

# BISON OIL WELL CEMENTING, INC.

1738 Wynkoop St., Ste. 102  
Denver, Colorado 80202  
Phone: 303-296-3010  
Fax: 303-298-8143  
E-mail: bisonoil1@qwestoffice.net



## SERVICE INVOICE

**Nº 12571**

<b>WELL NO. AND FARM</b> Anschutz state 5-62-36-12		<b>COUNTY</b> weld	<b>STATE</b> CO	<b>DATE</b> 12-21-13
<b>CHARGE TO</b> Bill Barrett		<b>WELL LOCATION</b> SEC. 36 TWP. 5N RANGE 62W		<b>CONTRACTOR</b> major 43
		<b>DELIVERED TO</b> 89-56	<b>LOCATION</b> 1 shop	<b>CODE</b>
		<b>SHIPPED VIA</b> 3103-3204	<b>LOCATION</b> 2 89-56	<b>CODE</b>
		<b>TYPE AND PURPOSE OF JOB</b> Surface Pipe	<b>LOCATION</b> 3 shop	<b>CODE</b>
			<b>WELL TYPE</b> 695	<b>CODE</b>

PRICE REFERENCE	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
	Pump charge	1	each		
	BFVIT 3% BCLA-1 25 lbs per sk BFLA-1	357	sk		
	mileage 4 <sup>00</sup> per mile 60 mile min Round Trip Truck	2	each		
	mileage 1 <sup>50</sup> per mile 60 mile min Round Trip Pickup	1	each		
	BCLA-1	6	gts		
	Red Dye	10	oz		
	Data Acc	1	each		
	Job Time	2.5	hrs		
		Total Weight	Loaded Miles	Ton Miles	

CC 830,130  
AFE# 185210

If this account is not paid within 30 days of invoice date a FINANCE CHARGE will be made. Computed at a single monthly rate of 1 1/2% which is equal to an ANNUAL PERCENTAGE RATE OF 18%.

### TAX REFERENCES

"TAXES WILL BE ADDED AT CORPORATE OFFICE"

SUB TOTAL

TAX

TOTAL

SUBJECT TO CORRECTION

Customer or His Agent

Bison Oil Well Cementing, Inc. Representative

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.



# Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/21/2013

Invoice # 12571

API#

Foreman: Kirk

Customer: bill barrett

Well Name: ancultz state 5-62-36-12

County: weld  
State: ColoradoSec: 36  
Twp: 5n  
Range: 62wConsultant: casey  
Rig Name & Number: major 43Distance To Location:  
Units On Location: 3103-3204Time Requested: 830 am  
Time Arrived On Location: 930 am  
Time Left Location: 4:30 pm

## WELL DATA

Casing Size OD (in) : 9.6250  
Casing Weight (lb) : 36  
Casing Depth (ft.) : 806  
Total Depth (ft) : 810  
Open Hole Diameter (in.) : 13.50  
Conductor Length (ft) :  
Conductor ID :  
Shoe Joint Length (ft) : 43  
Landing Joint (ft) : 8

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: 30%  
Displacement Fluid lb/gal: 8.3  
BBL to Pit:  
Fluid Ahead (bbls):  
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

Casing ID

8.921

Casing Grade

J-55 only used

## Calculated Results

**cuft of Shoe** 18.66 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** 393.92 cuft  
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

**Total Slurry Volume** 412.58 cuft  
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

**bbls of Slurry** 95.52 bbls  
(Total Slurry Volume) X (.1781) X (% Excess Cement)

**Sacks Needed** 422 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

**Mix Water** 59.23 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42

**Displacement:** 59.60 bbls

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

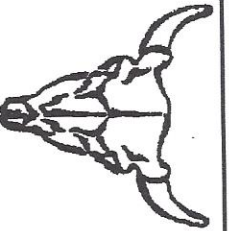
## Pressure of cement in annulus

**Hydrostatic Pressure:** 636.42 PSI

## Pressure of the fluids inside casing

**Displacement:** 328.99 psi**Shoe Joint:** 33.95 psi**Total** 362.94 psi**Differential Pressure:** 273.47 psi**Collapse PSI:** 2020.00 psi**Burst PSI:** 3520.00 psi**Total Water Needed:** 79.23 bblsX Casey  
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

bill barrett  
ancultz state 5-62-36-12

INVOICE #  
LOCATION  
FOREMAN  
Date

12571  
weld  
Kirk  
12/21/2013

Treatment Report Page 2

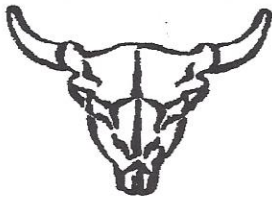
**DESCRIPTION OF JOB EVENTS**

Safety Meeting MIRU CIRCULATE Drop Plug 338 pm 338 pm M & P Time 315 pm 335 pm stop Total Sacks bbl Returns	250pm 940am 305pm	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	BBLs
	0	338	20	0			0			0			0			0
	10	340	80	10			10			10			10			10
	20	342	80	20			20			20			20			20
	30	344	170	30			30			30			30			30
	40	346	220	40			40			40			40			40
	50	348	280	50			50			50			50			50
	60			60			60			60			60			60
	70			70			70			70			70			70
	80			80			80			80			80			80
	90			90			90			90			90			90
	100			100			100			100			100			100
	110			110			110			110			110			110
	120			120			120			120			120			120
	130			130			130			130			130			130
	140			140			140			140			140			140
	150			150			150			150			150			150
	19															

Notes:

bumped plug at 354 pm 430 psi 80.7 bbls slurry

X *Casey* Title X *Coman* Date X *12-21-13*



# Bison Oil Well Cementing Single Cement Surface Pipe

## Cementing Customer Satisfaction Survey

Service Date	12/21/2013
Well Name	ancultz state 5-62-36-12
County	weld
State	Colorado
SEC	36
TWP	5n
RNG	62w

Invoice Number	20511
API #	0
Job Type	Single Cement Surface Pipe
Company Name	bill barrett

Customer Representative casey

Supervisor Name kirk

Employee Name (Including Supervisor)
pablo
keith

Exposure Hours (Per Employee)

7
7

Total Exposure Hours

14

Did we encounter any problems on this job?

☐ Yes

☐ No

### To Be Completed By Customer

#### Rating/Description

- 5 - Superior Performance (Established new quality/performance standards)
  - 4 - Exceeded Expectation (Provided more than what was required/expected)
  - 3 - Met Expectations (Did what was expected)
  - 2 - Below Expectations (Job problems/failures occurred - \*Recovery made)
  - 1 - Poor Performance (Job problems/failures occurred - \*Some recovery made)
- \*Recovery: resolved issue(s) on jobsite in a timely and professional manner

RATING	CATEGORY
5	Personnel -
5	Equipment -
5	Job Design -
5	Product/Material -
5	Health & Safety -
5	Environmental -
5	Timeliness -
5	Condition/Appearance -
5	Communication -

#### CUSTOMER SATISFACTION RATING

- Did our personnel perform to your satisfaction?
- Did our equipment perform to your satisfaction?
- Did we perform the job to the agreed upon design?
- Did our products and materials perform as you expected?
- Did we perform in a safe and careful manner (Pre/post mtgs, PPE, TSMR, etc..)?
- Did we perform in an environmentally sound manner (spills, leaks, cleanup, etc..)?
- Was job performed as scheduled (On time to site, accessible to customers, completed when expected)?
- Did the equipment condition and appearance meet your expectations?
- How well did our personnel communicate during mobilization, rig up and job execution?

Please Circle:

- Yes No Did an accident or injury occur?
- Yes No Did an injury requiring medical treatment occur?
- Yes No Did a first-aid injury occur?
- Yes No Did a vehicle accident occur?
- Yes No Was a post-job safety meeting held?

Please Circle:

- Yes No Was a pre-job safety meeting held?
- Yes No Was a job safety analysis completed?
- Yes No Were emergency services discussed?
- Yes No Did environmental incident occur?
- Yes No Did any near misses occur?

Additional Comments:

THE INFORMATION HEREIN IS CORRECT -

X Casey  
Customer Representative's Signature

DATE:

12-21-13

Any additional Customer Comments or HSE concerns should be described on the back of this form

# BISON OILWELL CEMENTING JOB SAFETY ANALYSIS WORKSHEET



**BISON**

ASK: SURFACE CASING CEMENTING		CEMENTER/SUPERVISOR: Kirk Kallhoff		PAGE 1	OF 3
NAME: Anschutz state 5-62-36-12		RIG #major 43	LOCATION: 89-56	DATE: 12-21-13	
ATOR: bill barrett		CONSULTANT: casey		INVOICE # 12571	
<b>EQUIPMENT:</b> <input type="checkbox"/> Hard Hat <input type="checkbox"/> Safety Glasses <input type="checkbox"/> Steel Toe Boots <input type="checkbox"/> Impact Gloves		<b>ADDITIONAL PPE (based on job specific hazards)</b> <input type="checkbox"/> FR Coveralls <input type="checkbox"/> Reflective Vest		<input type="checkbox"/> Goggles <input type="checkbox"/> Faceshield <input type="checkbox"/> Chemical Resistant Gloves <input type="checkbox"/> Chemical Resistant Clothing	
				<input type="checkbox"/> Air Purifying Respirator <input type="checkbox"/> Supplied Air Respirator <input type="checkbox"/> Personal H2S Monitor <input type="checkbox"/> Personal Methane Monitor	
<b>JOB STEPS</b>	<b>POTENTIAL HAZARDS</b>	<b>RECOMMENDED ACTION OR PROCEDURE</b>			<b>REVIEWED BY</b>
new JSA	Misunderstanding	Clarify job and associated hazards and safety concerns			kk
duct pre job safety meeting	Misunderstanding	-Hold safety meeting with all personnel on location, ensure everyone pays attention to ensure they understand their role and responsibility during the job -Review treatment report with consultant and attain signature for authorization to proceed -Identify and address short service employees (SSE) who are on location			kk
ve trucks in and rig up equipment	Other traffic on location, overhead lines, pinch points, heavy lifting, slips/falls	-Coordinate with well site supervisor for directions on where and when to park the equipment -All Bison crew members walk the location prior to driving in to access specific hazards -Utilize spotters when trucks are in motion -Establish buffer zone around equipment utilizing cones and caution tape -Cementer follows up to ensure connections are secure -Lift with your legs and use teamwork when rigging up -Utilize reflective vests and wands to increase visibility at night -Deploy spill berms and buckets			kk
e cement head and hoses to rig floor	Overhead work, improper hookup/load not properly secured, poor communication between ground personnel and crane/tugger operator	-Inspect slings, chains and hooks prior to lift -Ensure line of sight with crane/tugger operator is maintained throughout the lift and hand signals are understood -Ensure no personnel are under suspended equipment -Utilize a tag line to control the load			kk
irect Cement head/swage/pin, chickens and es.	Working in a congested area, pinch points, swinging hammers, slippery rig floor	-Only Bison personnel install the cement head and hoses -Maintain line of sight and communication with crane/tugger operator -Remove non-essential personnel from rig floor, wait until other activity is done -Rig crew does not install chains until head and hoses are installed -Ensure a clear path when swinging a hammer -Ensure all fittings and hoses have proper pressure rating for the job and fall within the parameters of the <i>Bison Oilwell Iron Inspection Program</i>			kk
ssure test lines	Equipment falling under high pressures	-Ensure rig floor is clear and personnel are away from hoses prior to test -Establish buffer area around high pressure hoses -Lines are checked from a distance and using pressure gauges -Cementer ensures pressure gauges are functioning properly			kk
	Test to: PSI- 500 Maximum pressure allowed for job: PSI- 2500	Pressure relief valve set to: PSI- 2000 Max. pump pressure: PSI- 3000			
np Spacer (dye marker)/Mix and Pump tent	Serious injury from high pressure line failure or catastrophic equipment failure. Casing hydraulicing from hole, causing injury. Burns or skin irritation from splashing cement, uncontrolled spills	-Pressure test prior to job, utilize heavy duty hose hobbles and pressure relief valve -Keep rig floor and buffer area clear while pumping -Utilize proper PPE -Have access to water to rinse affected skin -Deploy spill berms and buckets			kk

# BISON OILWELL CEMENTING JOB SAFETY ANALYSIS WORKSHEET



p plug	Slips, trips, falls. Miscommunication between pump operator and cementer, pressure against a closed stop	-Utilize 3 points of contact while descending/climbing ladder and stairs -Have visual contact between cementer and pump operator before pump is engaged	kk
placement	Unexpected pressure associated with resuming of pumping, casing hydraulic from hole, serious injury from high pressure line failure or catastrophic equipment failure.	-Ensure rig floor remains clear and non-essential personnel stay clear from buffer area -pump operator monitors pump pressure constantly -Utilize proper PPE	kk
imp plug-Test float and release pressure	Pressure jumps before expected (calculated) displacement. Pressure jumps rapidly and higher than expected.	-Pump operator slows rate to 2 BPM when 5 bbs from calculated displacement and down to 1 bpm within 2 bbs of calculated displacement -Pump operator monitors pressure constantly -Pressure relief valve installed on pump	kk
pressure test casing required)	Test to: PSI- FOR: MIN-	Serious injury from high pressure line or catastrophic equipment failure	kk
ash up / rig down	Splashing cement slurry, heavy lifting, pinch points, unsecured hoses	-Utilize stakes or portable tank manifold to secure hoses -Use proper lifting technique (2 man lift, lift with legs, plan your route)	kk
part location	Other traffic and personnel and location, overhead lines	-All Bison crew member walk the planned exit route to access possible obstacles and hazards -Utilize spotters while backing	kk
<p>General Precautions/Stop Work</p> <p>- If you see a leaking connection, notify the cementer. Do not attempt to hammer up a leaking connection as there may be pressure on the lines. -Any person on location, regardless of their position or experience level has the authority and responsibility to stop the job if they witness an unsafe act or condition.</p>			
OTHER HAZARDS SPECIFIC TO LOCATION OR COMMENT NOT ADDRESSED ABOVE:		NEAREST EMERGENCY MEDICAL FACILITY (OTHER THAN 911): grealey	
<p>NATED EMERGENCY MUSTER AREA: access rd</p> <p>COUNT-- 0</p>			



Signature and Company	
<i>[Signature]</i> Bison	
<i>[Signature]</i> Bison	
<i>[Signature]</i> Bison	
Logan Duesky Major	
Russell Hubbardsten Major Billing	
Sean Silva Master Drilling	
Charles Byrnes NOV	
Reed Logan NOV	
Walt McDonald NOV	

# M/D TOTCO 2000 SERIES

— PSI — Barrels / Minute — Barrels — Lbs / Gallon — Stage Volume

