



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/21/2014

Invoice #: 65005

API#: 05-123-3809300

Foreman: Lee Sharp

Customer: Peterson Energy Management

Well Name: Grant Hurt 1B-14H-G268

County: Weld

State: Colorado

Sec: 14

Twp: 2N

Range: 68W

Consultant: IRA COX

Rig Name & Number: PATERSON 326

Distance To Location: 21

Units On Location: 4023-3104 & 4024-3203

Time Requested: 23:30

Time Arrived On Location: 23:40

Time Left Location: 1

WELL DATA		Cement Data	
Casing Size OD (in) :	9.625	Cement Name:	BFN III
Casing Weight (lb) :	40.00	Cement Density (lb/gal) :	15.2
Casing Depth (ft.) :	835	Cement Yield (cuft) :	1.27
Total Depth (ft) :	890	Gallons Per Sack:	5.89
Open Hole Diameter (in.) :	12.25	% Excess:	50%
Conductor Length (ft) :	80	Displacement Fluid lb/gal:	8.3
Conductor ID :	15.25	BBL to Pit:	0.0
Shoe Joint Length (ft) :	44	Fluid Ahead (bbls):	30.0
Landing Joint (ft) :	35	H2O Wash Up (bbls):	20.0
Max Rate:		Spacer Ahead Makeup	
Max Pressure:			10F-10D-10F

Calculated Results		Displacement: 62.66 bbls	
Casing ID 8.835 Casing Grade J-55 only used		(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)	
cuft of Shoe	18.59 cuft	Pressure of cement in annulus	
(Casing ID Squared) X (.005454) X (Shoe Joint ft)		Hydrostatic Pressure: 659.32 PSI	
cuft of Conductor	61.05 cuft	Pressure of the fluids inside casing	
(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)		Displacement: 341.21 psi	
cuft of Casing	354.68 cuft	Shoe Joint: 34.48 psi	
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)		Total 375.69 psi	
Total Slurry Volume	434.32 cuft	Differential Pressure: 283.63 psi	
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)		Collapse PSI: 2570.00 psi	
bbls of Slurry	77.35 bbls	Burst PSI: 3950.00 psi	
(Total Slurry Volume) X (.1781)		Total Water Needed: 160.62 bbls	
Sacks Needed	342 sk		
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)			
Mix Water	47.96 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.



**Bison Oil Well Cementing
Single Cement Surface Pipe**

Customer Peterson Energy Management
Well Name Grant Hurt 1B-14H-G268

INVOICE # 65005
LOCATION Weld
FOREMAN Lee Sharp
Date 7/21/2014

DESCRIPTION OF JOB EVENTS

		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
Safety Meeting	2:00															
MIRU	2:30															
CIRCULATE	3:15	0	3:52		0			0			0			0		
Drop Plug		10	3:54	49	10			10			10			10		
	3:48	20	3:56	58	20			20			20			20		
		30	3:57	130	30			30			30			30		
		40	3:59	280	40			40			40			40		
M & P		50	4:01	329	50			50			50			50		
Time	Sacks	60	4:03	275	60			60			60			60		
	3:21	342	70	4:06	580	70			70					70		
			80			80			80					80		
			90			90			90					90		
			100			100			100					100		
			110			110			110					110		
% Excess	50%	120			120			120			120			120		
Mixed bbls	48	130			130			130			130			130		
Total Sacks	342	140			140			140			140			140		
bbl Returns	16	150			150			150			150			150		
Water Temp	60															

Notes:

JOB WENT WELL PLUG LANDED ON CALCULATED NO MAJOR ISSUES BULK TRUCK REAR BOTTLE UNLOADS POORLY

X Lee Sharp
Work Performed

X Co. Rep.
Title

X 7-21-14
Date