

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

№ 12310

WELL NO. AND FARM Co State 15-66-36-1609 B4		COUNTY Adams	STATE Co	DATE 2-1-14	
CHARGE TO Bill Barrett		WELL LOCATION SEC. 36 TWP. 15N RANGE 66W		CONTRACTOR major Casey	
		DELIVERED TO 128 + Pickadilly		LOCATION 1 Shop	CODE
		SHIPPED VIA 3103-3212		LOCATION 2 128 + Pickadilly	CODE
		TYPE AND PURPOSE OF JOB Surface		LOCATION 3 Shop	CODE
				WELL TYPE Ges	CODE

PRICE REFERENCE	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
	Pump Charge	1	ea		
	BFNH 3% BCC-1 .25/b BFIA-	447	SXS		
	BCIY-1	3	QT		
	Data Acc	1	ea		
	millage 150 Per mile 60 mile min lway	1	ea		
	millage 400 Per mile 60 mile min lway	2	ea		
	Red Dye	16	OZ		
Total Weight	Loaded Miles		Ton Miles		

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"

TOTAL

SUBJECT TO CORRECTION

Monte Beelcamp

Bison Oil Well Cementing, Inc. Representative

Customer or His Agent

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 Tail & Lead

Customer: bill barrett
Well Name: co state 15-66-36 1609bh

Date: 4/1/2014
Invoice #: 12310
API#: 445564
Foreman: monte

County: weld
State: Colorado
Sec: 36
Twp: 15n
Range: 66w

Consultant: casey
Rig Name & Number: major
Distance To Location: 37.2
Units On Location: 3
Time Requested: 6:am
Time Arrived On Location: 8:00
Time Left Location:

WELL DATA

Casing Size (in) : 9.625
Casing Weight (lb) : 36
Casing Depth (ft) : 1,518
Total Depth (ft) : 1530
Open Hole Diameter (in) : 13.50
Conductor Length (ft) :
Conductor ID : 15.5
Shoe Joint Length (ft) : 43
Landing Joint (ft) : 8

Sacks of Tail Requested 100
HOC Tail (ft): 0

One or the other, cannot have quantity in both

Max Rate:
Max Pressure:

Cement Data

Lead

Cement Name: bfn 111 3%bcc-1 .25%bfla-1
Cement Density (lb/gal) : 13.1
Cement Yield (cuft) : 1.69
Gallons Per Sack 6.64
% Excess 20%

Tail

Cement Name:
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 0%

Fluid Ahead (bbls) 30.0
H2O Wash Up (bbls) 20.0

Spacer Ahead Makeup

10 fresh 10 dye 10 fresh

Casing ID

8.921

Casing Grade

J-55 only used

Lead Calculated Results

HOC of Lead 1288.33 ft
Casing Depth - HOC Tail
Volume of Lead Cement 629.65 cuft
HOC of Lead X Open Hole Ann
Volume of Conductor 0.00 cuft
(Conductor ID Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)
Total Volume of Lead Cement 629.65 cuft
(cuft of Lead Cement) + (Cuft of Conductor)
bbls of Lead Cement 134.57 bbls
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)
Sacks of Lead Cement 347.09 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
bbls of Lead Mix Water 70.68 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42
Displacement 114.64 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)
Total Water Needed: 120.68 bbls

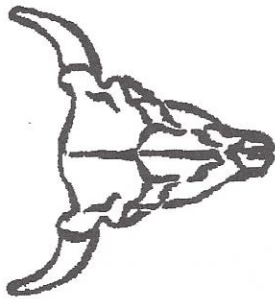
Tail Calculated Results

Tail Cement Volume In Ann 127.00 cuft
(HOC Tail) X (OH Ann)
Total Volume of Tail Cement 108.34 Cuft
(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)
bbls of Tail Cement 22.62 bbls
(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)
HOC Tail 221.67 ft
(Tail Cement Volume) ÷ (OH Ann)
Sacks of Tail Cement 100.00 sk
(Total Volume of Tail Cement) ÷ (Cement Yield)
bbls of Tail Mix Water 14.02 bbls
(Sacks of Tail Cement X Gallons Per Sack) ÷ 42
Pressure of cement in annulus
Hydrostatic Pressure 1033.00 PSI
Collapse PSI: 2020.00 psi
Burst PSI: 3520.00 psi

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
Two Cement Surface Pipe**

Customer
Well Name

bill barrett
co state 15-66-36 1609bh

Date
INVOICE #
LOCATION
FOREMAN

41730
12310
weld
monte

Treatment Report Page 2

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	2:15pm	0	3:28	10	0			0			0			0		
MIRU	12:45	10	3:32	10	10			10			10			10		
CIRCULATE	2:45	20	3:35	80	20			20			20			20		
Drop Plug		30	3:37	120	30			30			30			30		
	3:28	40	3:39	140	40			40			40			40		
		50	3:41	160	50			50			50			50		
M & P		60	3:43	220	60			60			60			60		
Time		70	3:45	280	70			70			70			70		
2:54-3:20	Sacks	80	3:47	440	80			80			80			80		
		90	3:48	470	90			90			90			90		
		100	3:50	510	100			100			100			100		
		110	3:51	1650	110			110			110			110		
		120			120			120			120			120		
Lead mixed bbls	70.68	130			130			130			130			130		
Lead % Excess	20%	140			140			140			140			140		
Lead Sacks	447	150			150			150			150			150		

Notes:

safety meeting, miru, pressure test per company man, circulate 30 bbls ahead with dye in 2nd 10. mix and pump 447 sks lead cement at 13,1

Tail mixed bbls	14.02	mix and pump 100 sks tail cement at 15.2, 1.27 yield, 5.89 h2o														
Tail % Excess	0%	displace 114.31 bbls h2o, bump plug at 3:51pm pm at 1680 psi, hold 5 min, release pressure														
Tail Sacks	100	wash up rig down														
Total Sacks	547	#VALUE!														
bbl Returns																

X Cory Tan Title Co man X 2-1-14 Date

Work Performed



Bison Oil Well Cementing Tail & Lead

Cementing Customer Satisfaction Survey

Service Date	4/1/2014
Well Name	co state 15-66-36 1609bh
County	weld
State	Colorado
SEC	36
TWP	15n
RNG	66w

Invoice Number	12310
API #	445564
Job Type	
Company Name	bill barrett

Customer Representative casey

Supervisor Name monte

Employee Name (Including Supervisor)
lee
jeff
kurt

Exposure Hours (Per Employee)

9
9
9
27

Total Exposure Hours

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 -
4	Equipment -
4	Job Design -
4	Product/Material -
4	Health & Safety -
4	Environmental -
4	Timeliness -
4	Condition/Appearance -
4	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
Yes No
Yes No
Yes No
Yes No

- Did an accident or injury occur?
- Did an injury requiring medical treatment occur?
- Did a first-aid injury occur?
- Did a vehicle accident occur?
- Was a post-job safety meeting held?

Please Circle:

Yes No
Yes No
Yes No
Yes No
Yes No

- Was a pre-job safety meeting held?
- Was a job safety analysis completed?
- Were emergency services discussed?
- Did environmental incident occur?
- Did any near misses occur?

Additional Comments:

THE INFORMATION HEREIN IS CORRECT -

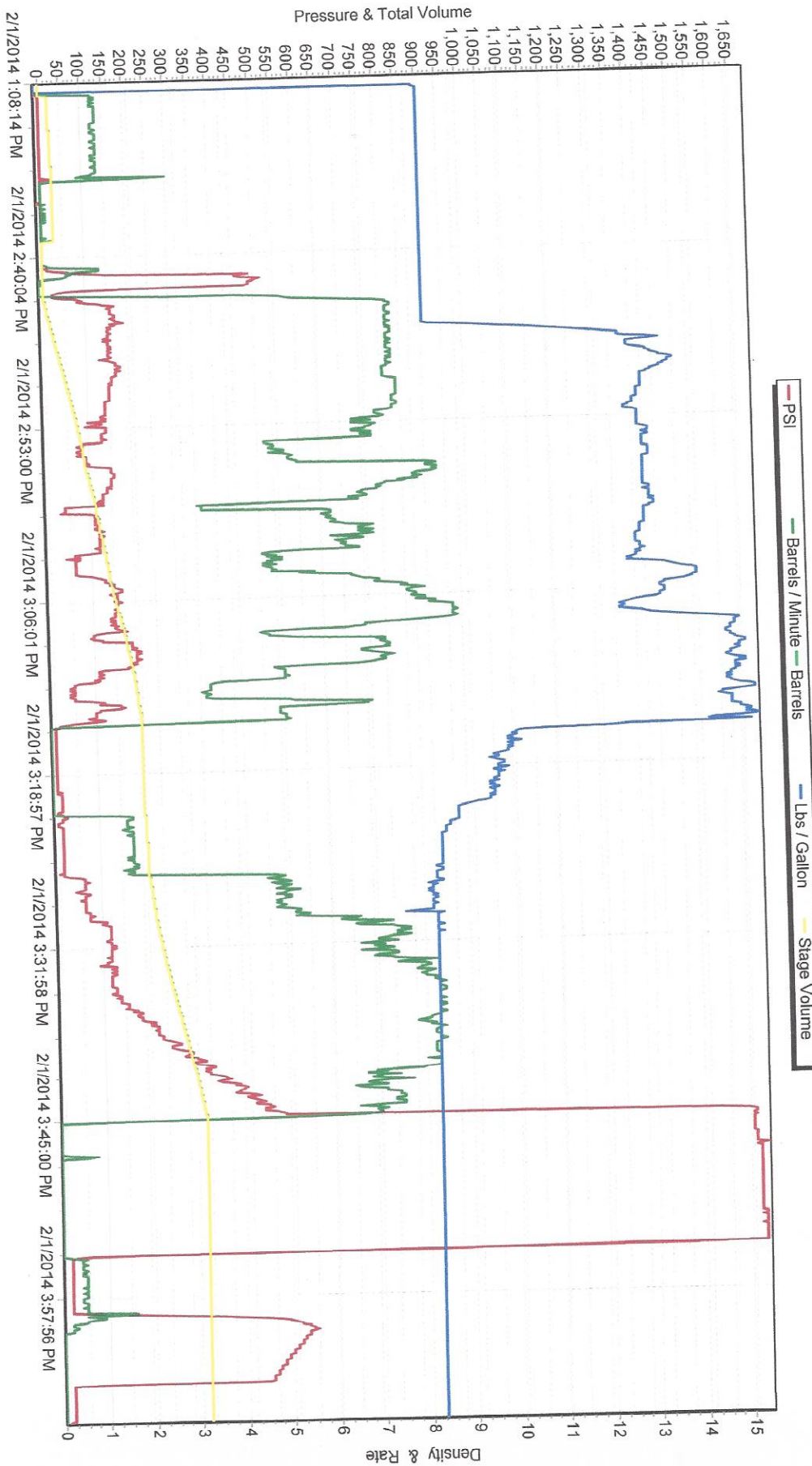
X Casey
Customer Representative's Signature

DATE:

2-1-14

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

M/D TOTCO 2000 SERIES





BISON OILWELL CEMENTING JOB SAFETY ANALYSIS WORKSHEET

ASK:	SURFACE CASING CEMENTING		CEMENTER/SUPERVISOR: monte bedeaux		PAGE 1	OF 3	
NAME:	co state 15-66-36-1609bh		RIG #	major	LOCATION:	128-pickadeilly	DATE: 2-1-14
ATOR:	bill barrett		CONSULTANT:		casey		INVOICE # 12310
EQUIRED:	<input checked="" type="checkbox"/> Hard Hat <input checked="" type="checkbox"/> Safety Glasses <input checked="" type="checkbox"/> Steel Toe Boots <input checked="" type="checkbox"/> Impact Gloves		<input checked="" type="checkbox"/> CoverallsADDITIONAL PPE (based on job specific hazards) <input type="checkbox"/> Reflective Vest		<input type="checkbox"/> Goggles <input type="checkbox"/> Faceshield <input type="checkbox"/> Chemical Resistant GlovesPersonal H2S Monitor <input type="checkbox"/> Chemical Resistant ClothingPersonal Methane Monitor		<input type="checkbox"/> Air Purifying Respirator <input type="checkbox"/> Supplied Air Respirator
JOB STEPS	POTENTIAL HAZARDS	RECOMMENDED ACTION OR PROCEDURE				REVIEWED BY	
iew JSA	Misunderstanding	Clarify job and associated hazards and safety concerns				ms	
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 -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 -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 -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>					
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						
nect Cement head/swage/pin, chickens and es.	Working in a congested area, pinch points, swinging hammers, slippery rig floor						
ssure test lines	Test to: PSI- 1000 Maximum pressure allowed for job: PSI- 1500	Equipment failing 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		Pressure relief valve set to: PSI- 2500 Max. pump pressure: PSI- 7500		
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					



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	MB
placement	Unexpected pressure associated with resuming of pumping, casing hydraulicing 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	
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 2BPM when 5 bbls from calculated displacement and down to 1 bpm within 2 bbls of calculated displacement -Pump operator monitors pressure constantly -Pressure relief valve installed on pump	
assure test casing (required)	Test to: PSI- FOR:MIN-	Serious injury from high pressure line or catastrophic equipment failure	
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)	
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	
Internal Precautions/Stop Work - 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.			
OTHER HAZARDS SPECIFIC TO LOCATION OR COMMENT NOT ADDRESSED ABOVE:		NEAREST EMERGENCY MEDICAL FACILITY (OTHER THAN 91.1): brighton	
rd COUNT-- 14			

Nov

Nov

NOV

Nov

9-309

11

May 2

10

UAG

May 05

Huber



BISON
Oil Well Cementing Inc.

PRE TRIP CEMENT CALL OUT SHEET

INVOICE #

10310

DATE/TIME

2-1-14

WELL NAME

Co State 15-66-36-1609 BH

OPERATOR

CUSTOMER

Bill Barrett

LOCATION/RIG

major

DELIVERED TO

PRE CHECK CALL OUT

CHECK ITEMS	Supervisor Initials	Other Initials	BULK TRUCK DRIVER	Supervisor Initials	Other Initials
DRY SAMPLE #	MB	gc	VACUUM BREAKER PORT CLEANED & INSPECTED & SPARE ON TRUCK	MB	
REQUIRED CEMENT CONNECTIONS	MB	gc	WATER JET AT MIX HEAD REMOVED, INSPECTED & CLEANED	MB	
TYPE OF CEMENT	BFNTH	c	CEMENTING HEAD INSPECTED & CLEANED	MB	
# OF LBS/SACKS	641		MIX TUB INSPECTED & CLEANED	MB	
FLOAT EQUIPMENT	cut Rug		CENTRIFUGALS GREASED, TIGHTENED & INSPECTED	MB	
BEGINNING FUEL	641	✓	DECK MOTORS STARTED	MB	
STARTING MILEAGE	3392	c	VERIFY ALL AIR VALVES ARE FUNCTIONAL	MB	
PERSONAL PROTECTIVE EQUIPMENT	MB	gc	VERIFY ALL VALVES ARE FUNCTIONAL ON BULK TRUCK	MB	gc
DRIVING DIRECTIONS	MB	gc	VERIFY BERMS ARE ON BULK TRUCK	MB	gc
DRIVERS LOGS UPDATED PRIOR TO LEAVING YARD	MB	gc	VERIFY SPARE CEMENT HEAD IS ON BULK TRUCK	MB	gc
TRUCK PRE TRIP COMPLETED	MB	gc	VERIFY 1" TUBING IS ON BULK TRUCK AND ADEQUATELY SECURED	MB	gc
ROCK CATCHERS REMOVED & CLEANED	MB		CHECK FOR ADEQUATE SUPPLY OF KCL, DYE AND DEFOAMER	MB	
VACUUM BREAKER REMOVED & CLEANED	MB		TOP OFF FUEL IN TRUCKS POST TRIP		✓
VERIFY CORRECT POP OFF PIN IN PLACE	MB		VERIFY PARKING METER GAUGE IS ON TRUCK		
VERIFY PRESSURE TRANSDUCERS ARE CLEAN OF CEMENT	MB		DRAIN AIR TANKS		
CLEAN TRUCKS	MB	gc			
TIGHTEN PACKING NUTS ON PLUNGERS	MB				

CEMENT HEAD CHECK LIST

	Supervisor Initials	Other Initials
THREADS	MB	
VALVES	MB	
PIN	MB	

COMMENTS: