

Oil and Gas Industry

...Hazards are Always Present

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Charleston Area Office



U.S. Dept of Labor - OSHA

- FEDERAL AGENCY THAT REGULATES SAFETY and HEALTH IN THE WORKPLACE
 - Private Industry
 - Federal Agencies

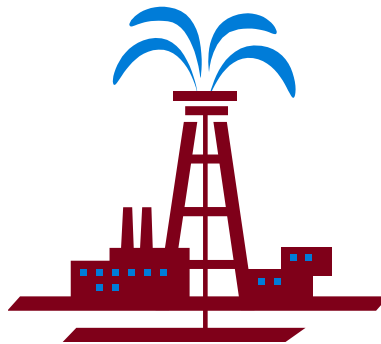
DISCUSSION

- 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!

Houston Chronicle Longview News-Journal, posted Apr 29, 2014.

- 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*



Types cont.....

- 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*

Types cont.....

- 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.....

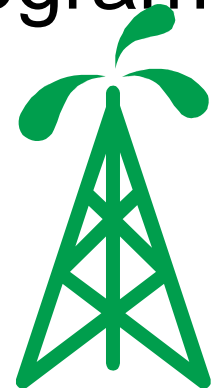
- 3 Electrocutions
- 1 Homicide
- 1 Flash fire
- 1 Crushed under a collapsing derrick
- 6 Suspected heat-related deaths



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

Overview 1



- 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

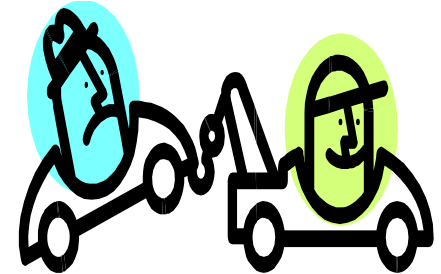
- The frac water contained condensate
- Condensate is a clear liquid that contains a mixture of natural gas liquid, propane, hexane, pentane and other flammables
- FRC's were worn by the 3 employees
- LEL monitors were onsite but not in use

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.

Overview 2 - TOWING HAZARDS

- 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

What We Learned cont...

- 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

Overview 3 – Appalachian Conditions

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:

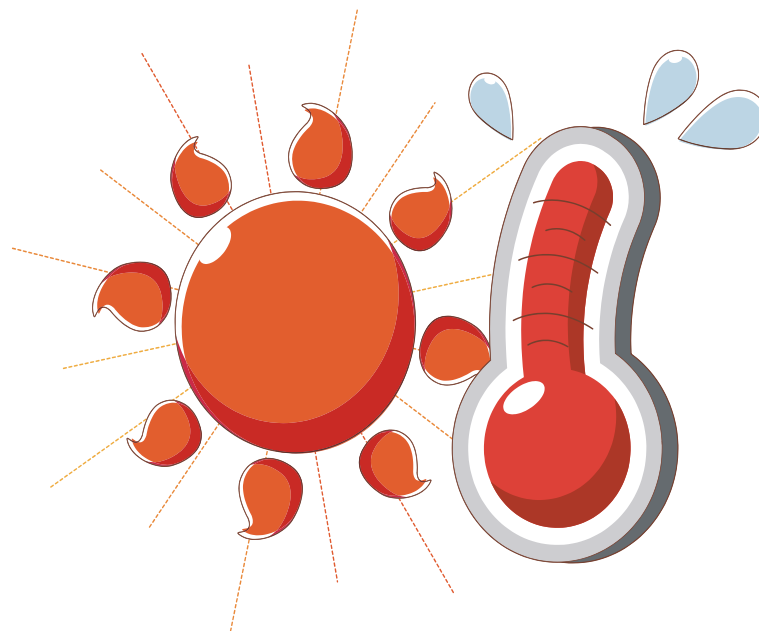
- Face
- Hands

SUMMER HAZARDS

WATER

REST

SHADE



Search at www.osha.gov

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.

Description:	<input type="text"/>
Abstract:	<input type="text"/>
Keyword:	<input type="text"/>
Display:	<input type="checkbox"/> Fatality Only
SIC:	<input type="text" value="13"/> 2,3,4-Digit
OSHA Office	<input type="text" value="All Offices"/> <input type="text" value="Fed & State"/>
Event Date	
Start Date	<input type="text" value="April"/> <input type="text" value="28"/> <input type="text" value="2002"/>
End Date	<input type="text" value="April"/> <input type="text" value="28"/> <input type="text" value="2013"/>
Insp Nr:	<input type="text"/>
	<input type="button" value="Submit"/> <input type="button" value="Reset"/>

Keyword List: [A](#)[B](#)[C](#)[D](#)[E](#)[F](#)[G](#)[H](#)[I](#)[J](#)[K](#)[L](#)[M](#)[N](#)[O](#)[P](#)[Q](#)[R](#)[S](#)[T](#)[U](#)[V](#)[W](#)[X](#)[Y](#)[Z](#)

Various types of accidents

Sort By: | [Date](#) | [Office](#) |

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Results 1 - 20 of 633
By Date

		Summary Nr	Event Date	Report ID	Fat	SIC	Event Description
<input type="checkbox"/>	1	200042059	08/21/2012	0653510	X	1389	Drill Field Worker Is Crushed And Killed Under Truck
<input type="checkbox"/>	2	202457925	08/20/2012	0950647		1381	Worker Showing Signs Of Heat Exhaustion Is Struck By Hose
<input type="checkbox"/>	3	200981223	08/16/2012	0855610	X	1389	Employee Is Struck By Object, Dies From Asphyxiation
<input type="checkbox"/>	4	202531455	07/16/2012	0950635		1381	Employee'S Hand Is Crushed When Caught By Machinery
<input type="checkbox"/>	5	202656633	07/13/2012	0950643		1381	Employee Crushes Finger In Drilling Rig
<input type="checkbox"/>	6	202531364	06/12/2012	0950635		1311	Employee Crushes Finger In Chain And Is Amputated
<input type="checkbox"/>	7	202457800	06/07/2012	0950647		1381	Employee'S Thumb Is Crushed Under Steel Mandrel
<input type="checkbox"/>	8	202471132	04/20/2012	0950646	X	1381	Employee Is Rolled Over By Ford F-250 Pick-Up Truck
<input type="checkbox"/>	9	200381267	04/05/2012	0336000	X	1381	Employee Is Crushed And Killed By Rigging Flow-Line
<input type="checkbox"/>	10	200714350	04/03/2012	0636900	X	1389	Electric Shock - Cause Unknown
<input type="checkbox"/>	11	200813335	02/29/2012	0627510		1389	Employees Are Scaled And Burned In Explosion
<input type="checkbox"/>	12	202471181	02/22/2012	0950643		1389	Welder Is Injured In Trip And Fall Incident
<input type="checkbox"/>	13	200813327	02/07/2012	0627510	X	1389	Employee Is Killed When Struck By Pressurized Fitting
<input type="checkbox"/>	14	200645240	02/03/2012	0627700	X	1311	Employee Is Killed When Struck By Falling Load
<input type="checkbox"/>	15	316283076	01/23/2012	0626000	X	1389	Drill Equipment Operator Dies From Falling Valve
<input type="checkbox"/>	16	200785483	01/20/2012	0626300	X	1311	Employee Is Killed In Fall From A Monkey Board
<input type="checkbox"/>	17	200645232	01/20/2012	0627700		1381	Employee Is Burned In Flash Fire

Resources

- www.osha.gov
 - Oil and Gas Extraction,
<http://www.osha.gov/SLTC/oilgaswelldrilling/index.html>
 - Oil and Gas e-Tool,
<http://www.osha.gov/SLTC/etools/oilandgas/index.html>
 - OSHA Technical Manual Section IV, Chapter 1,
http://www.osha.gov/dts/osta/otm/otm_iv/otm_iv_1.html

QUESTIONS



CHARLESTON AREA OFFICE – 304.347.5937