



BISON

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

Invoice

Date	Invoice #
9/21/2013	12464

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

Location	Well Name & No.	Terms	Job Type		
Weld CO	Wells Ranch AE20-63-1HN	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%				
	Subtotal of Services				
BFN III Summer ...	BFN III Blend	485	Sack		
Discount 15%	Discount 15%				
KCL Mud Flush	(BHS 117)	7	qt		
Discount 15%	Discount 15%				
Dye - 4880	Dye (Hot Pink 4880)	10	oz		
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 (2.5%)	
Total	
Balance Due	

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

12464
 6865
 Kirk

TREATMENT REPORT

DATE	WELL NAME	SECTION	TWP	RGE	COUNTY
9-21-13	Wells Ranch AE 20-63-14W	20	6N	6W	Weld
BILL TO		CONSULTANT			
12310		Jim			
OWNER		RIG NAME & NUMBER			
		H&P 313			
MAILING ADDRESS		DISTANCE TO LOCATION		UNITS ON LOCATION	
				3123-3203	
CITY		TIME REQUESTED		TIME ARRIVED ON LOCATION	
		3:00pm		1:45pm	
STATE, ZIP		TIME LEFT LOCATION			
		7:45pm			
WELL DATA			Cement Makeup		
HOLE SIZE	TUBING SIZE	PERFORATIONS	Cement Blend		
13 3/4			BFMTD 3/4 BFLA-1, 2515 deposit BFLA-1		
TOTAL DEPTH	TUBING DEPTH	SHOTS/FT	Cement - Specs	lbs	Yield
971				152	1.27
CASING SIZE	TUBING WEIGHT	OPEN HOLE	Annulus Factor	Capacity Factor	
9 5/8			5258	.0773	
CASING DEPTH	TUBING CONDITION	TREATMENT VIA	TYPE OF TREATMENT		
961			<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 WEIGHT	PACKER DEPTH		HYD HHP = RATE X PRESSURE / 40.8		
3215			% Excess <input type="text" value="20%"/> BBL to Pit <input type="text" value="6 BBLs"/>		
CASING CONDITION	<input type="text" value="Good"/>				
Max Rate	<input type="text"/>				
Max Pressure	<input type="text"/>				

DESCRIPTION OF JOB EVENTS

Setup meeting Rig, PST deep, Per cement crew 70 BBLs R/L H2O 2nd 100/ Dye, misc Pump
 525 sls cement at 30% excess at 1.27 yield at 152 lbs or until cement stops up, Release
 Plug Disp 71 BBLs H2O, Pump Plug At 150 PSI over Lift PST, wait 5min Release
 PST wash up Rig down

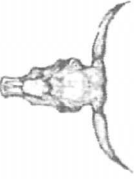
X _____
 Authorization To Proceed

 Title

X 9-21-13
 Date

Customer 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.

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Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting MIRU CIRCULATE Drop Plug 6:32 am	5:20 4:50 5:46	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
		BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI	BBLs	Time	PSI
		0	6:32	50	0		0		0		0		0		0	
		10	6:37	60	10		10		10		10		10		10	
		20	6:39	60	20		20		20		20		20		20	
		30	6:41	140	30		30		30		30		30		30	
		40	6:43	190	40		40		40		40		40		40	
		50	6:45	270	50		50		50		50		50		50	
M & P		60	6:47	320	60		60		60		60		60		60	
Time	Sacks	70	6:50	320	70		70		70		70		70		70	
		90	6:51	320	80		80		80		80		80		80	
		100			90		90		90		90		90		90	
		110			100		100		100		100		100		100	
		120			110		110		110		110		110		110	
		130			120		120		120		120		120		120	
		140			130		130		130		130		130		130	
		150			140		140		140		140		140		140	
		150			150		150		150		150		150		150	

Notes:

454 ZODERASS W/ 485 SLS cement 109.7 BBS slurry 6 BBS deposit
 Didnt Pump Plug

X _____
 Work Performed
 Title

X _____
 Date



Bison Oil Well Cementing Single Cement Surface Pipe

Invoice # 12464
API#
Foreman: kirk

Customer: noble
Well Name: wells ranch ae 20-63-1hn

County: Weld
State: Colorado
Sec: 20
Twp: 6N
Range: 62W

Consultant: jim b
Rig Name & Number: h&p 343
Distance To Location:
Units On Location: 3103-3203
Time Requested: 3:00am
Time Arrived On Location: 1:45am
Time Left Location:

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) :	926	Cement Yield (cuft) :	1,274
Total Depth (ft) :	971	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 :	15.5	BBL to Pit:	
Shoe Joint Length (ft) :	42	Fluid Ahead (bbbls):	71.0
Landing Joint (ft) :	35	H2O Wash Up (bbbls):	20.0
Max Rate:		Spacer Ahead Makeup	
Max Pressure:			

Calculated Results		Displacement: 71.05 bbls (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
cuft of Shoe	18.23 cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft)	Pressure of cement in annulus	Hydrostatic Pressure: 731.17 PSI
cuft of Conductor	80.51 cuft (Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of the fluids inside casing	Displacement: 381.16 psi
cuft of Casing	415.97 cuft (Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length - Landing Joint)	Shoe Joint: 33.16 psi	Total: 414.33 psi
Total Slurry Volume	514.71 cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Differential Pressure: 316.84 psi	
bbbls of Slurry	119.17 bbls (Total Slurry Volume) X (.1781) X (% Excess Cement)	Collapse PSI: 2020.00 psi	Burst PSI: 3520.00 psi
Sacks Needed	525 sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Total Water Needed: 164.70 bbls	
Mix Water	73.66 bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42		

X 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.