Swabbing Rig Fatality

…Hazards are Always Present

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Charleston Area Office
FEDERAL AGENCY THAT REGULATES SAFETY and HEALTH IN THE WORKPLACE

- Private Industry
- Federal Agencies
DISCUSSION

• Number/types of Oil/Gas fatalities
• Where to find info on OSHA fatalities
• Oil and Gas Regional Emphasis Program
• Reporting requirements for the employer
• Latest trends and findings
• Resources
Oil field deaths rise sharply!


• Oilfield deaths reached 545 during America’s drilling and fracking frenzy from 2008 to 2012, with Texas’ 216 reported fatalities leading the nation. Pennsylvania and North Dakota also are recording dramatic increases in worker deaths, according to updated workplace fatality figures released recently by the Bureau of Labor Statistics.
2013 FATALITIES

66 on-site oil and gas extraction worker fatalities reported to OSHA during 2013

- 28 in Texas, 9 in North Dakota, 5 in New Mexico, 4 in WV and Oklahoma, 3 in OH and Louisiana, 2 in Kansas and Arkansas, 1 in Colorado, Wyoming, Montana, Utah, California, and Alabama
TYPES OF FATALITIES

• 20 “Struck by” incidents
  - Falling/moving pipe and equipment
  - Tools/debris dropped from elevated location
  - Drilling equipment

• 9 Onsite transportation incidents
  - Run over by a trailer/vehicles
  - Struck by a front end loader
  - Not wearing seat belt
• 9 Falls
  - Lack of guardrails
  - Improper or no fall protection

• 6 Explosions
  - Ignition of natural gas and crude oil vapors
  - Uncontrolled ignition sources
  - Poorly maintained electrical equipment
  - Welding/cutting near combustible material
• 6 “Caught in” incidents
  - Improper or no machine guarding
  - Flagger caught between rig substructure during unloading
  - Crushed by power tongs

• 4 Exposed to harmful substances
  - Exposure to hydrogen sulfide release during drilling and tank gauging operations
Types cont.....

- 3 Electrocutions
- 1 Homicide
- 1 Flash fire
- 1 Crushed under a collapsing derrick
- 6 Suspected heat-related deaths
Enforcement

• Oil and Gas Regional Emphasis program in place since 2005.

Inspections are performed from the emphasis program, complaints, referrals from media and other sources, and reports of fatalities and catastrophes.
Reporting

29 CFR 1904.39(a)
Employers have the duty to report fatalities and the hospitalization of three or more employees within 8 hours.

1-800-321-OSHA (6742)
Latest trend

- Fires and explosion of flammable gas
  - Separators
  - Storage tanks
  - Pigging operations/line cleaning
  - Frac tanks
  - Well bore
A company was performing flow back operations after fracing.

- Pulling water, sand, gas, or oil out of the wells and separating them.
- The gas was sent to a flare.
- The water, mixed with oil or hydrocarbons, went into the Frac tanks.
Natural gas condensate

- Three employees were working in between the tanks using a gasoline powered suction pump to clean up water from the ground.
Three employees received burns when flammable vapors ignited
Suction/Trash Pump
Facts and Findings

• The frac water contained condensate
• Condensate is a clear liquid that contains a mixture of natural gas liquid, propane, hexane, pentane and other flammables
• FRC’s were worn by the 3 employees
• LEL monitors were onsite but not in use
Natural gas is odorless

- Depending on activities performed you could encounter a flammable atmosphere.
- Always carry a LEL monitor.
- Turn on before entering the site.
- And wear your Flame Resistant Clothing properly.
• Dozer was preparing to pull a truck up a 10 percent incline to a well site
• The dozer and the truck were approximately 3 feet apart
• To assist the truck driver, the dozer operator engaged the parking brake and lowered the blade down to 6 inches from the ground
Towing hazards cont…

- As the operator exited the dozer, his foot caught the parking brake and accidentally released the brake.
- The dozer rolled backwards pinning the truck driver between the dozer and the truck.
What We Learned

Establish a procedure for towing activity

• Maintain a safe distance between the vehicle and tow vehicle
• Make towing connections on level ground/grade when possible
• Ensure tow vehicle is secured from movement with blade lowered to ground
• Chock wheels
• Set the brake
• Ensure employee connecting the tow cable makes visual contact with dozer operator prior to entering the area between the vehicles
• Train and enforce the procedure
7 employees suffered burns in 2010 when methane gas was encountered during drilling operations

- Pocket of methane from an inactive, abandoned coal mine was struck
- Triggered a blast and flame
What We Learned

• 5 of 7 employees were NOT wearing flame retardant clothing
• No methane monitors onsite for use when drilling through coal formations
BURNS RECEIVED

5 Not Wearing FRC

2nd and 3rd degree burns:
- Legs
- Shoulders
- Back
- Arms
- Face
- Ears
- Neck

2 Wearing FRC

Burns to:
- Face
- Hands
SUMMER HAZARDS

WATER

REST

SHADE
Fatality and Catastrophe Investigation Summaries

Fatality and Catastrophe Investigation Summaries, also known as Accident Investigation Summaries (OSHA 170 form), are developed after OSHA conducts an inspection in response to a fatality or catastrophe. The summaries provide a complete description of the incident, generally including events leading to the incident and causal factors. These summaries can be easily searched by keyword, text in the summary or accident description, event date, and industry (SIC). Information may also be obtained for specific investigation(s), (Insp Nr). Summaries currently available include completed investigations from 1984 through 1 year earlier than today's date. Summaries for later dates are not included to provide time for OSHA staff to complete the investigation and revise the summary as necessary. Furthermore, summaries must undergo a process for screening personal information and adding keywords that may cause some additional delay in posting.

See also instructions for entering search parameters.

⚠️ Note: Please read important information below regarding interpreting search results before using.
## Various types of accidents

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Resources

• [www.osha.gov](http://www.osha.gov)
QUESTIONS

CHARLESTON AREA OFFICE – 304.347.5937