

Bison Oil Well Cementing Single Cement Surface Pipe

Date: 12/16/2014
Invoice #: 55046
API#:
Foreman: monte

Customer: Bill Barrett
Well Name: Anschutz Equus Farms 4-62-15 05608H2

County: Weld
State: Colorado
Sec: 15
Twp: 6n
Range: 63w
Consultant: Casey
Rig Name & Number: Major 43
Distance To Location: 51.8
Units On Location: 4028-3202 4034-3211
Time Requested: 10:00am
Time Arrived On Location: 9:15am
Time Left Location: 2:15 PM

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 36.00
Casing Depth (ft) : 753
Total Depth (ft) : 800
Open Hole Diameter (in.) : 13.50
Conductor Length (ft) :
Conductor ID : 15.6
Shoe Joint Length (ft) : 44
Landing Joint (ft) : 8
Max Rate: 5
Max Pressure: 2000

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 5%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 60.0
H2O Wash Up (bbls): 20.0
Spacer Ahead Makeup
10 fresh 10 dye 40 fresh

Casing ID

8.921

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 19.10 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 386.41 cuft
(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)
Total Slurry Volume 405.51 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)
bbls of Slurry 72.22 bbls
(Total Slurry Volume) X (.1781)
Sacks Needed 319 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)
Mix Water 44.78 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 55.43 bbls

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

Pressure of cement in annulus

Hydrostatic Pressure: 594.57 PSI

Pressure of the fluids inside casing

Displacement: 305.71 psi

Shoe Joint: 34.74 psi

Total 340.45 psi

Differential Pressure: 254.12 psi

Collapse PSI: 2020.00 psi

Burst PSI: 3520.00 psi

Total Water Needed: 180.21 bbls

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.



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

Customer
Well Name

Bill Barrett
nschutz Equus Farms 4-62-15 0560BH

INVOICE #
LOCATION
FOREMAN
Date

55046
Weld
monte
12/16/2014

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
MIRU	11:10	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
CIRCULATE	12:14	0	12:42	0	0			0			0			0		
Drop Plug		10	12:48	20	10			10			10			10		
12:42		20	12:50	60	20			20			20			20		
		30	12:52	170	30			30			30			30		
		40	12:58	170	40			40			40			40		
M & P		50	1:16	320	50			50			50			50		
Time	Sacks	60	1:20	720	60			60			60			60		
2:47-3:03	319	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	5%	120			120			120			120			120		
Mixed bbls	44.78	130			130			130			130			130		
Total Sacks	319	140			140			140			140			140		
bbl Returns	15	150			150			150			150			150		
Water Temp	45															

Notes:

Safety Meeting, miru, pressure test per company man circulate 60 bbls ahead with dye in 2nd 10, mix and pump 319 sks, drop plug and displace 55.43 bbls h2o
bump plug at 1:20 pm at 720 psi, hold 2 min, release pressure

X

Work Performed

X

Title

X

Date



Bison Oil Well Cementing Single Cement Surface Pipe

Cementing Customer Satisfaction Survey

Service Date 12/16/2014
Well Name nschutz Equus Farms 4-62-15 0560
County Weld
State Colorado
SEC 15
TWP 6n
RNG 63w

Invoice Number 55046
API # 0
Job Type Single Cement Surface Pipe
Company Name Bill Barrett

Customer Representative Casey

Supervisor Name Monte Bedeaux

Employee Name (Including Supervisor)

MONTE B
Billy J.
Zach V.

Exposure Hours (Per Employee)

5
5
5
15

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:

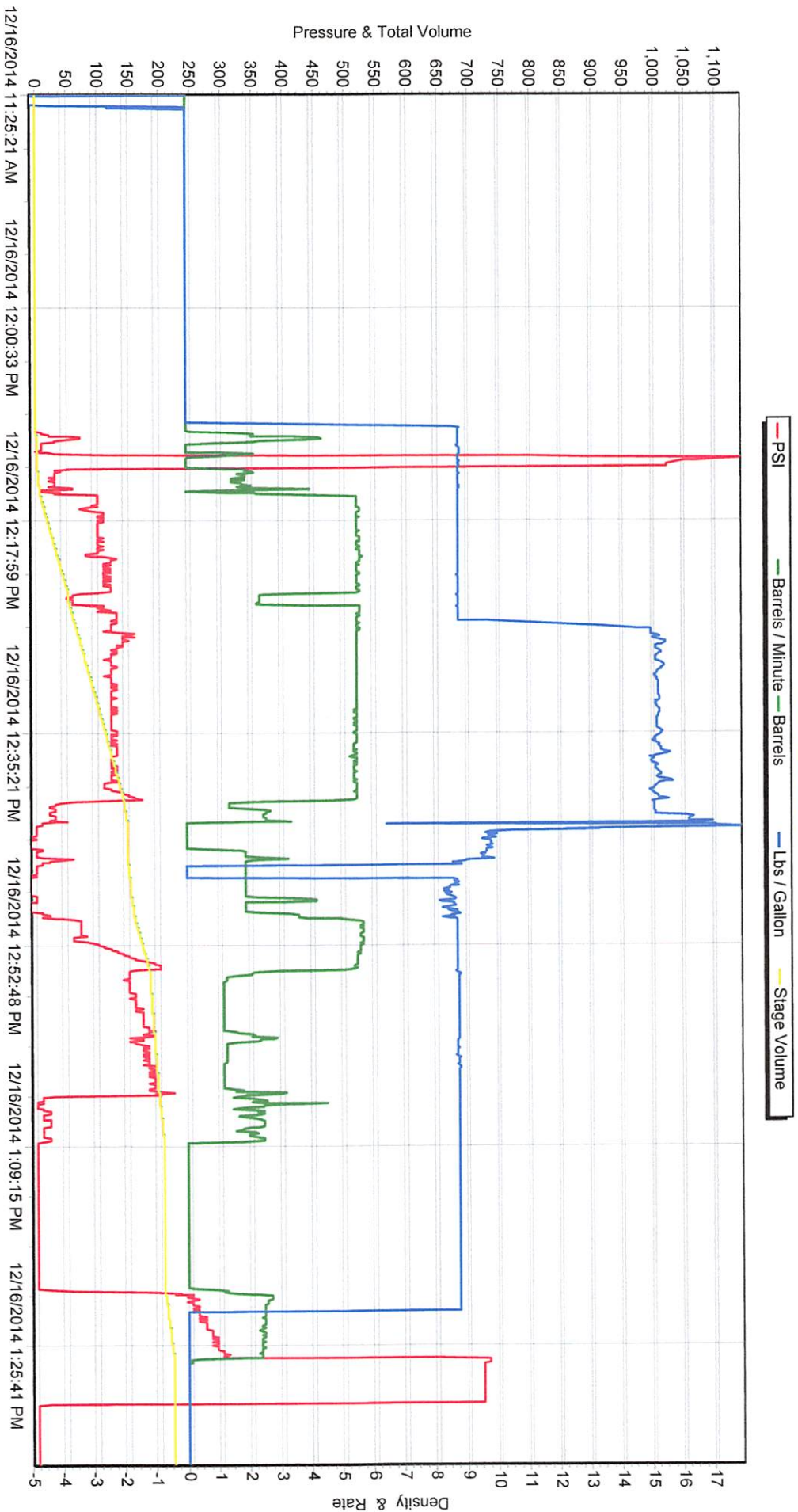
THE INFORMATION HEREIN IS CORRECT -

X *Casey*
Customer Representative's Signature

DATE: _____

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

SERIES 2000





BISON OILWELL CEMENTING JOB SAFETY ANALYSIS WORKSHEET

ASK: SURFACE CASING CEMENTING		CEMENTER/SUPERVISOR: monte bedeaux		PAGE 1	OF 3
NAME: Anschutz 4-62-15 0560BH2		RIG # Major 43	LOCATION: 87-56		DATE: 12-17-14
ATOR: Noble		CONSULTANT: Casey			INVOICE # 55046
EQUIRED: <input type="checkbox"/> Hard Hat <input type="checkbox"/> FR Coveralls <input type="checkbox"/> Safety Glasses <input type="checkbox"/> Reflective Vest <input type="checkbox"/> Steel Toe Boots <input type="checkbox"/> Impact Gloves <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					
JOB STEPS		POTENTIAL HAZARDS		RECOMMENDED ACTION OR PROCEDURE	
iew JSA		Misunderstanding		Clarify job and associated hazards and safety concerns	
iduct 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	
inect 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	Test to:	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:	mb
	PSI- 1000			PSI- 2000	
	Maximum pressure allowed for job:			Max. pump pressure:	
	PSI- 2000			PSI- 2000	
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 hydraulicizing 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
pump 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	mb
Pressure test casing required)	Test to: PSI- FOR:MIN-	Serious Injury from high pressure line or catastrophic equipment failure	-Ensure rig floor remains clear and non-essential personnel stay clear from the buffer area	mb
lash 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
General 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.				mb
OTHER HAZARDS SPECIFIC TO LOCATION OR ENVIRONMENT NOT ADDRESSED ABOVE:				mb
NATED EMERGENCY MUSTER AREA: rd COUNT--			NEAREST EMERGENCY MEDICAL FACILITY (OTHER THAN 911): greeley	



Signature and Company	
Monte Beckley	Bison
John M. Beckley	Major
Henry Beckley	Major
James Beckley	Major
Steve Beckley	B 25
De Beckley	BOS
Will Beckley	Bison
James Beckley	Bison



BISON
Oil Well Cementing Inc.

PRE TRIP CEMENT CALL OUT SHEET

INVOICE # 55046 DATE/TIME 12-16-14
 WELL NAME Anschutz Co. 4-62-15 OSBOBT12 OPERATOR moody
 CUSTOMER B.11 Barrett
 LOCATION/RIG major 43
 DELIVERED TO 56-87

PRE CHECK CALL OUT

CHECK ITEMS	Supervisor Initials	Other Initials	BULK TRUCK DRIVER	Supervisor Initials	Other Initials
DRY SAMPLE #	MB		VACUUM BREAKER PORT CLEANED & INSPECTED & SPARE ON TRUCK	MB	
REQUIRED CEMENT CONNECTIONS	MB		WATER JET AT MIX HEAD REMOVED, INSPECTED & CLEANED	MB	
TYPE OF CEMENT	BFWTII		CEMENTING HEAD INSPECTED & CLEANED	MB	
# OF LBS/SACKS	full		MIX TUB INSPECTED & CLEANED	MB	
FLOAT EQUIPMENT	at Rig		CENTRIFUGALS GREASED, TIGHTENED & INSPECTED	MB	
BEGINNING FUEL	full		DECK MOTORS STARTED	MB	
STARTING MILEAGE	70717		VERIFY ALL AIR VALVES ARE FUNCTIONAL	MB	
PERSONAL PROTECTIVE EQUIPMENT	MB		VERIFY ALL VALVES ARE FUNCTIONAL ON BULK TRUCK	MB	
DRIVING DIRECTIONS	MB		VERIFY BERMS ARE ON BULK TRUCK	MB	
DRIVERS LOGS UPDATED PRIOR TO LEAVING YARD	MB		VERIFY SPARE CEMENT HEAD IS ON BULK TRUCK		
TRUCK PRE TRIP COMPLETED	MB		VERIFY 1" TUBING IS ON BULK TRUCK AND ADEQUATELY SECURED	MB	
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	MB	
VERIFY CORRECT POP OFF PIN IN PLACE	MB		VERIFY PARKING METER GAUGE IS ON TRUCK	MB	
VERIFY PRESSURE TRANSDUCERS ARE CLEAN OF CEMENT	MB		DRAIN AIR TANKS	MB	
CLEAN TRUCKS	MB				
TIGHTEN PACKING NUTS ON PLUNGERS	MB				

CEMENT HEAD CHECK LIST

	Supervisor Initials	Other Initials
THREADS	MB	
VALVES	MB	
PIN	MB	

COMMENTS: