Department of Workforce Services
Office of Standards and Compliance
Wyoming OSHA

Presented by:
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Administrator
Wyoming OSHA Division

Well Servicing Fatality
MAY 15TH 2013

Don Carl Jordan

1981 Hopper Gaxxta, Manufactured in Bakersfield, California. Third owner. Described as designed for shallow to medium depth well.

Personnel Involved

Servicing Rig - Contract employer providing well service, primarily to same well operator.

Crew:
Foreman
Derrick hand
Deck hand
Victim - New employee working as utility employee (“worm”).

Witness

Pump truck driver

Owner - A family owned and operated business, based in Worland, Wyoming.

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ACCIDENT SUMMARY

- Four man crew, lead by company owners son/Operator.
- Derrick Man decides to switch with deck hand to trip tube in.
- WORM/Victim - New fourth hand, no new employee orientation.
- Victim/OJT only. Anxious to prove himself.

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ACCIDENT SUMMARY

- Hopper service rig does not have a service or operators manual.

- Tongs are known as “Foster” tongs, slip over tubing, not around.

- Well is approximately 8500 feet, Crew normally does shallow coal bed methane (1200-1500 feet).

- Well still has a cellar basin and uses a non conventional pump system, not the normal “Horse head design”.

- Operator on site without “Tool pusher/owner/Dad”. Owner had recent medical problems. Operator working without benefit of Owner.

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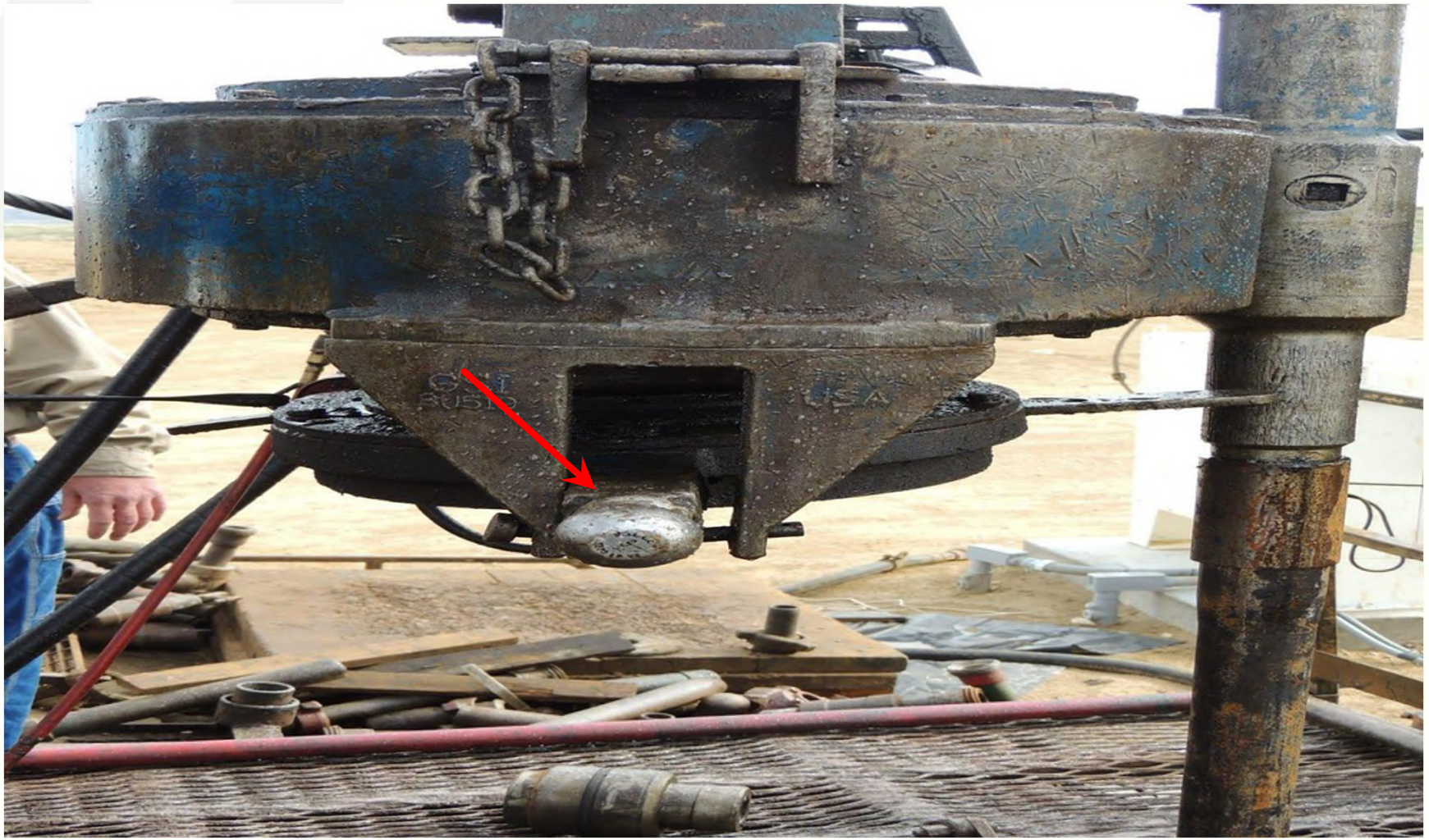
Foster type, slip over tong system, with modified trailer hitch ball welded on tong end (red arrow), used to flip tongs.



Foster style tong with bent handle.

ACCIDENT SUMMARY

- Crew trips in well in about 2-3 hours, stopping for hot brakes several times.

- Crew stops to check Hydro Tarter as it was “Loud”.

- Operator summons pump truck, driving by, to pump out cistern while waiting.

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ACCIDENT SUMMARY

- Victim assists truck operator, crawling under the low position of deck to suction, as operator runs blocks.

- Operator begins running blocks up and down to cool brakes after trip in.

- Crew realizes they still have tube to run, however deck hand has removed the Foster tongs.

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ACCIDENT SUMMARY

- Deck hand, a smaller man, cannot get tongs back on tube.

- Operator sets brake with blocks about 30 feet above deck. Operator leaves hot breaks unattended.

- Victim is under deck, on stomach, suctioning cistern.

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ACCIDENT SUMMARY

- Truck driver hears high pitch whine, yells at crew.

- Blocks fall, striking operator and deck hand and subsequently deflects off of tongs, pushing island out.

- Falling blocks land on victim without benefit of adequate warning to egress from unsecured suspended load.

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Back of pump truck on site to suction fluid from well cellar. Driver was positioned here when blocks fell. Driver yelled as he heard load whine, then dove under truck.

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Deceased position **(red arrow). Brake handle location (yellow arrow).**

Traveling blocks suspended by tugger winch.

Operator station, brake handle (red arrow), linkage, lock mechanism (yellow arrow).

Brake linkage lock assembly with spring below operators station.

Draw works locking mechanism below operators deck.

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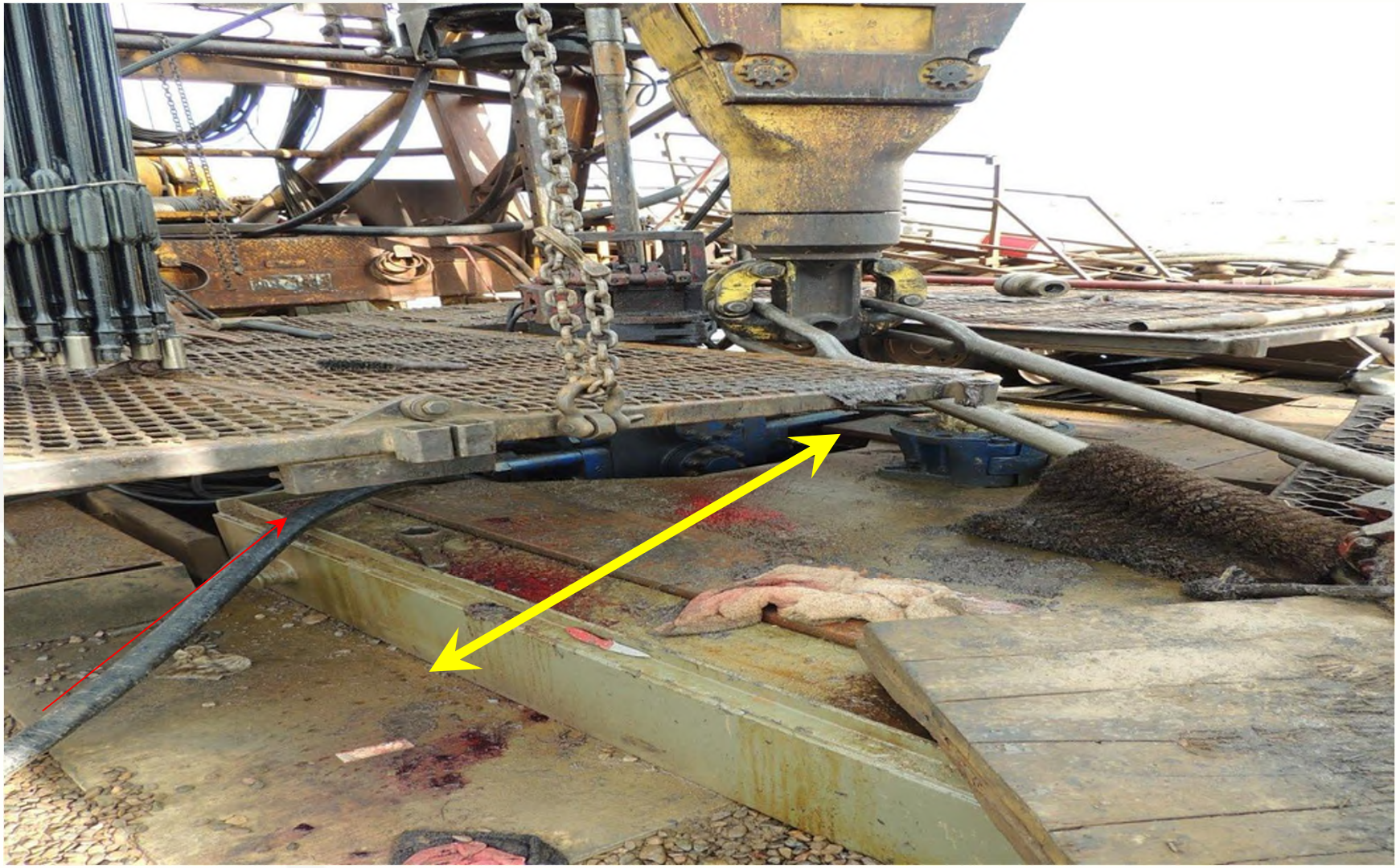
Chain attached to blocks (red arrow) with tongs (yellow arrow) in background.

Suction hose to left of victim location at time of impact.



Arrow (yellow) indicates island board channel & island, pushed out by bails. Arrow (red) indicates deceased approximate position at time of impact.

Mechanical Investigation.

- Brake lever, linkage found to be in serviceable condition.
- Brake bands were not inspected on a routine basis due to draw work guards.
- Service rig, was not maintained in accordance with manufacturers guide as the company did not have such manuals.
- Brake band pads were within factory tolerances however had many missing retainer bolts.
- Island floor deck insert was not secured in place.

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WY-OSHA observes draw works & brake system investigation.

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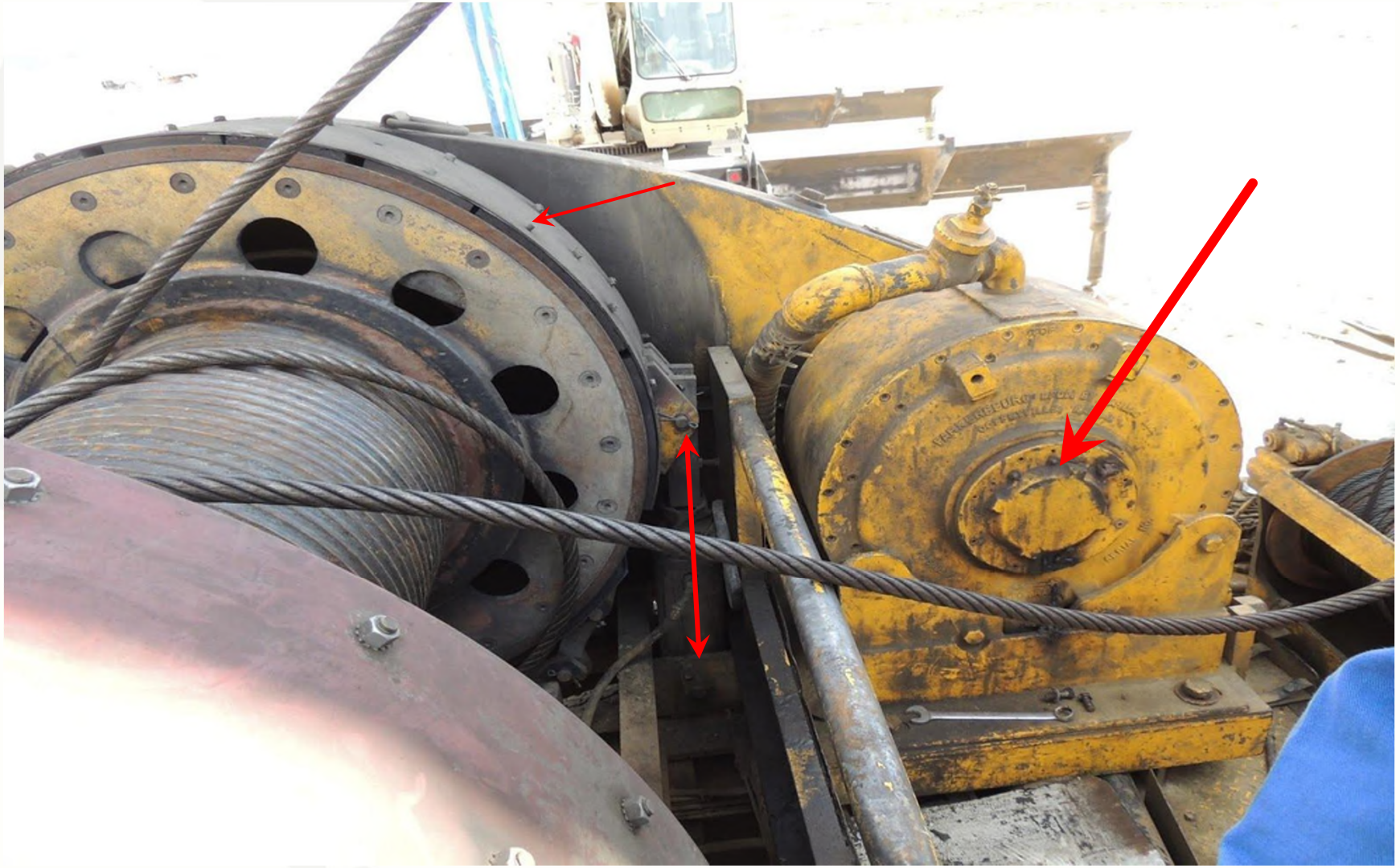
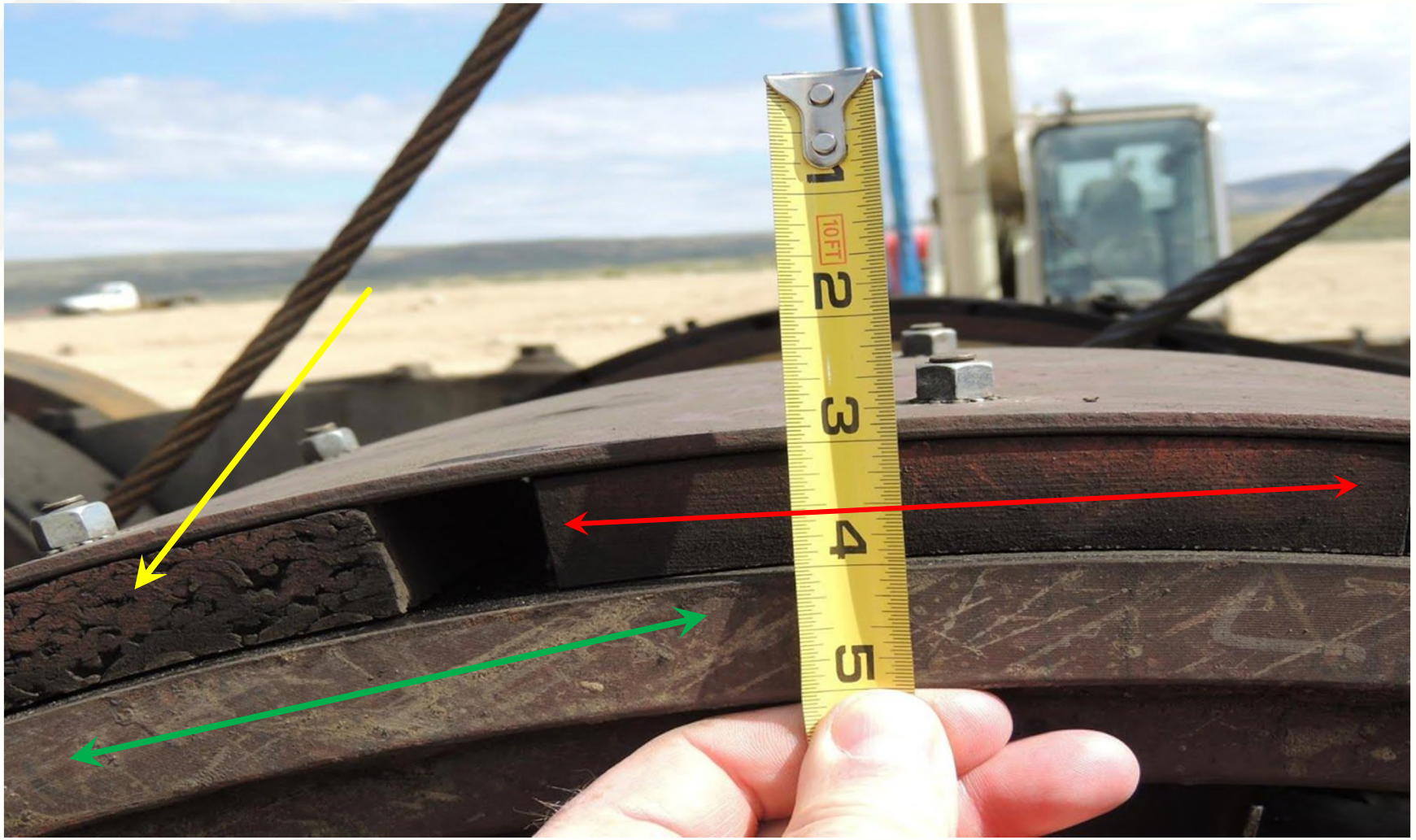
Draw works, brake bands with missing nut visible (over 17 missing). Front hydro tarter.



Old brake bands, 1” Plus. Note hard pads (RED) and soft pads (YELLOW). Drum (GREEN).



Draw works, operators side with brake band off.

Subsequent Supporting Investigation

- In an effort to establish root cause analysis, CSHO interviewed widow to obtain former employee list.

- Former employee interviews indicate a similar incident had occurred in early 2013 on the same well, with primarily the same crew and operator.

- Service rig owner was on site during this incident.

- CSHO established through extensive interviews of former employees a pattern of inadequate safety, training and preparation of employees and equipment.

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Subsequent supporting investigation

- CSHO re-interviewed crew and owner. Employees did acknowledge the blocks had dropped previously.

- Operator acknowledged incident did occur.

- CSHO established Winchester Well Service failed to take adequate precautions to prevent hazards which they knew, or should have known, were pre-existing.

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ROOT CAUSE

- Operator left his post at the operator's station leaving brake lever unattended, with prior knowledge that the brake system would "creep" if under load as hot brakes cooled.

- Operator broke routine allowing inexperienced victim under suspended load while still tripping tubing in.

- Operator and Owner failed to conduct near miss investigation and provide corrective action on equipment after near miss in early 2013.

- **Incident was predictable and preventable.**

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