 1.27 yield, Drop Plug Displace 46.44 bbls H₂O, Bump plug at 150 psi over lift psi wait 5 min. bleed off psi test casing to 1000 psi Hold for 15 min bleed off wash up, Rig Down

X Roger Foster
Authorization To Proceed

WSS
Title

9/27/13
Date

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.

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Denver, Colorado 80206
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INVOICE #
LOCATION
FOREMAN

12480
Hwy 392 244
Arvidsby Lynne H

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting	Time	Displace 1		Displace 2		Displace 3		Displace 4		Displace 5		Displace 5	
		BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI
MIRU	8:30	0	9:48	50	0			0			0		
CIRCULATE	7:45	10	9:51	160	10			10			10		
Drop Plug		20	9:53	250	20			20			20		
		30	9:55	300	30			30			30		
		40	9:57	250	40			40			40		
		50	Bump	250	50			50			50		
M & P		60			60			60			60		
Time		70			70			70			70		
Sacks	9:15/9:46	80			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		

Notes:

Floater Held, GOOD casing test @ 1000 psi

Used 30% EXCESS = 388 SKS 87.7 bbls Slurry

20 bbls Slurry Back to Surface

X Walter J. Jody

X WSS

X

Work Performed

Title

Date



Bison Oil Well Cementing Single Cement Surface Pipe

Invoice # 12480

API#

Foreman: Randy Lynch

Customer: Noble

Well Name: Crow Creek St. AC 36-75-1HN

County: Weld
State: Colorado

Sec: 36
Twp: 7N
Range: 63W

Consultant: Martin
Rig Name & Number: H&P 277
Distance To Location: 33
Units On Location: 3102/3204
Time Requested: 600pm
Time Arrived On Location: 600pm
Time Left Location: 1100pm

WELL DATA

Casing Size OD (in) : 9.6250
Casing Weight (lb) : 36
Casing Depth (ft) : 616
Total Depth (ft) : 641
Open Hole Diameter (in) : 13.75
Conductor Length (ft) : 100
Conductor ID : 16
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 28

Max Rate: 7
Max Pressure: 2000

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 30%
Displacement Fluid lb/gal: 8.3
BBL to Pit: 20.0
Fluid Ahead (bbls): 40
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup
40bbls H2O Dye in 2nd 10bbls

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 18.70 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)
cuft of Conductor 89.10 cuft
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
cuft of Casing 271.28 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 379.08 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 87.77 bbls
(Total Slurry Volume) X (.1781) X (% Excess Cement)
Sacks Needed 388 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 54.42 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 46.44 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 486.28 PSI

Pressure of the fluids inside casing

Displacement: 246.96 psi

Shoe Joint: 34.02 psi

Total 280.99 psi

Differential Pressure: 205.29 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 74.42 bbls

x Martin Lynch
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.

M/D TOTCO 2000 SERIES

