

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



№ 12313

PRICE REFERENCE	DESCRIPTION	UNITS		UNIT PRICE	AMOUNT
		QTY.	MEAS.		
	Pump charge	1	ea		
	BEN III 300 BCC 1 .2516 BFIA-1	470	SKB		
	Bc14-1	3	wt		
	Red Dye	16	oz		
	millage 150 Per mile 60 mld min Round trip	1	ea		
	millage 400 Per mile 60 mld min Round trip	2	ea		
	Forn Inspection	1	ea		
	Data Acc	1	ea		
	Total Weight		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 ½% which is equal to an ANNUAL PERCENTAGE RATE OF 18%.

TAX REFERENCES

"TAXES WILL BE ADDED AT CORPORATE OFFICE"

TAX

TOTAL

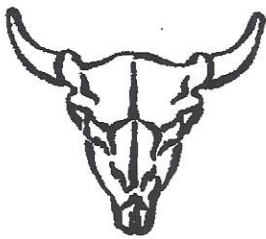
SUBJECT TO CORRECTION

monte Beclaus

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 Tail & Lead

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

Date: 4/1/2014
Invoice #: 12313
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: 8:00pm
Time Arrived On Location: 7:00pm
Time Left Location:

WELL DATA

Casing Size (in) : 9.625
Casing Weight (lb) : 36
Casing Depth (ft.) : 1,481
Total Depth (ft) : 1500
Open Hole Diameter (in) : 13.50
Conductor Length (ft) :
Conductor ID : 15.5
Shoe Joint Length (ft) : 41
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: 30%

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: 1249.56 ft
Casing Depth - HOC Tail
Volume of Lead Cement: 610.69 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: 610.69 cuft
(cuft of Lead Cement) + (Cuft of Conductor)
bbls of Lead Cement: 141.39 bbls
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)
Sacks of Lead Cement: 469.77 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
bbls of Lead Mix Water: 74.27 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42
Displacement: 111.93 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)
Total Water Needed: 124.27 bbls

Tail Calculated Results

Tail Cement Volume In Ann: 127.00 cuft
(HOC Tail) X (OH Ann)
Total Volume of Tail Cement: 109.20 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:
(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: 1007.82 PSI
Collapse PSI: 2020.00 psi
Burst PSI: 3520.00 psi

X 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.



Customer
Well Name

bill barrett
co state 15-66-36 1609 ch

Treatment Report Page 2

Date	41730
INVOICE #	12313
LOCATION	weld
FOREMAN	monte

DESCRIPTION OF JOB EVENTS

		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
Safety Meeting	9:35pm	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
MIRU	7:15															
CIRCULATE	10:00	0	11:03	30	0			0			0			0		
Drop Plug		10	11:08	60	10			10			10			10		
		20	11:12	40	20			20			20			20		
10:38		30	11:14	60	30			30			30			30		
		40	11:16	50	40			40			40			40		
		50	11:18	100	50			50			50			50		
M & P		60	11:20	130	60			60			60			60		
Time	Sacks	70	11:22	210	70			70			70			70		
10:05-10:35	573	80	11:24	310	80			80			80			80		
		90	11:35	340	90			90			90			90		
		100	11:37	350	100			100			100			100		
		110	11:39	370	110			110			110			110		
		120	11:45	580	120			120			120			120		
Lead mixed bbls	74.86	130			130			130			130			130		
Lead % Excess	31%	140			140			140			140			140		
Lead Sacks	474	150			150			150			150			150		

Notes:

Notes:

mix and pump 100 sks tail cement at 15.2. 1.27 yield, 5.89 h₂o

displace 1127 bbls h2o. bump plug at 11:45 pm at 580 psi, hold 5 min, release pressure

wash up rig down

#VALUE!

21

_____ >

X	Work Performed
---	----------------

X	Tit
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

1

×



Bison Oil Well Cementing Tail & Lead

Cementing Customer Satisfaction Survey

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

Invoice Number	12313
API #	445564
Job Type	
Company Name	bill barrett

Customer Representative casey

Supervisor Name monte

Employee Name (Including Supervisor)
kirk
jeff
kurt
eric

Exposure Hours (Per Employee)
4.5
4.5
4.5
4.5
13.5

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 -
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 -

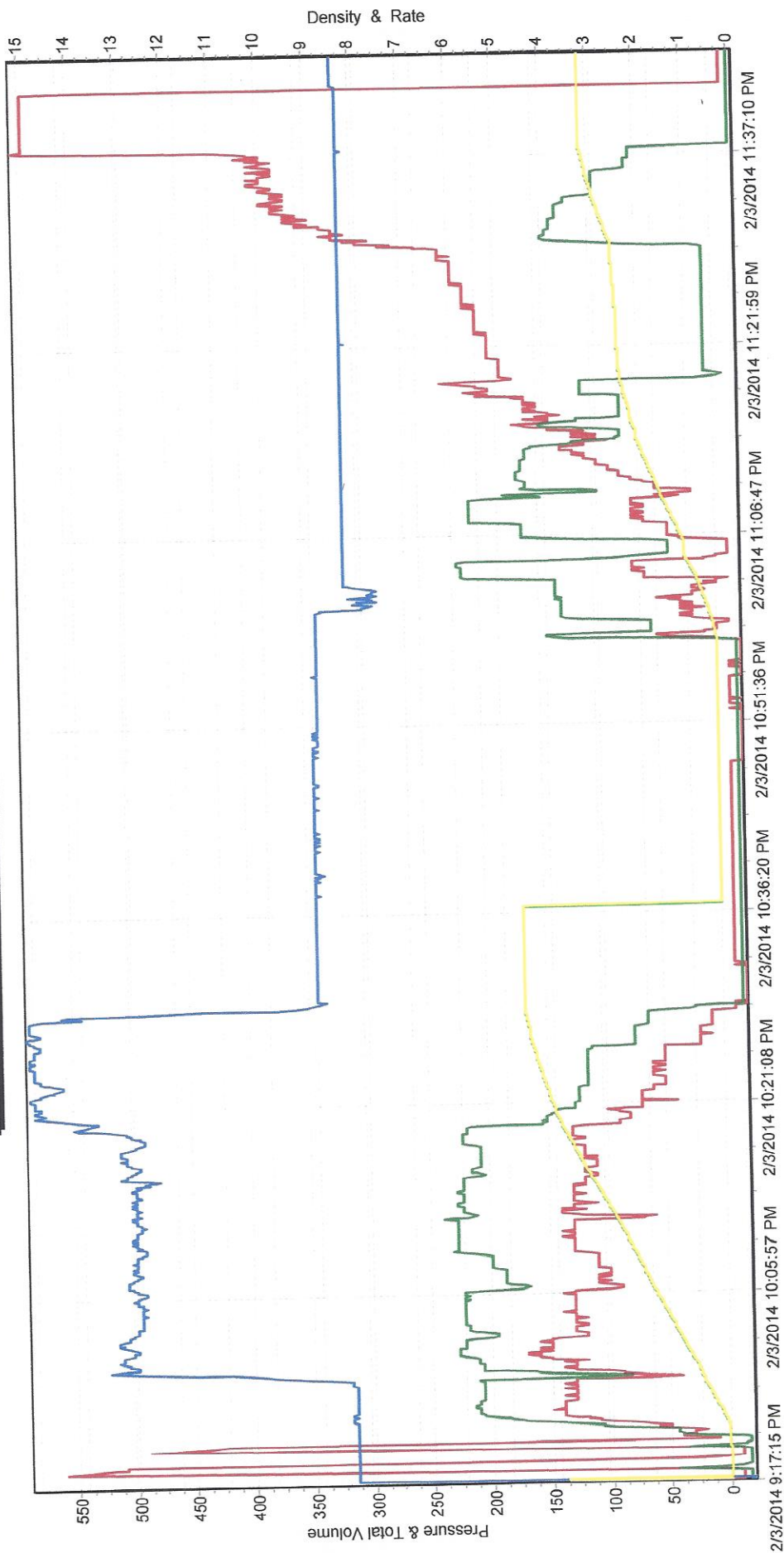
X

Customer Representative's Signature

DATE:

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 15-66-36-1609ch		RIG # major	LOCATION: 128-picidilly	DATE: 2-3-14
ATOR:	bill barrett		CONSULTANT: casey	INVOICE # 12313	
EQUIPED:	<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"/> FR Coveralls <input checked="" type="checkbox"/> ADDITIONAL PPE (based on job specific hazards) <input checked="" type="checkbox"/> Reflective Vest <input type="checkbox"/> Goggles <input type="checkbox"/> Air Purifying Respirator <input type="checkbox"/> Faceshield <input type="checkbox"/> Supplied Air Respirator <input type="checkbox"/> Chemical Resistant Gloves <input type="checkbox"/> Personal H2S Monitor <input type="checkbox"/> Chemical Resistant Clothing <input type="checkbox"/> Personal Methane Monitor				
JOB STEPS			POTENTIAL HAZARDS		RECOMMENDED ACTION OR PROCEDURE
New JSA			Misunderstanding		Clarify job and associated hazards and safety concerns
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
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
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
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>
ssure test lines			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
PSI- 500 Maximum pressure allowed for job: PSI- 1500			Pressure relief valve set to: PSI- 2500 Max. pump pressure: PSI- 3500		
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 hydraulizing 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	mb
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 -Ensure rig floor remains clear and non-essential personnel stay clear from the buffer area	mb
pressure test casing required)	Test to: PSI- na FOR:MIN- na	Serious injury from high pressure line or catastrophic equipment failure	mb
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)	mb
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	mb
<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.</p> <p>-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>			mb
OTHER HAZARDS SPECIFIC TO LOCATION OR COMMENT NOT ADDRESSED ABOVE:		NEAREST EMERGENCY MEDICAL FACILITY (OTHER THAN 911): Ibrihton	
NATED EMERGENCY MUSTER AREA: rd COUNT--			



Signature and Company	
Paul Beland	Bison
Compton	BBC
Jeff Ryle	Bison
RF	Bison
Eric P. Lewis	Bison
Sean Miller	Major Drilling
Jeff Campbell	Bison
Frank W.	Abell
Roger Hoove	NOV
Mark Anderson	Major
Russell Woodworth	Major Drilling