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Denver, Colorado 80202  
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E-mail: [bisonoil1@qwestoffice.net](mailto:bisonoil1@qwestoffice.net)

## SERVICE INVOICE

№ 12830

WELL NO. AND FARM State of Colorado North 17-24CH	COUNTY Adams	STATE Colo	DATE 2-10-14	
CHARGE TO Bill Barrett	WELL LOCATION SEC. 36 TWP. 1N RANGE 66W		CONTRACTOR Major 43	
		DELIVERED TO Piccadilly + 128th AVE	LOCATION 1 Shop	CODE
		SHIPPED VIA 3106/3205	LOCATION 2 Piccadilly + 128th	CODE
		TYPE AND PURPOSE OF JOB SURFACE PIPE	LOCATION 3 Shop	CODE
			WELL TYPE Gas/Oil	CODE

[illegible]

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 1½% which is equal to an ANNUAL PERCENTAGE RATE OF 18%.

## TAX REFERENCES

Thanks Calvin

**"TAXES WILL BE ADDED AT CORPORATE OFFICE"**

**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 Tail & Lead

Date: 2/10/2014  
Invoice # 12830  
API# 05-001-09786  
Foreman: Calvin Reimers

Customer: Bill Barrett  
Well Name: State of Colorado North 17-24CH

County: Adams  
State: Colorado  
Sec: 36  
Twp: 1N  
Range: 66W

Consultant: Pete  
Rig Name & Number: Major 43  
Distance To Location: 38 Miles  
Units On Location: 3106/3205  
Time Requested: 400pm  
Time Arrived On Location: 430pm  
Time Left Location: 8:45pm

## WELL DATA

Casing Size (in) : 9.625  
Casing Weight (lb) : 36  
Casing Depth (ft) : 1,477  
Total Depth (ft) : 1490  
Open Hole Diameter (in) : 13.50  
Conductor Length (ft) :  
Conductor ID :  
Shoe Joint Length (ft) : 47  
Landing Joint (ft) : 8

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

One or the other, cannot have quantity in both

Max Rate: 7  
Max Pressure: 2500

## Cement Data

### Lead

Cement Name:  
Cement Density (lb/gal) : 13.1  
Cement Yield (cuft) : 1.69  
Gallons Per Sack : 8.64  
% Excess : 25%

### Tail

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

Fluid Ahead (bbls) : 111.2  
H2O Wash Up (bbls) : 20.0

### Spacer Ahead Makeup

30bbls H2O+KCL+Dye in 2nd 10bbls

Casing ID

8.921

Casing Grade

J-55 only used

## Lead Calculated Results

HOC of Lead : 1250.46 ft  
Casing Depth - HOC Tail  
Volume of Lead Cement : 611.14 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 : 611.14 cuft  
(cuft of Lead Cement) + (Cuft of Conductor)  
bbls of Lead Cement : 136.05 bbls  
(Total cuft of Lead Cement) X (.1781) X (1+%Lead Excess)  
Sacks of Lead Cement : 452.03 sk  
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)  
bbls of Lead Mix Water : 92.99 bbls  
(Sacks Needed) X (Gallons Per Sack) ÷ 42  
Displacement : 111.18 bbls  
(Casing ID Squared) X (.0009714) X (Casing Depth) + (Landing Joint) - (Shoe Length)  
Total Water Needed: 224.16 bbls

## Tail Calculated Results

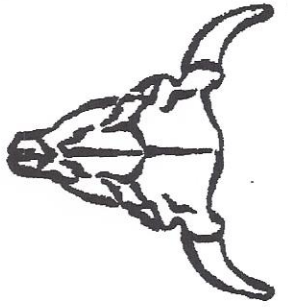
Tail Cement Volume In Ann : 127.00 cuft  
(HOC Tail) X (OH Ann)  
Total Volume of Tail Cement : 106.75 Cuft  
(HOC Tail X OH Ann) - (Shoe Length X Shoe Joint Ann)  
bbls of Tail Cement : 22.62 bbls  
(HOC of Tail) X (OH Ann) + (Cement Yield) X (Shoe Joint Ann) X (.1781) X (% Excess)  
HOC Tail : 218.43 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 : 1005.02 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.





Customer  
Well Name

Bill Barrett
State of Colorado North 17-24CH

Date	2/10/2014
INVOICE #	12830
LOCATION	Adams
FOREMAN	Calvin Reimers

**Treatment Report Page 2**

### **DESCRIPTION OF JOB EVENTS**

[illegible]

### Notes:

14.02

%

100

552

20

X

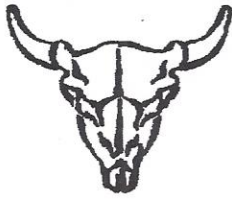
Work Preformed

Tit

<u>Title</u>	<u>Author</u>	<u>Year</u>	<u>Source</u>
1. The Role of the Teacher in the 21st Century	John Hattie	2009	Visible Learning: A Guide to Student Achievement
2. The Science of Learning: How the Brain Builds Knowledge	Barak A. Shiffrin	2001	Psychological Review
3. The Power of Habit: Why We Do What We Do and How We Can Stop Bad Habits and Create Good Ones	Charles Duhigg	2012	The New York Times Bestseller
4. The Growth Mindset: The Power of Believing That You Can Improve	Carol Dweck	2006	Psychology Today
5. The Art of Learning: A Journey into the Changing World of Education and the Brain	Benjamin S. Bloom	2008	Harvard Educational Review

X

Date \_\_\_\_\_



# Bison Oil Well Cementing Tail & Lead

## Cementing Customer Satisfaction Survey

Service Date	2/10/2014
Well Name	State of Colorado North 17-24CH
County	Adams
State	Colorado
SEC	36
TWP	1N
RNG	66W

Invoice Number	12830
API #	05-001-09786
Job Type	
Company Name	Bill Barrett

Customer Representative **Pete**

Supervisor Name **Calvin Reimers**

Employee Name (Including Supervisor)
Calvin Reimers
Pablo S
Tim V
Keith P
Chris O

Exposure Hours (Per Employee)
4.5
4.5
4.5
4.5
4.5
22.5

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
4	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 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

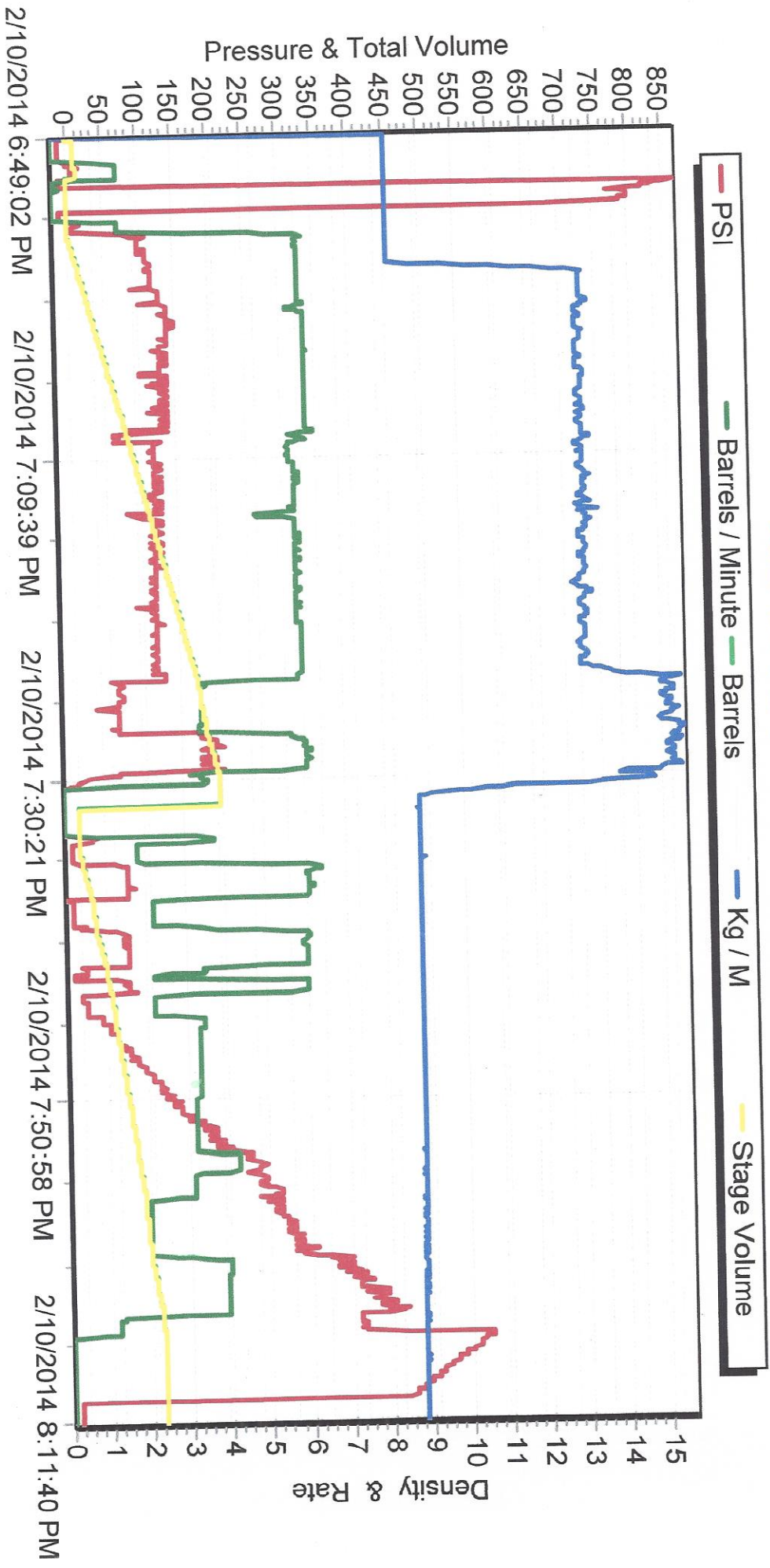
Customer Representative's Signature

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: Calvin Reimers		PAGE 1	OF 3
NAME: State of Colorado North 17-24CH		RIG # Major 43	LOCATION: Piccadilly+128 <sup>th</sup> Ave	DATE: 2-10-14	
ATOR: Bill Barrett		CONSULTANT: Pete		INVOICE # 12830	
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		ADDITIONAL PPE (based on job specific hazards) <input type="checkbox"/> FR Coveralls <input checked="" 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			
JOB STEPS		POTENTIAL HAZARDS		RECOMMENDED ACTION OR PROCEDURE	
Review JSA	Misunderstanding	Clarify job and associated hazards and safety concerns		CR	
Induct 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		CR	
Move 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 -Cementor 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		CR	
Connect 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		CR	
Inject Cement head/wage/pin, chickens and hoses.	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>		CR	
Pressure test lines	Test to: PSI- 500 Maximum pressure allowed for job: PSI- 2500	Equipment failing under high pressures		Pressure relief valve set to: PSI- 2500 Max. pump pressure: PSI- 7500	CR
Open Spacer (dye marker)/Mix and Pump Cement	Serious injury from high pressure line failure or catastrophic equipment failure. Casing hydraulizing 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		CR	



# BISON OILWELL CEMENTING JOB SAFETY ANALYSIS WORKSHEET



p plug		Slips, trips, falls. Miscommunication between pump operator and cementer, pressure against a closed stop	<ul style="list-style-type: none"> <li>-Utilize 3 points of contact while descending/climbing ladder and stairs</li> <li>-Have visual contact between cementer and pump operator before pump is engaged</li> </ul>	CR
placement		Unexpected pressure associated with resuming of pumping, casing hydraulics from hole, serious injury from high pressure line failure or catastrophic equipment failure.	<ul style="list-style-type: none"> <li>-Ensure rig floor remains clear and non-essential personnel stay clear from buffer area</li> <li>-Pump operator monitors pump pressure constantly</li> <li>-Utilize proper PPE</li> </ul>	CR
pump plug-Test float and release pressure		Pressure jumps before expected (calculated) displacement. Pressure jumps rapidly and higher than expected.	<ul style="list-style-type: none"> <li>-Pump operator slows rate to 2 BPM when 5 bbls from calculated displacement and down to 1 bpm within 2 bbls of calculated displacement</li> <li>-Pump operator monitors pressure constantly</li> <li>-Pressure relief valve installed on pump</li> <li>-Ensure rig floor remains clear and non-essential personnel stay clear from the buffer area</li> </ul>	CR
pressure test casing (required)	Test to: PSI- N/A FOR: MIN-	Serious injury from high pressure line or catastrophic equipment failure	<ul style="list-style-type: none"> <li>-Ensure rig floor remains clear and non-essential personnel stay clear from the buffer area</li> </ul>	CR
lash up / rig down		Splashing cement slurry, heavy lifting, pinch points, unsecured hoses	<ul style="list-style-type: none"> <li>-Utilize stakes or portable tank manifold to secure hoses</li> <li>-Use proper lifting technique (2 man lift, lift with legs, plan your route)</li> </ul>	CR
part location		Other traffic and personnel and location, overhead lines	<ul style="list-style-type: none"> <li>-All Bison crew member walk the planned exit route to access possible obstacles and hazards</li> <li>-Utilize spotters while backing</li> </ul>	CR
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:				
NATED EMERGENCY MUSTER AREA: Lease Road to Rig		NEAREST EMERGENCY MEDICAL FACILITY (OTHER THAN 911): Brighton		
COUNT--				



Signature and Company	
Calvin D. D. Bison	
John D. D. Bison	
Chris Ole Bison	
Walt D. D. Bison	
John D. D. Bison	
Frank D. D. Bison	
Maribelen Major	
Donna Major	
John D. D. Major	
Colt McCawley Major	





**BISON**  
Oil Well Cementing Inc.

## PRE TRIP CEMENT CALL OUT SHEET

INVOICE # 12830

DATE/TIME 2-10-14/12:00pm

WELL NAME State of Colorado North 17-24 CH

OPERATOR PETE

CUSTOMER BILL BARRETT

LOCATION/RIG MAJOR 43

DELIVERED TO POCAHONTAS + 128th AVE

### PRE CHECK CALL OUT

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

### CEMENT HEAD CHECK LIST

	Supervisor Initials	Other Initials
THREADS	CR	
VALVES	CR	
PIN	CR	

COMMENTS: