Oil Field Safety

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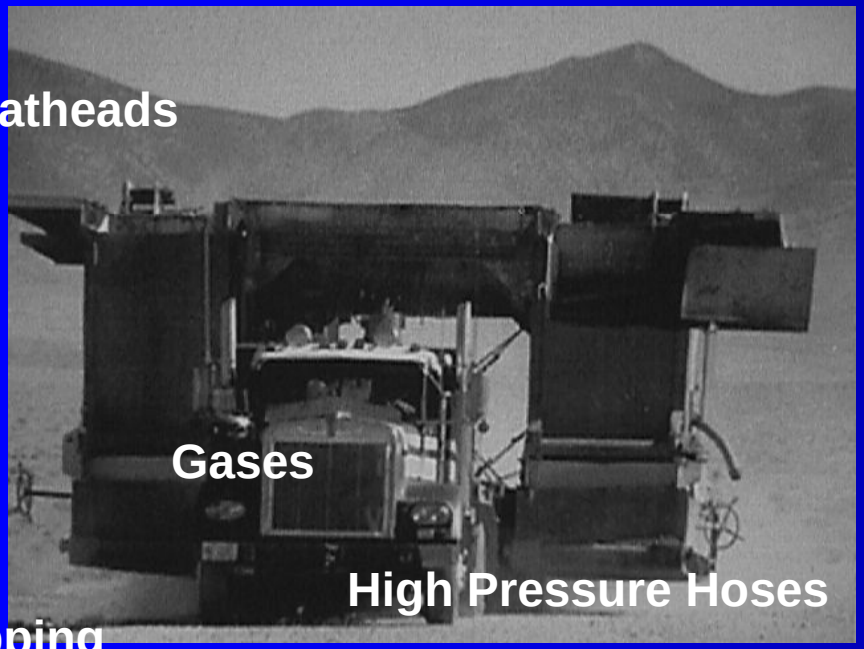
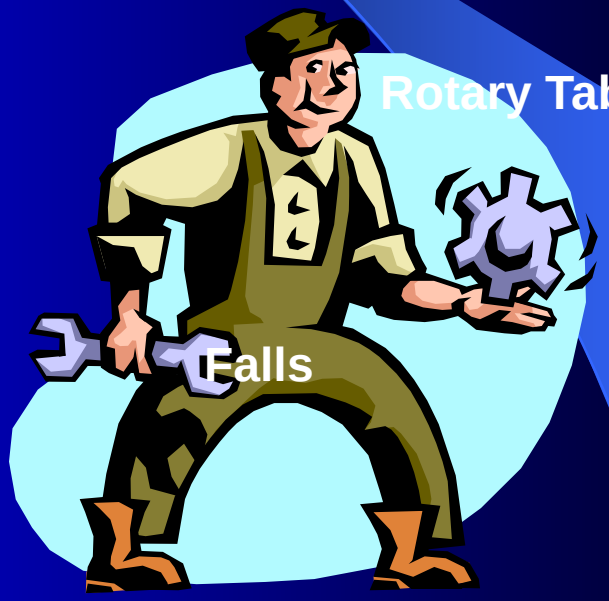
A Sampling of OSHA Violations & Standards Cited

1. **Employee riding the traveling blocks – 5(a)(1)**
2. **No geronimo line from monkey board – 5 (a)(1)**
3. **Floor holes in rig floor/crown walk around-1910.23(a)**
4. **Safety goggles not clean and in good repair-1910.133**
5. **Break Out Tongs – wire clips had U-bolt on live end of line. 5(a)(1)**
6. **Kelly hose not secured with chains 5(a)(1)**
7. **V-Door opening not guarded-1910.23**

UNIQUE HAZARDS TO THE OIL AND GAS INDUSTRY

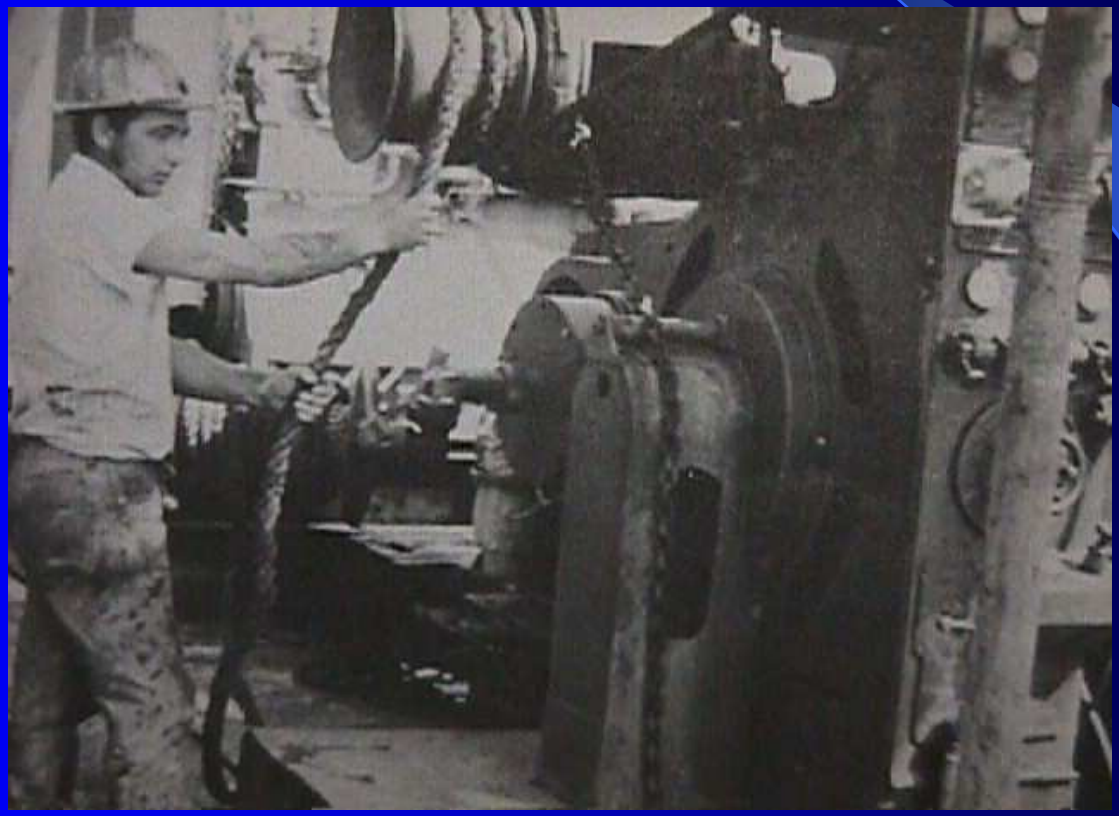
Poor Machine Guarding





Tripping

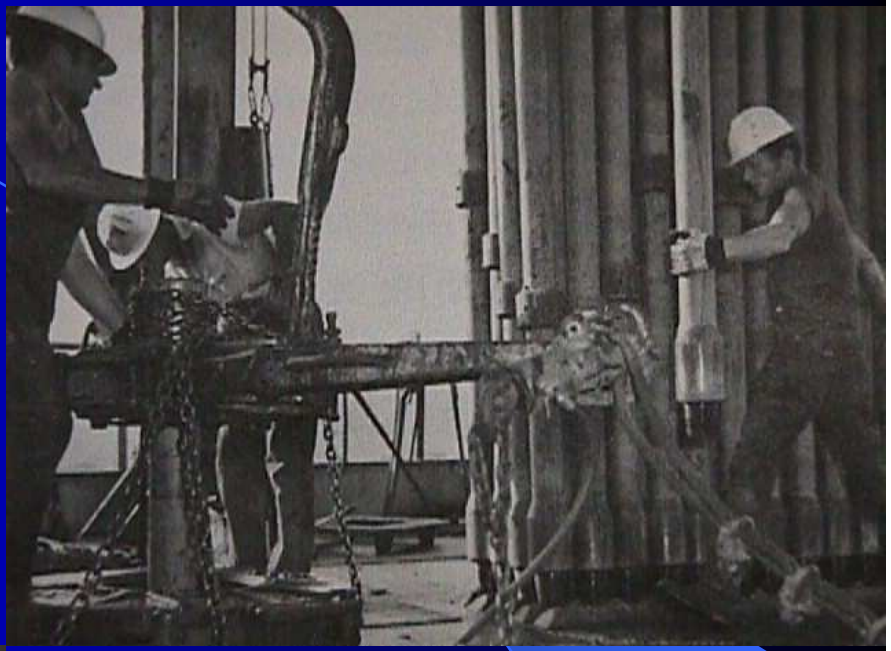
Cathead = Pinch Point



TONGS – SPINNING CHAIN

Cut off fingers, thumbs

Smashed fingers, hands etc



TEAM WORK !!

Be a Team,

Work Together

Watch out for each other

Hazard Identification: *(examples)*

Danger of striking against, being struck by, or making contact with an object?

Are rotating equipment or other projections exposed

Nip points, such as a belt, sheave, chain, gear?

Reciprocating movement to be caught on or between ?

Hand/arm contact with moving parts at the point of operation?

Material kick back or ejection from the point of operation?

Machine controls safeguarded ?

Do machines vibrate, move, or walk while in operation?

Parts to become loose or lodged during operation.

Guards positioned or adjusted ?

Bypass guard or lockout device?

Machines/equipment receive regular maintenance?

Machines operations sufficient for safe work?

Room for maintenance operations?

Materials being handled adequately for work?

Are tools, jigs, work fixtures stored not to interfere with work?

Work area well illuminated.

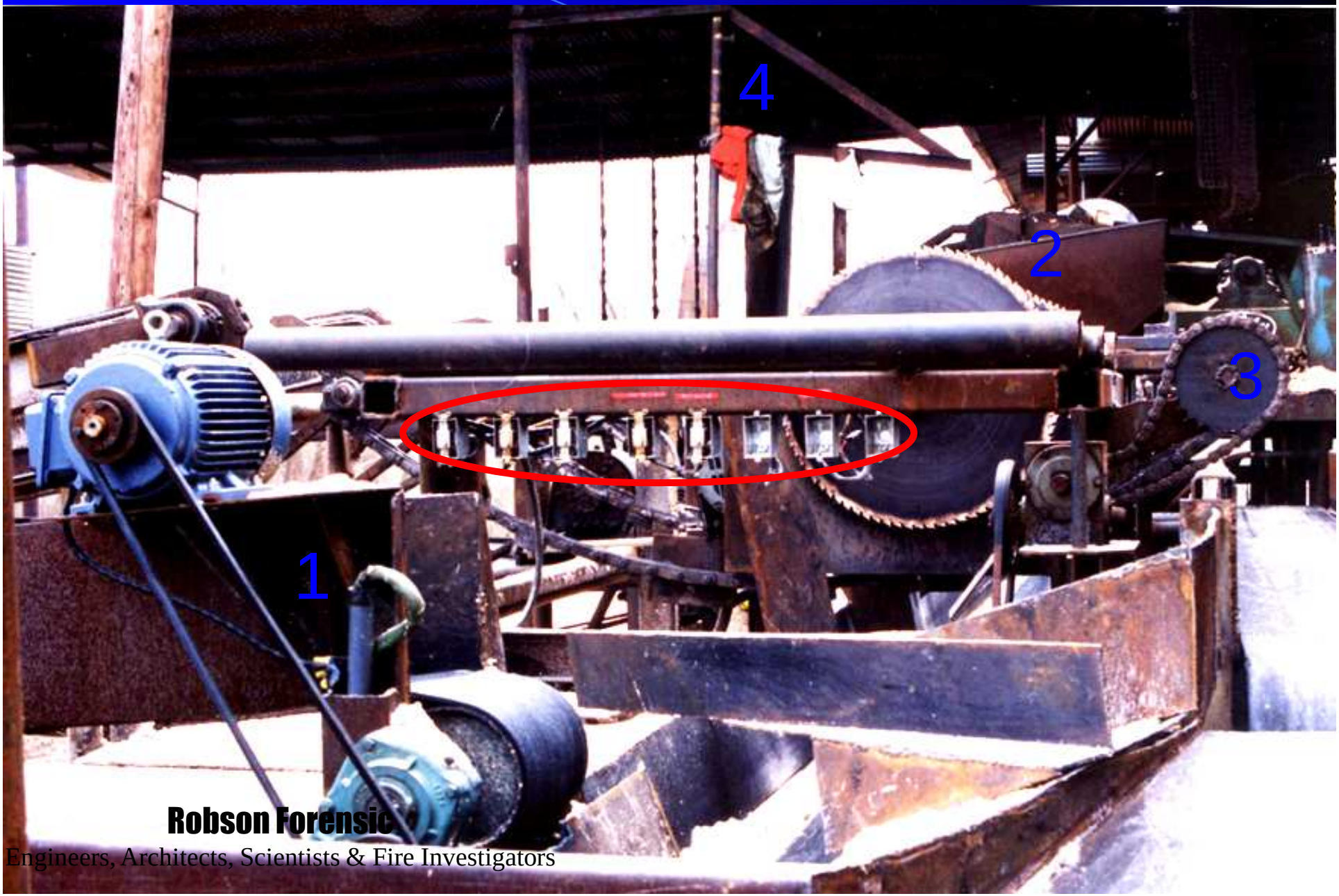
Ventilation adequate.

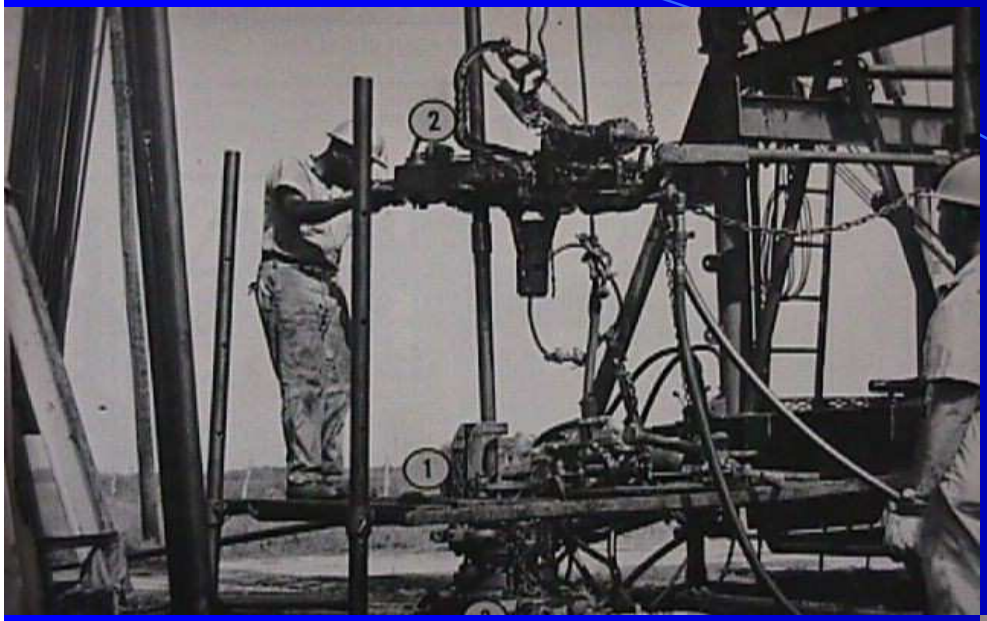
PPE used ?

Housekeeping satisfactory?

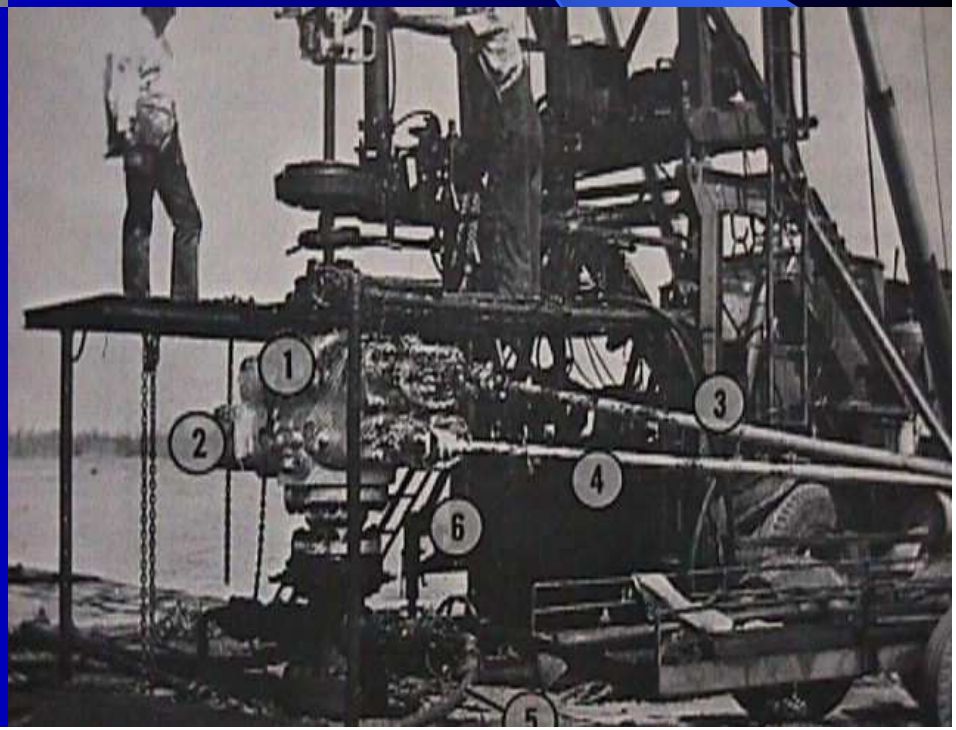
Energy sources controlled for maintenance?

Can you find the hazard(s)?





What problems do you see with these pictures ?



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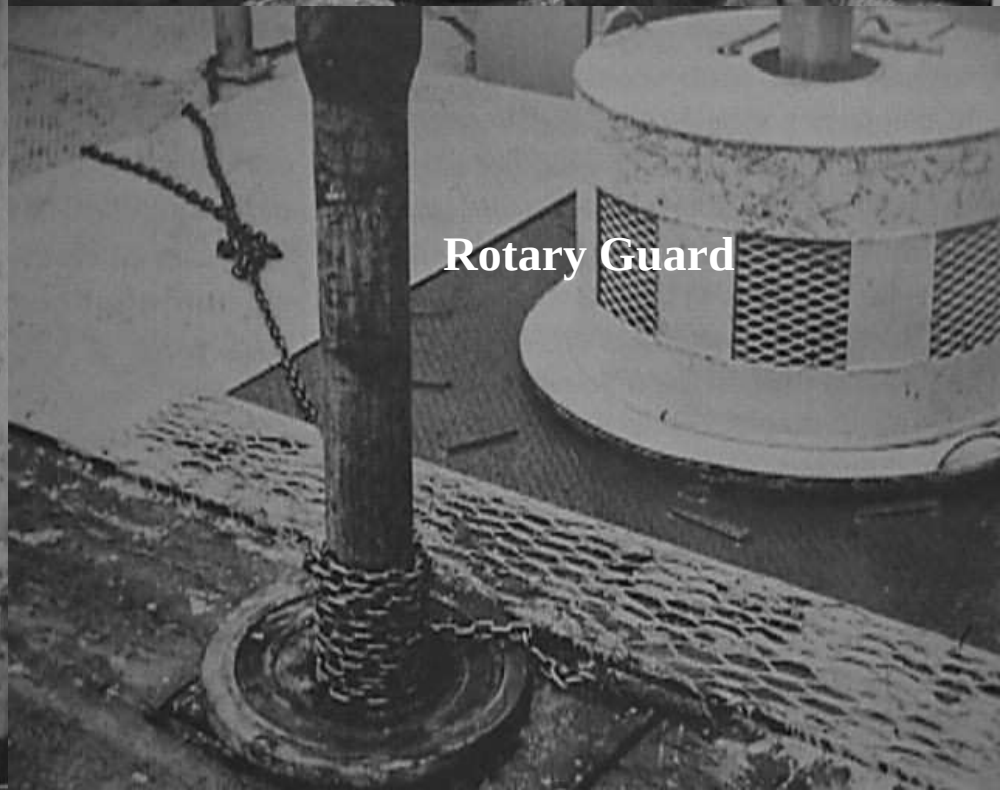

Rotary Guard

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Module 3

Struck-By

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Objectives

- After this module you should be able to
  - identify the most common struck-by hazards
  - take the necessary steps to avoid those hazards

What is a Struck-By?

- A struck-by is an accident in which any part of the body is struck by an object that is in motion, whether moving, swinging, flying, falling, etc.

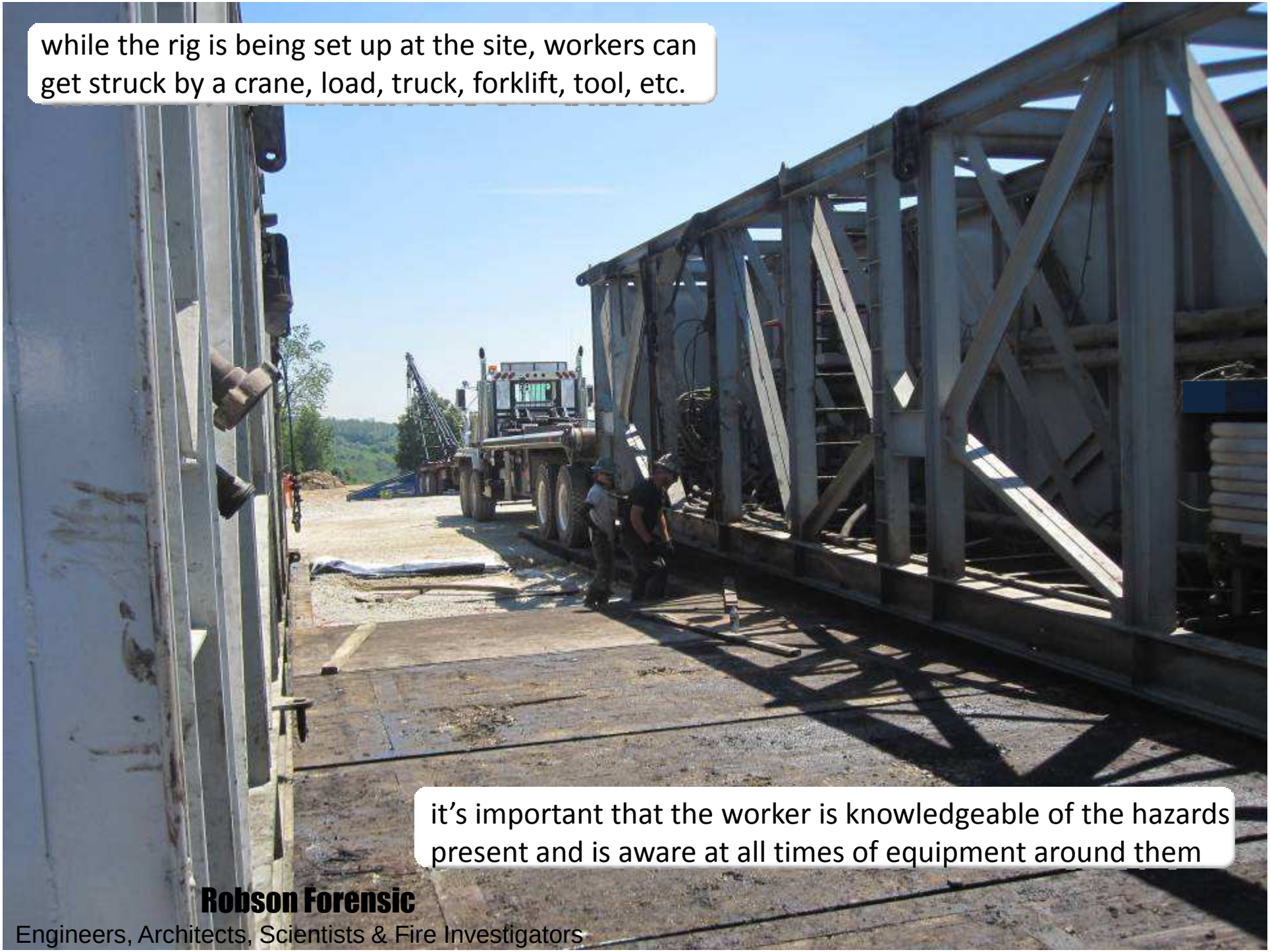
Struck-By Hazards

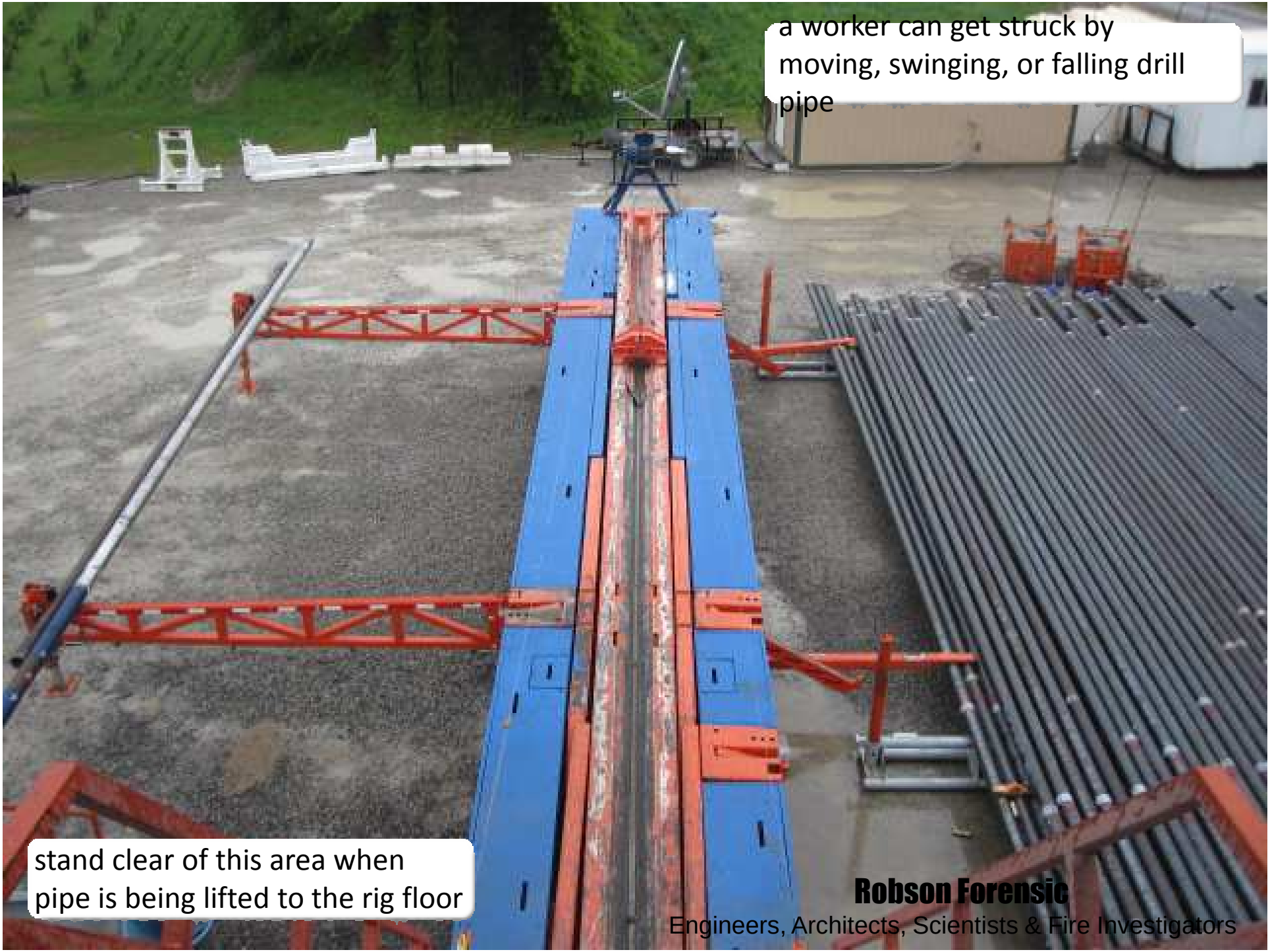
- Site clearing
- Moving pipe and casing
- Using tongs and spinning chain
- Falling overhead objects
- Working around mobile equipment
- Loads being moved
- Improper use of hand tools
- Whipping pressurized lines
- Using elevators
- Using turnbuckles and load strapping

Tree Felling Struck-By's

- Figure out the best felling direction
- Plan, clear, and use an escape path
- Figure out the proper hinge size
- Use proper controlled felling techniques
- Maintain safe separation distances from other workers or machines
- Wear required PPE

Tree felling requires special training!


while the rig is being set up at the site, workers can get struck by a crane, load, truck, forklift, tool, etc.
it's important that the worker is knowledgeable of the hazards present and is aware at all times of equipment around them


a worker can get struck by moving, swinging, or falling drill pipe
stand clear of this area when pipe is being lifted to the rig floor
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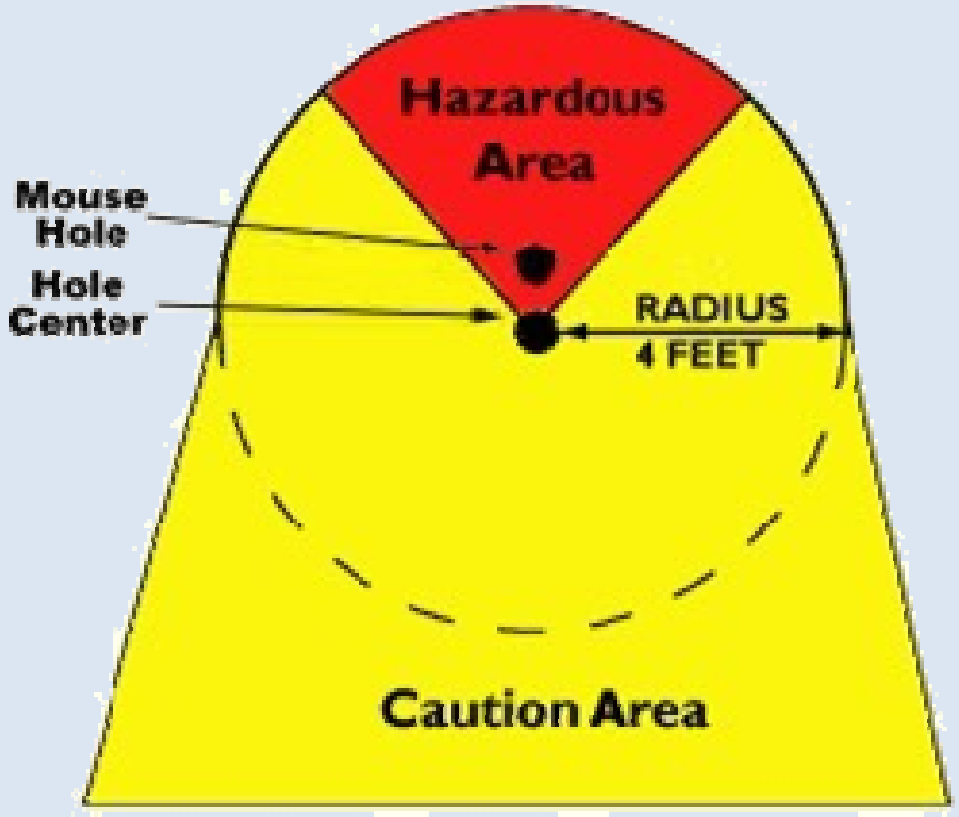
while tripping in/out, a worker can get struck by tongs or spinning chain
always determine and stand clear of the swing radius of these items when possible [see next slide]

Drilling Rig Floor
Hazardous Area Layout
Tong Swing Radius




if connections break free, high-pressure lines and hoses can quickly become struck-by hazards
ensure that lines and hoses are properly secured, connections are not worn, and whip-checks are installed


a small crack or other damage to a hand tool can cause a struck-by incident
Corrective Actions: inspect tools before use; take defective tools out of service
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a tool stuck through the middle of a turnbuckle to tighten it can kick back and strike you
use a crescent wrench at one end of the turnbuckle to tighten it
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this load could shift or fall suddenly striking or falling on the worker
Corrective Action: a tag line would be ideal here; take the time to set one up before the lift
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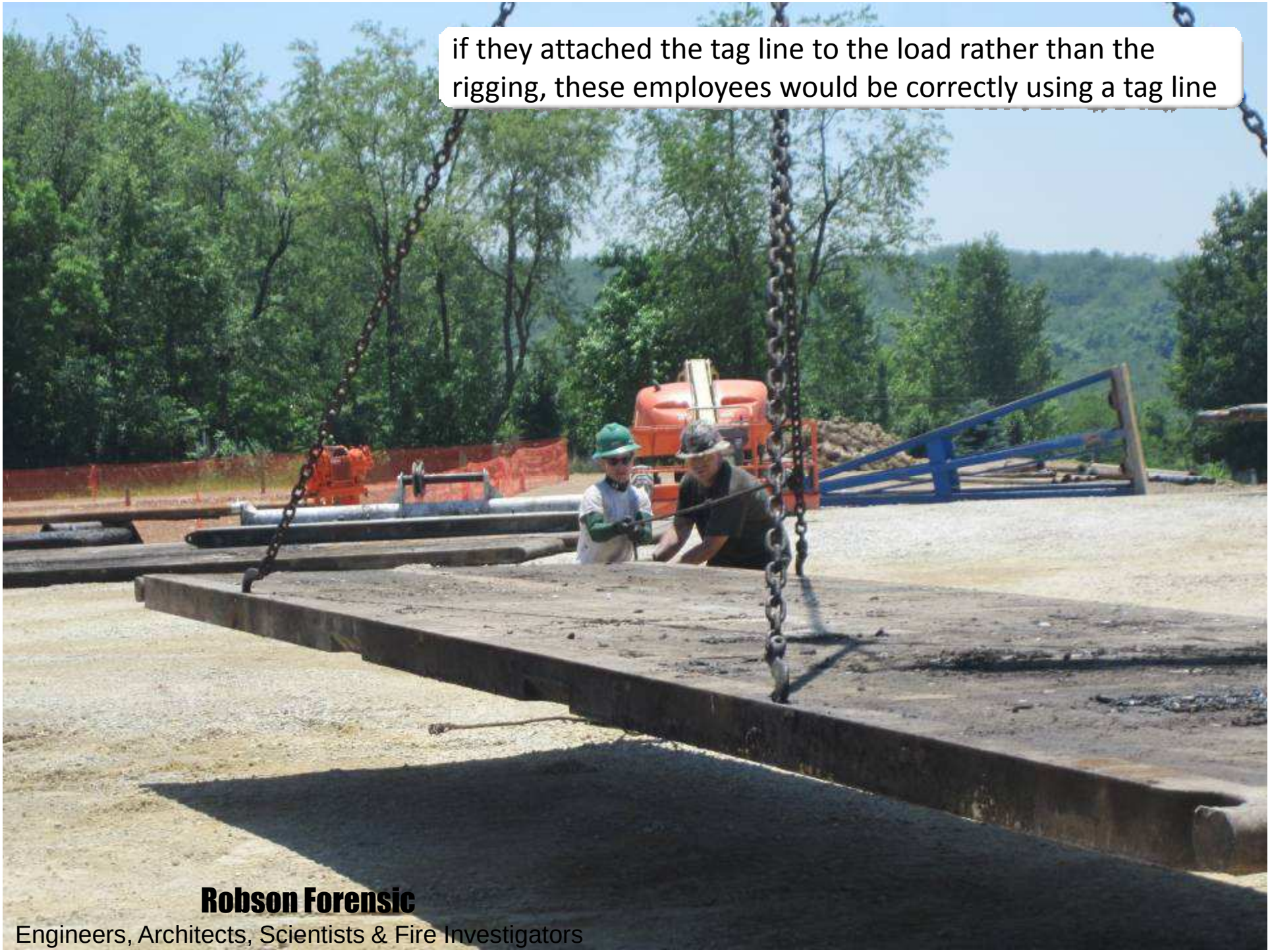
this is another example of
where a tag line should be used
CL1610 PA
CL1114


if they attached the tag line to the load rather than the rigging, these employees would be correctly using a tag line


while working at heights, if you loose your grip on a tool, it could fall onto a worker or equipment
use a device like this or simply use a tail rope to keep tools from falling
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Your Employer Is Responsible For

- Providing appropriate PPE
- Identifying and correcting any struck-by hazards
- Responding to and correcting hazards pointed out by you, the worker

You Are Responsible For

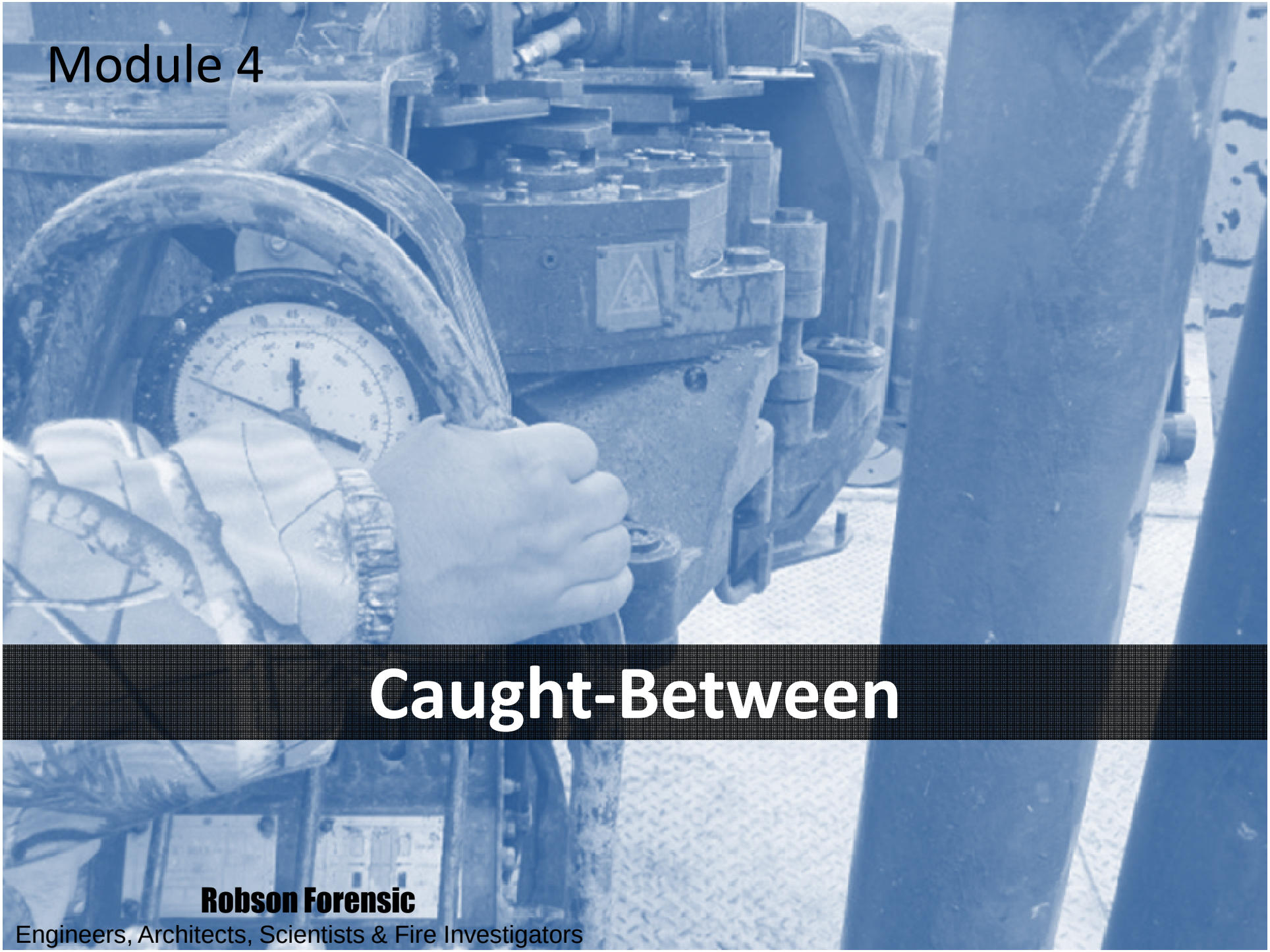
- Wearing the appropriate PPE
- Operating and working around mobile equipment carefully, keeping in mind that such equipment has blind spots
- Correcting the hazards you are able to correct
- Reporting to your supervisor the hazards you are unable to correct

Case Study

- The crown sheave shaft came out of one of its mounts releasing the sheaves, the drilling line, and 165,000-pound drilling string, and the blocks fell to the drilling floor.

Always Remember

- Secure or remove any loose equipment before setting up or breaking down a rig
- Be aware of and do not enter the swing radius of tongs and/or spinning chain
- Be cautious around mobile equipment
- Take damaged tools out of service
- Report any struck-by hazards to your supervisor immediately



Module 4

Caught-Between

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Objectives

- After this module you should be able to
  - identify the most common caught-between hazards
  - take the necessary steps to avoid those hazards

What is a Caught-Between?

- A caught-between is an accident in which the whole body or part of the body is pinched or crushed between objects

Caught-Between Hazards

- Moving pipe and casing
- Using tongs and spinning chain
- Working around mobile equipment
- Unguarded moving parts
- Working under suspended loads
- Improper use of hand tools
- Wearing loose clothing
- Using elevators
- Using slips


crushing hazards can exist when setting up the rig
always stand clear; keep hands and other body parts away


while tripping in/out, a worker can get caught between tongs or spinning chain


worker’s fingers or hands can get smashed when setting the slips
always keep hands on the handles
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workers’ hands or thumbs can get caught between the elevator and the stump
always place hands on designated handles
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observe all warning signs and use caution around pinch point areas
DANGE
PINCH
POINT


mechanical equipment has moving parts that can become pinch points
it is important that all the guards are in place to reduce pinch points
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belt and pulleys of machines are common pinch points
ensure that the guarding is installed; do not place hands in the area while machine is operating

this cable spool is a good example of a device that has rotating parts that are caught-between hazards

do not put your hands onto or into anything that can pinch or crush them


workers can get caught between two joints of pipe or between a pipe and another object
handle pipe carefully and use mechanical equipment whenever possible
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choking up on tools and smashing fingers is very common
the first 6” of this handle is painted red to indicate that hands should not be placed there


this employee is using proper hand placement on a sledge


many caught-between hazards exist while tripping pipe, including this one
always use designated handles and, even then, use caution to keep from getting your hands and fingers smashed
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hands and fingers can get caught while maneuvering stands of pipe
what can a worker do to keep hands from getting pinched or crushed?


this worker is using a tag line, keeping his hands free from crushing hazards
when your hands get to the end of the tagline, the
ot for grip

here's what could happen

Corrective Action: do what needs to be done before the load is suspended or use blocking

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ever think about the clothes you wear?
clothing can get caught in moving parts
tuck in or don’t wear loose clothing
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You Are Responsible For

- Wearing the appropriate PPE
- Using caution when working around potential caught-between hazards on the rig
- Correcting the hazards you are able to correct
- Reporting to your supervisor the hazards you are unable to correct

Always Remember

- Use caution around heavy equipment
- Be aware of your hand placement
- Keep hands free when possible
- Never work under a suspended load
- Don’t choke up on tools
- Ensure machine guarding is in place
- Use caution around pinch points
- Never wear loose clothing