



BISON

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

Invoice

Date	Invoice #
9/19/2013	12684

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. AC36-75HN	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	2.5			
	Subtotal of Services				
BFN III Summer ...	BFN III Blend	368	Sack		
Discount 15%	Discount 15%				
KCL Mud Flush	(BHS 117)	4	qt		
Discount 15%	Discount 15%				
Dye - 4880	Dye (Hot Pink 4880)	16	oz		
Discount 15%	Discount 15%				
Sugar	Sugar	50	lb		
	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: bisonoil1@qwestoffice.net



INVOICE #
LOCATION
FOREMAN

12684
Hwy 392+74
COWAN REIMER

TREATMENT REPORT

DATE	WELL NAME	SECTION	TWP	RGE	COUNTY
9-19-13	Crow Creek St. AC-36 754N	36	7N	63W	Weld
BILL TO	CONSULTANT				
Noble	Cliff				
OWNER	RIG NAME & NUMBER				
Noble	H&P Rig 277				
MAILING ADDRESS	DISTANCE TO LOCATION		UNITS ON LOCATION		
	33 miles		3106/3211		
CITY	TIME REQUESTED		TIME ARRIVED ON LOCATION		
	11:30 AM		10:25 AM		
STATE, ZIP	TIME LEFT LOCATION				
	6:00 PM				

WELL DATA

HOLE SIZE	TUBING SIZE	PERFORATIONS
13 3/4		
TOTAL DEPTH	TUBING DEPTH	SHOTS/FT
612		
CASING SIZE	TUBING WEIGHT	OPEN HOLE
9 5/8		
CASING DEPTH	TUBING CONDITION	TREATMENT VIA
606.12		
CASING WEIGHT	PACKER DEPTH	
36 lb		
CASING CONDITION	Good	
Max Rate	7	
Max Pressure	2500	

Cement Makeup

Cement Blend	BENJIL 3% BCCA-1.25 166R BFLA-1		
Cement - Specs	lbs	Yield	Water Requirements
	152	1.27	5.89
Annulus Factor	Capacity Factor		
.5259	0.773		

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	30
BBL to Pit	20

DESCRIPTION OF JOB EVENTS

Misc, Safety meeting, Ps. Test to 1000 Psi, Circ 40 bbls. H₂O with KCL + Dye + 16 in 2" 10 bbls, Mix + pump + all good dye is seen at 15.2 lbs. 1.27 yield, Drop plug, Displace 43.5 bbls. H₂O, Dump plug at 150 Psi over LFL Psi, wait 5 min then bleed off Psi, Ps. Casing Psi. Test 1000 Psi for 15 min then bleed off Psi, Wash up, Rig down

X
Authorization To Proceed

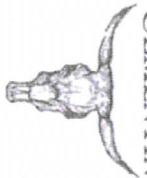
W-55
Title

X 9-19-13
Date

Customers hereby acknowledge and specifically agree 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 #
LOCATION
FOREMAN

12684
Hwy 372 & 74
Catalina, New Mexico

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting	MIRU	CIRCULATE	Drop Plug	4:45pm	M & P	Displace 1		Displace 2		Displace 3		Displace 4		Displace 5		Displace 5	
						BBS	Time	PSI	BBS	Time	PSI	BBS	Time	PSI	BBS	Time	PSI
						0	4:46pm	150	0			0			0		
						10	4:52pm	140	10			10			10		
						20	4:52pm	260	20			20			20		
						30	4:53pm	300	30			30			30		
						40	4:54pm	290	40			40			40		
						50	4:58pm	260	50			50			50		
						60	4:58pm	260	60			60			60		
						70	4:58pm	260	70			70			70		
						80	4:58pm	260	80			80			80		
						90	4:58pm	260	90			90			90		
						100	4:58pm	260	100			100			100		
						110	4:58pm	260	110			110			110		
						120	4:58pm	260	120			120			120		
						130	4:58pm	260	130			130			130		
						140	4:58pm	260	140			140			140		
						150	4:58pm	260	150			150			150		

Notes:

Floot Held

USED 30 9/16 Excess = 368 sks, 8316 bbls Slurry

20 bbls Slurry Back To Surface

Casing B.S. Test 5:01pm 1030 Psi to 5:16pm 1070 Psi

X Work Prepared Title WSS Date 9-19-13



Bison Oil Well Cementing Single Cement Surface Pipe

Invoice # 12684

API#

Foreman: Calvin Reimers

Customer: Noble

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

County: Weld
State: Colorado

Sec: 36
Twp: 7N
Range: 63W

Consultant: Cliff
Rig Name & Number: H&P 277
Distance To Location: 33
Units On Location: 3106/3211
Time Requested: 1130am
Time Arrived On Location: 1025am
Time Left Location: 600pm

WELL DATA		Cement Data	
Casing Size OD (in) :	9.6250	Cement Name:	BFN III
Casing Weight (lb) :	36	Cement Density (lb/gal) :	15.2
Casing Depth (ft) :	578	Cement Yield (cuft) :	1.27
Total Depth (ft) :	612	Gallons Per Sack:	5.89
Open Hole Diameter (in.) :	13.75	% Excess:	30%
Conductor Length (ft) :	100	Displacement Fluid lb/gal:	8.3
Conductor ID :	16	BBL to Pit:	20.0
Shoe Joint Length (ft) :	43	Fluid Ahead (bbls):	40
Landing Joint (ft) :	28	H2O Wash Up (bbls):	20.0
Max Rate:	7	Spacer Ahead Makeup	
Max Pressure:	2500	10bbls H2O+KCL+Dye in 2nd 10bbls	

Casing ID	8.921	Casing Grade	J-55 only used
Calculated Results		Displacement: 43.54 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
cuft of Shoe	18.63 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of cement in annulus	
cuft of Conductor	89.10 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Hydrostatic Pressure:	456.48 PSI
cuft of Casing	251.44 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Pressure of the fluids inside casing	
Total Slurry Volume	359.16 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Displacement:	230.77 psi
bbls of Slurry	83.16 bbls (Total Slurry Volume) X (.1781) X (% Excess Cement)	Shoe Joint:	33.88 psi
Sacks Needed	368 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total	264.65 psi
Mix Water	51.56 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42	Differential Pressure:	191.83 psi
		Collapse PSI:	2020.00 psi
		Burst PSI:	3520.00 psi
		Total Water Needed	155.1 bbls

X *Calvin Reimers*
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.