

Bison Oil Well Cementing Single Cement Surface Pipe

Invoice # 12727
 API# 445564
 Foreman: monte

Customer: encana
 Well Name: state 3b-16h

County: Weld County
 State: Colorado
 Sec: 16
 Twp: 3n
 Range: 68w

Consultant: chris
 Rig Name & Number: h & p 278
 Distance To Location: 21.3
 Units On Location: 3106-3212
 Time Requested: 500pm
 Time Arrived On Location: 500
 Time Left Location: 900

WELL DATA		Cement Data	
Casing Size OD (in) :	9.6250	Cement Name:	BFN III
Casing Weight (lb) :	40	Cement Density (lb/gal) :	15.2
Casing Depth (ft.) :	876	Cement Yield (cuft) :	1.27
Total Depth (ft) :	890	Gallons Per Sack:	5.89
Open Hole Diameter (in.) :	12.25	% Excess:	30%
Conductor Length (ft) :	108	Displacement Fluid lb/gal:	
Conductor ID :	15.5	BBL to Pit:	
Shoe Joint Length (ft) :	44	Fluid Ahead (bbls):	
Landing Joint (ft) :		H2O Wash Up (bbls):	20.0
Max Rate:		Spacer Ahead Makeup	
Max Pressure:		10 fresh 10 dye 10 fresh	

Casing ID 8.835 Casing Grade J-55 only used

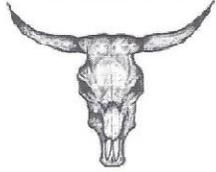
Calculated Results		Displacement: 63.09 bbls	
cuft of Shoe 18.73 cuft	(Casing ID Squared) X (.005454) X (Shoe Joint ft)	(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
cuft of Conductor 86.95 cuft	(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)	Pressure of cement in annulus	
cuft of Casing 240.52 cuft	(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)	Hydrostatic Pressure: 691.69 PSI	
Total Slurry Volume 346.20 cuft	(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)	Pressure of the fluids inside casing	
bbls of Slurry 80.16 bbls	(Total Slurry Volume) X (.1781) X (% Excess Cement)	Displacement: #N/A psi	
Sacks Needed 354 sk	(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)	Shoe Joint: 34.74 psi	
Mix Water 49.70 bbls	(Sacks Needed) X (Gallons Per Sack) ÷ 42	Total #N/A psi	
		Differential Pressure: #N/A psi	
		Collapse PSI: 2570.00 psi	
		Burst PSI: 3950.00 psi	
		Total Water Needed: 69.70 bbls	

X Chris Huta
 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.

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

12727
 3245
 route

TREATMENT REPORT

DATE	WELL NAME	SECTION	TWP	RGE	COUNTY
10-22-13	state 3B-16H	1b	3N	68W	weld
BILL TO		CONSULTANT			
Encang		Chris			
OWNER		RIG NAME & NUMBER			
		H&P 278			
MAILING ADDRESS		DISTANCE TO LOCATION		UNITS ON LOCATION	
		21.1		3106-3212	
CITY		TIME REQUESTED		TIME ARRIVED ON LOCATION	
		500pm		500pm	
STATE, ZIP		TIME LEFT LOCATION			

WELL DATA			Cement Makeup		
HOLE SIZE	TUBING SIZE	PERFORATIONS	Cement Blend	BFN # 3090 BCC-1.25/6 BFLA-1	
12 1/4			Cement - Specs	lbs	Yield
				15.2	1.27
TOTAL DEPTH	TUBING DEPTH	SHOTS/FT	Annulus Factor	Capacity Factor	
890			.3131	.0758	
CASING SIZE	TUBING WEIGHT	OPEN HOLE	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		
9 5/8					
CASING DEPTH	TUBING CONDITION	TREATMENT VIA			
876					
CASING WEIGHT	PACKER DEPTH		HYD HHP = RATE X PRESSURE / 40.8 % Excess 3090 BBL to Pit 21		
40					
CASING CONDITION	good				
Max Rate					
Max Pressure					

DESCRIPTION OF JOB EVENTS

safety meeting MIRU Pressure test per company man circulate 30 bbls Ahead with Dye in 2nd 10 mix + pump 354 shs at 30% excess drop plug + Displace @ 3.09 bbls H2O Bump Plug 150 psf above lift pressure Hold 5 min Release Pressure wash up Rig down

X Chris Hertz
 Authorization To Proceed

 Title

X _____
 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.