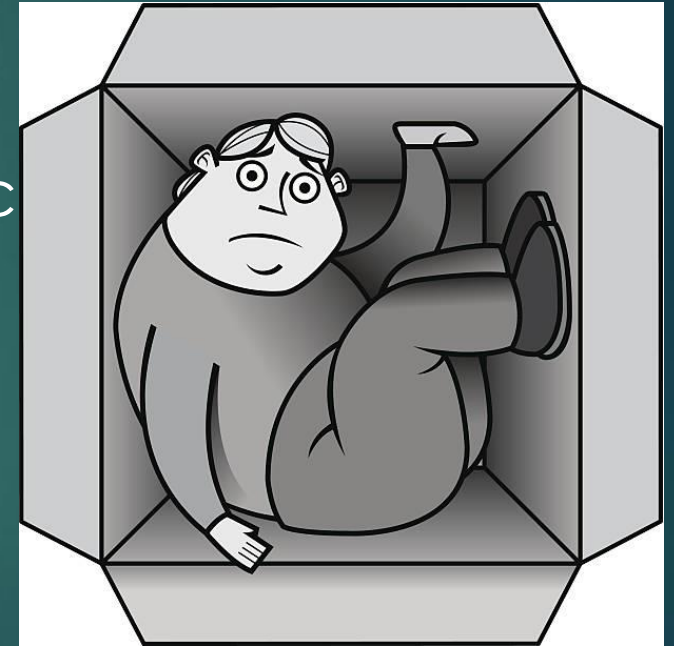




Confined Space

# Confined Space Entry

- Characteristics of Confined space :
  - ✓ Is not large enough to get person inside.
  - ✓ Is an enclosed space
  - ✓ Not intended for human occupancy or workplace
  - ✓ Could have limited or restricted entrance or exit.
  - ✓ Poor or no ventilation.
  - ✓ May contain potential or known hazards.



At Least 3 Points to set as Confined Space

# Confined Space Entry

- Man Holes





# Confined Space Entry

- Septic Tanks





# Confined Space Entry

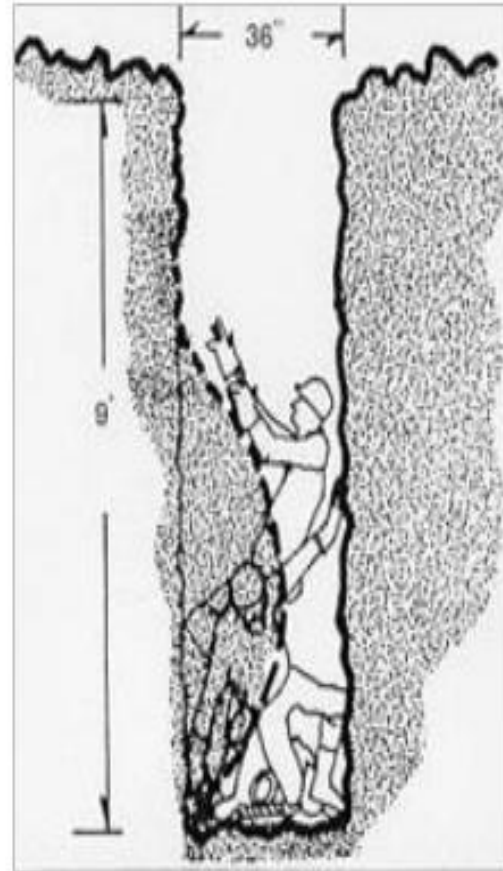
- Drainage and Sewage Systems



# Confined Space Entry

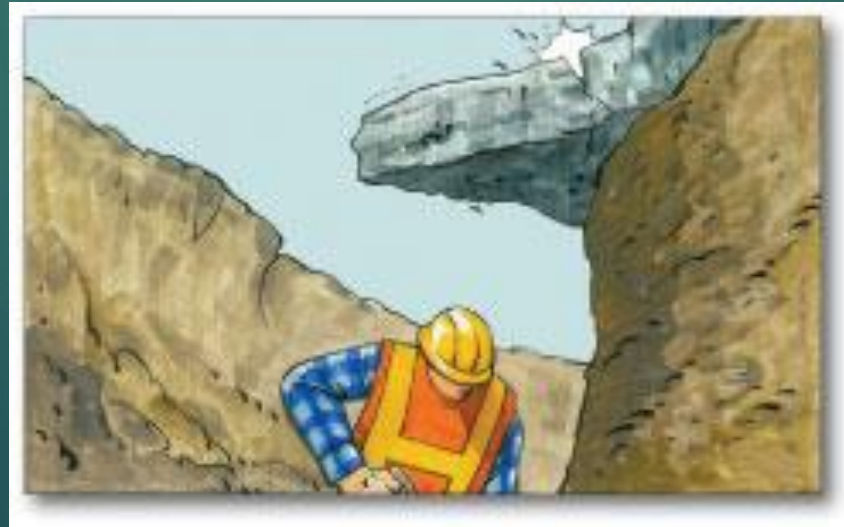
- Trenches over 5 ft. in depth

- Excavating is one of the most hazardous construction operations.
- Most accidents occur in trenches 5-15 feet deep.
- Usually no warning before a cave-in.



# Confined Space Entry

- A person whose upper body or head is within the Confined Space or whose head can be periodically within the Confined Space (i.e. while digging a trench) is considered to have entered a Confined Space.
- In the case of a trench or excavation, a person is deemed to have entered a Confined Space if his head is below ground level.





# Confined Space Hazards

- The presence of hazardous chemicals.
- Atmosphere with flammable gases, vapors or dusts, or an environment with too little or too much Oxygen.
- When there are loose materials present that can engulf a person.
- When there are unprotected electrical installations present.
- When there is a possibility for an entrapment.





# Confined Space Entry Procedures



# Confined Space Entry Procedures

## Vessel Entry Procedures:

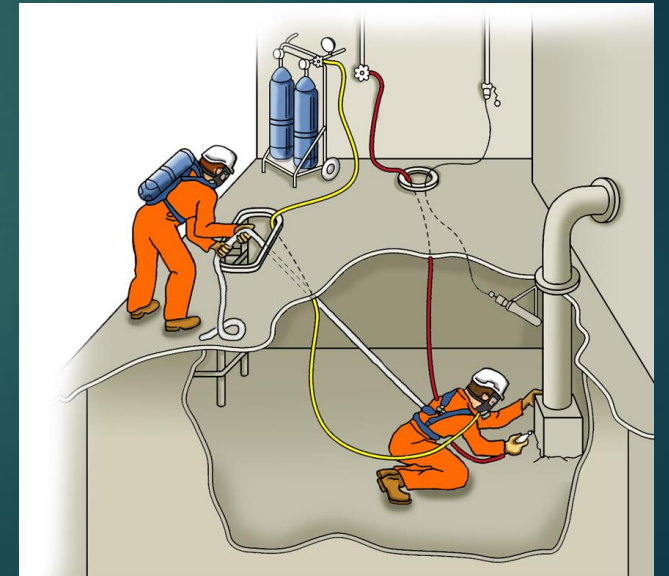
- Gas monitors
- Correct vessel entry procedures
- Sentry duties clearly defined
- Good communications system (internal and external)



# Confined Space Entry Procedures

## Vessel Entry Procedures:

- Good access / egress and lighting required (barriers)
- No pressurised cylinders within vessel
- External risks considered (drains, vents etc)
- Good mechanical and electrical isolation procedures

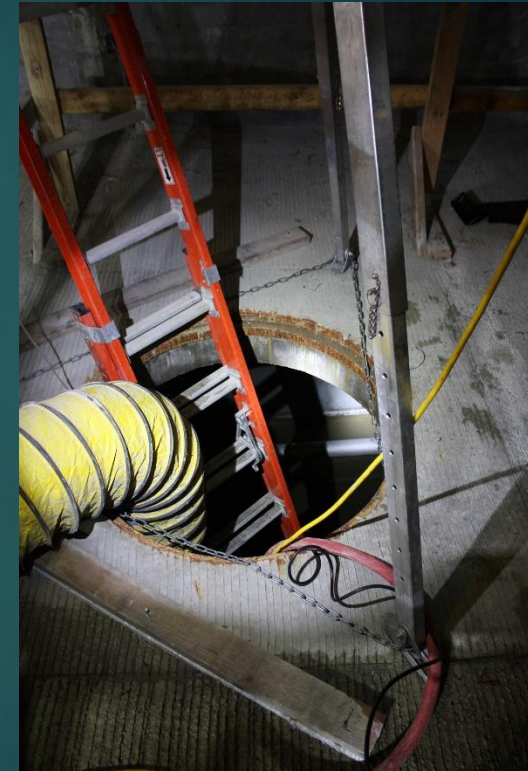




# Confined Space Entry Procedures

## Ventilation in confined space :

- A good supply of fresh air required in a vessel to be entered without BA equipment
- Air movers may be needed
- Air supply from a safe, clean source
- The air should be vented safely



**Note:-** 20.9% oxygen in a vessel does not on it's own mean that the vessel is safe to enter

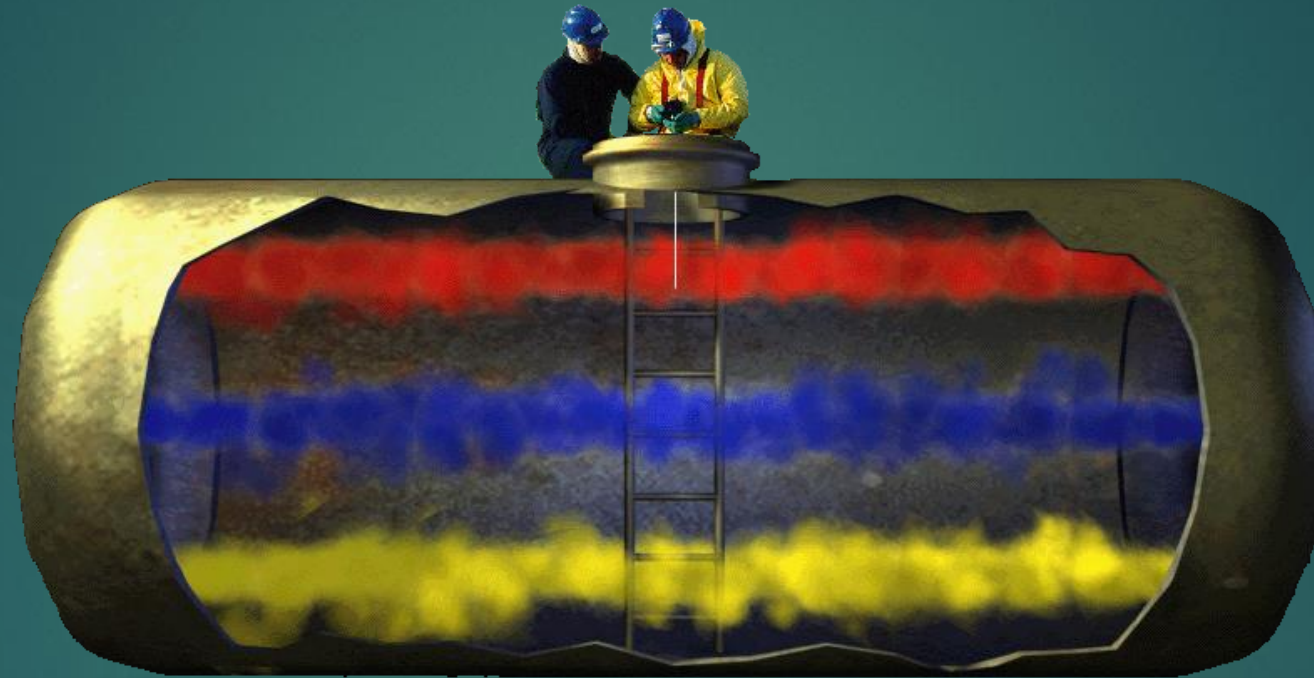
# Confined Space Entry Procedures

Lock Out Tag Out = LOTO



# Confined Space Entry Procedures

How to test?



METHANE (lighter than air)

CARBON MONOXIDE (slightly lighter than air)

HYDROGEN SULFIDE (heavier than air)



# Responsibilities

## Employees on duty as stand-by:

Before personnel enter, standby personnel shall be familiar with the location of the:

- ✓ Telephone, if available nearby.
- ✓ Life Saving equipment (Emergency shower, Eye wash ,SCBA, etc.)
- ✓ Exit routes.
- ✓ Fire and fume alarm boxes.

# Respiratory Protection

## Cascading System

