



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 2/27/2014

Invoice # 12121

API# 445564

Foreman: Lee

Customer: Excell Services

Well Name: Craig 42-18

County: Washington

State: Colorado

Sec: 18

Twp: 45

Range: 49W

Consultant: Mark Z.

Rig Name & Number: Excel 3

Distance To Location: 145

Units On Location: 4027 3106

Time Requested: 10:00 PM

Time Arrived On Location: 10:25 PM

Time Left Location: _____

WELL DATA

Casing Size OD (in) : 8.6250
 Casing Weight (lb) : 36
 Casing Depth (ft.) : 198
 Total Depth (ft) : 227
 Open Hole Diameter (in.) : 11.00
 Conductor Length (ft) : 0
 Conductor ID : 0
 Shoe Joint Length (ft) : 40
 Landing Joint (ft) : 12

Max Rate: _____

Max Pressure: _____

Cement Data

Cement Name: BFN III
 Cement Density (lb/gal) : 15.2
 Cement Yield (cuft) : 1.27
 Gallons Per Sack: 5.89
 % Excess: 85%
 Displacement Fluid lb/gal: 8.3
 BBL to Pit: _____
 Fluid Ahead (bbls): _____
 H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

Casing ID

7.825

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 13.36 **cuft**

(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 0.00 **cuft**

(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 50.33 **cuft**

(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 63.69 **cuft**

(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 20.99 **bbls**

(Total Slurry Volume) X (.1781) X (% Excess Cement)

Sacks Needed 93 **sk**

(Total Slurry Volume) + (Cement Yield) X (% Excess Cement)

Mix Water 13.01 **bbls**

(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 10.11 **bbls**

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 156.34 **PSI**

Pressure of the fluids inside casing

Displacement: 68.13 **psi**

Shoe Joint: 31.58 **psi**

Total 99.71 **psi**

Differential Pressure: 56.63 **psi**

Collapse PSI: 3450.00 **psi**

Burst PSI: 4460.00 **psi**

Total Water Needed: 33.01 **bbls**



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
Single Cement Surface Pipe**

Customer Well Name Excell Services
Craig 42-18

INVOICE # 12121
 LOCATION Washington
 FOREMAN Lee
 Date 2/27/2014

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

	12:20 AM	Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
	12:40	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
Safety Meeting	12:20 AM															
MIRU	12:40															
CIRCULATE	12:45	0	12:53 AM	10	0			0			0			0		
Drop Plug		10	12:56	80	10			10			10			10		
12:53 AM		20			20			20			20			20		
		30			30			30			30			30		
		40			40			40			40			40		
M & P		50			50			50			50			50		
Time	Sacks	60			60			60			60			60		
12:47:00 AM	86	70			70			70			70			70		
		80			80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	85%	120			120			120			120			120		
Mixed bbls	13	130			130			130			130			130		
Total Sacks	93	140			140			140			140			140		
		150			150			150			150			150		
bbl Returns	10															

Notes:
 Safety Meeting 12:20 AM; MIRU 12:40; BREAK CIRCULATION 12:45; MIX & PUMP 21 BBL SLURRY; DISPLACED 10 BBL

X M. Anderson
 Work Performed

X Push
 Title

X 2/28/14
 Date

Release and Indemnification

Customer acknowledges and assumes the risks associated with oil well drilling, cementing and acidizing, including, without limitation, destabilization, loss of production, contamination, fracturing and loss of well control. Customer agrees to release Bison Oil Well Cementing, Inc., Bison Energy Services, Inc., its agents, employees and assigns, from any and all liability for any and all damages whatsoever to property of any kind owned by, in the possession of, or leased by customer and those persons or entities customer has the ability to bind by contract. Customer also agrees to indemnify and hold harmless Bison Oil Well Cementing, Inc., Bison Energy Services, Inc., its agents, employees and assigns, from and against any and all liability, claims, costs, expenses, attorneys fees and damages whatsoever for claims, costs, expenses, attorneys fees and damages whatsoever for personal injury, illness, death, property damage and loss resulting from: loss or reduction of production, destabilization loss of oil well control, failure of or contamination by acid stimulation, hydraulic fracturing, cementing, pumping services, incompatible fluid or other processes to stimulate, complete or end production, and/or any other condition. Customer's release, indemnity and hold harmless obligation shall apply even if the liability and claims are caused by the sole, concurrent, active or passive negligence, fault, or strict liability of Bison Oil Well Cementing, Inc. and/or Bison Energy Services, Inc. or any defect in the data, products, supplies, materials or equipment furnished by Bison Oil Well Cementing, Inc. whether in the design, manufacturing, maintenance, or marketing thereof or from failure to warn of such defect. In the event that any portion of this release and indemnity is found by a court of competent jurisdiction to be inoperable or unenforceable, the remaining portions and provisions shall apply, and customer agrees that the contract price herein shall be the limit of Bison Oil Well Cementing, Inc.'s liability, if any.