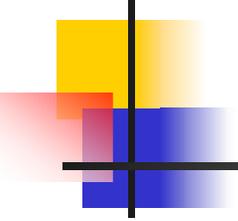


SAFE BACKHOE OPERATIONS

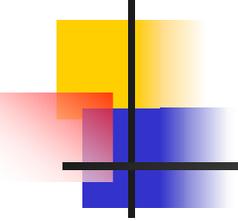


**Rick Avery
Instructor**



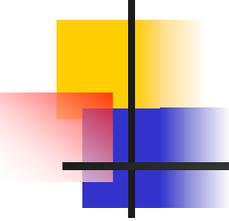
Course Introduction

This class is a refresher course for personnel who wish to improve their skills and understanding of safe backhoe operations



Course Introduction

- Name
- Job Title and Description
- What would you like to get out of today's class



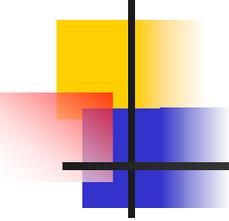
United States

OSHA

Occupational Safety & Health Administration
U.S. Department of Labor



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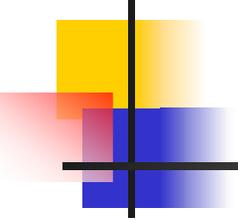


Codes, Standards, Policies

29 CFR 1926.602 - Material Handling Equipment

29 CFR 1926.952 - Mechanical Equipment

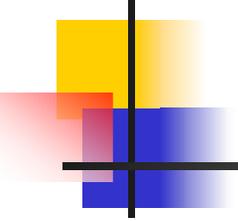
29 CFR 1910.269 - Electric Power Generation, Transmission & Distribution-(p) Mechanical Equipment



Codes, Standards, Policies

29 CFR 1910.333 - (c)(3) Operations
Near Overhead Lines

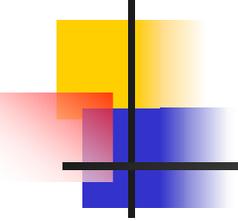
29 CFR 1926.201 - Signaling



Course Objectives

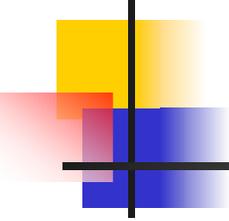
Given a simulated work situation students will satisfactorily perform:

- pre-trip inspection
- set-up, and
- Operation of backhoe



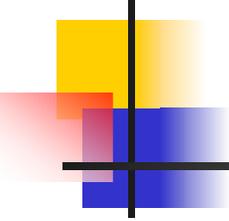
Heinrich's Safety Pyramid





Accident Causes

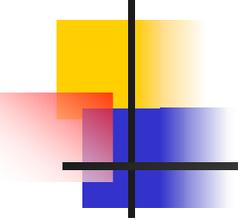
SMALL GROUP ACTIVITY



Accident Causes

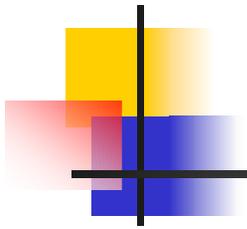
Backhoe injuries are often caused by:

- Turning uphill on a steep slope.
- Loaded bucket raised too high (especially on uneven ground or while turning).
- Poor equipment maintenance.
- Inattention of workers around machinery.

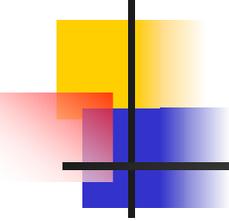


Accident Causes (cont.)

- Hitting obstructions while moving (i.e. stump, hole, ditch, etc.).
- Starting backhoe in gear.
- Excavating unstable soil or undercutting a bank.
- Operating too close to steep banks/excavations.
- Improper equipment transport.

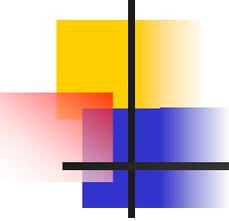


Pre-Trip



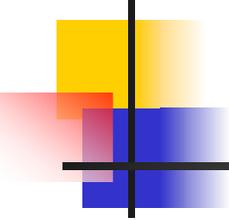
PRE-TRIP FOR TOWING VEHICLE

- Visual inspection
- Trailer hook-up
 - ❖ Communications between workers
 - ❖ Cross chains (Safety chains)
 - ❖ Pental hitch down
 - ❖ Glad hands are clean



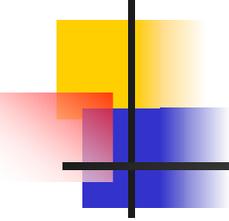
PRE-TRIP FOR BACKHOE

- Visual checks
- Operating control checks
- Ensure equipment is greased
- When do you do it?



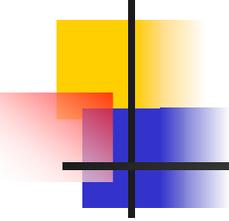
Loading Backhoe

- Park trailer in a level, unobstructed area.
- Set brakes on towing vehicle.
- Chock trailer wheels.
- Remove ice & snow from ramps & deck.
- Lock both backhoe brakes together (for vehicles with individual rear brakes)



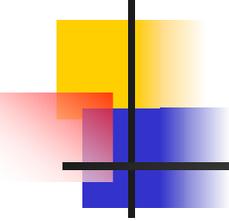
Preparing backhoe and trailer/truck for travel

- Set parking brake
- Secure backhoe w/ chains & chain binders
- Use softeners where needed
- Lower all attachments to trailer deck



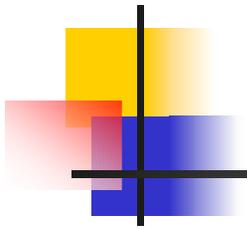
Unloading

- Unload on level ground
- Stow boom/Lift bucket
- Back slowly
- Be mindful front bucket may need to be adjusted while backing down ramps
- Keep bucket as low as possible

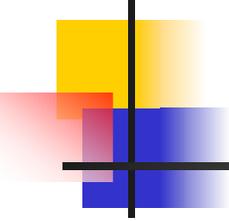


Video

Trailer Safety **23 minutes**

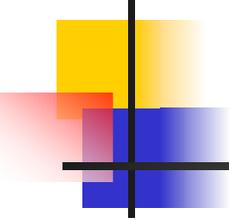


Set-up



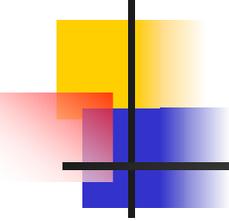
Before Digging

- Ensure Utilities Have Been Located
- How would you know?
- 1-800-424-5555 (Know your number)



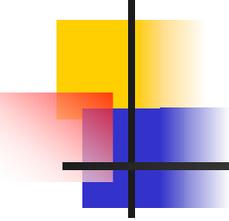
Inspect the Site:

- Recent excavations & depressions.
- Nearby causes of ground vibration that could destabilize excavation walls.
- Overhead wires & obstructions.



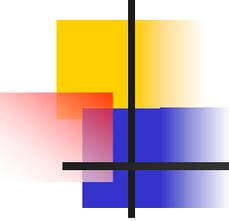
Inspect the Site (Cont.)

- Barricades & signaling.
- Location of spoil pile.
- Routing of dump trucks.

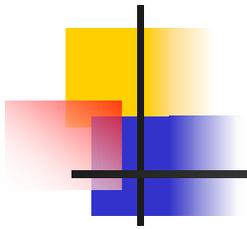


Site Control

- You're excavating on Pleasant Avenue
- Have an open trench
- It's quitting time
- What next?



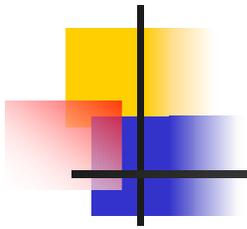
OSHA states that the *Competent Person* is responsible for excavation safety



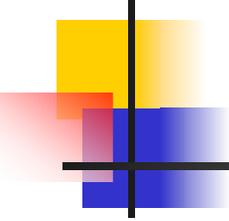
How does OSHA define a Competent Person?

Identifies existing & predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees.

Authorized to take prompt corrective measures to eliminate these hazards.



SAFETY

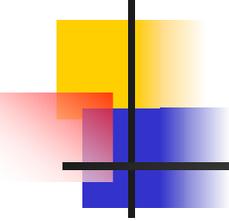


Excavation Safety

According to OSHA:

- Over 100 cave-in deaths occur each year.
- Cave-in deaths usually occur at depths of 12 feet or less.

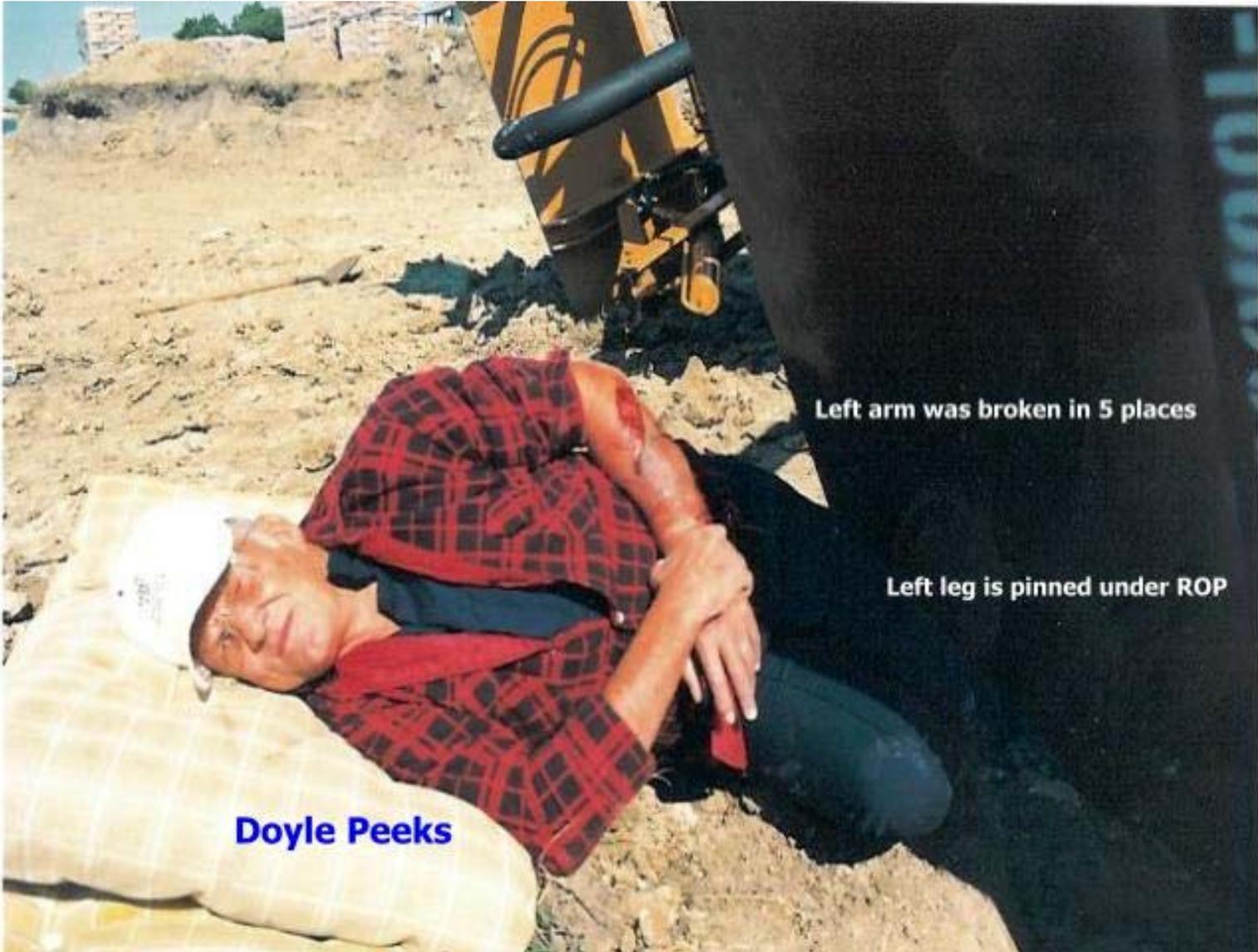
**A few cubic feet of soil
can crush a person.**



Safety Considerations

- Ensure reverse alarm works.
- Use signal person if rear view is obstructed.
- Clear bystanders before operation begins.
- Use seatbelt and always operate at a safe speed.

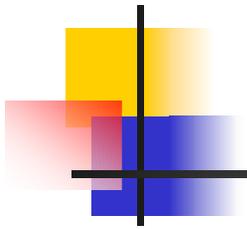




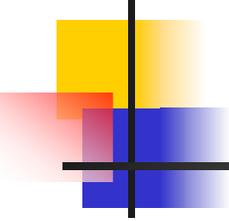
Doyle Peek

Left arm was broken in 5 places

Left leg is pinned under ROP



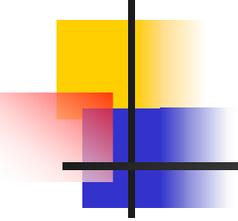
BACKHOE OPERATIONS



Backhoe Operation

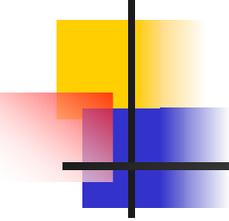
An operator must be able to:

- Demonstrate techniques using front bucket.
- Operate rear bucket in a smooth and safe manner.



Hands-on Activities

- No “Cowboying” (from me or you)
- Not a timed event
- Familiarize yourself with the equipment
- Perform all activities safely



FINAL REVIEW

- Instructor evaluations – 10 min
- Review of objectives and student expectations
- Class over at 4:30