

ACCIDENT SUMMARY

Accident Type: Struck by, falling object, suspended load
Weather Conditions/Time of Day: Cold, snowy/Day shift
Type of Operation: Pulling well casing
Size of Work Crew: 6
Worksite Inspection Conducted by Employer: Yes
Competent Safety Monitoring on Site: No
Safety and Health Program in Effect: Yes
Training and Education for Employees: Not adequate
Job Title of Deceased Employee: Rig hand
Age/Sex of Deceased Employee: 31/M
Time on Job: 5 years
Short Service Employee (<1 Year): No
Time at Task: 7 hours

BRIEF DESCRIPTION OF ACCIDENT

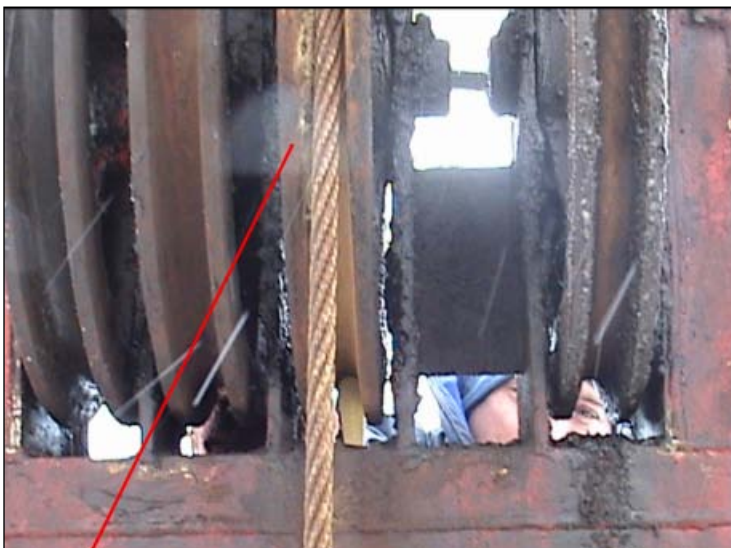
At the time of the accident, six employees were working on a double mast service rig. The service rig was pulling a 4.5 inch casing from the gas well after completing the first stage of an open hydraulic fracture. An experienced rig hand was standing under the load block when the load line failed. The load block struck the rig hand, inflicting blunt force trauma to his upper torso, resulting in fatal injury. The load line was a 6x40 7/8" diameter wire rope that had been in service for about 3 years. The load line was in poor working condition and had several broken wire strands. Additionally, the load line was contacting the guard for the draw works as evidenced by the heavy wear marks on the guard. Although the company reportedly lubricated the load line routinely, the line was found to be rusted, dry and brittle during the investigation after the incident.



Location of failed 7/8" load line.



Wear marks in draw-works guard from failed line.



Rope and sheave condition. Note the wear in sheave from failed line.



Failed 7/8" load line close-up. Note the broken wire strands.

ACCIDENT PREVENTION

1. Perform daily visual inspections and monthly inspections of all hoisting lines. See API Recommended Practice (RP) 54, Occupational Safety for Oil and Gas Well Drilling and Servicing Operations – Paragraph 9.6.1.
2. Follow the field lubrication requirements from the wire rope manufacturer. Make sure to use an appropriate (e.g., wire rope manufacturers’ recommended) lubricant that penetrates and adheres to the wire rope. See API RP 9B, Application, Care, and Use of Wire Rope for Oilfield Services – Paragraph 3.3.9. which states, “Periodically, therefore, the rope will need to be lubricated. When necessary, lubricate the rope with a good grade of lubricant which will penetrate and adhere to the rope, and which is free from acid or alkali.”
3. Implement a slipping and cut-off preventive maintenance program for hoisting lines. See API RP 9B – Section 6, Slipping and Cutoff Practice Abatement.
4. Perform service life calculations based on ton-mile limits. See API RP 9B – Section 5.
5. Immediately remove damaged lifting lines from service. See API RP 54 – Section 9.6.
6. Provide worker training emphasizing the following:
 - a. wire rope inspection criteria (what to look for);
 - b. preventive maintenance requirements for wire rope; and
 - c. how to identify, prevent and protect themselves against struck by, falling object, and suspended load hazards on the rig floor.

Note: The described case was selected as being representative of improper work practices which likely contributed to a fatality from an accident. The accident prevention recommendations do not necessarily reflect the outcome of any legal aspects of the incident case. OSHA encourages your company or organization to duplicate and share this information.

You Have a Voice in the Workplace

The *Occupational Safety and Health Act of 1970* affords workers the right to a safe workplace (see OSHA’s **Worker Rights** page, www.osha.gov/workers.html). Workers also have the right to file a complaint with OSHA if they believe that there are either violations of OSHA standards or serious workplace hazards.

How OSHA Can Help

For questions or to get information or advice, to report an emergency, report a fatality or catastrophe, or to file a confidential complaint, contact your nearest OSHA office, visit www.osha.gov or call our toll-free number at 1-800-321-OSHA (6742), TTY 1-877-889-5627. It’s confidential.

More Information

Upstream oil and gas safety and health: www.osha.gov/SLTC/oilgaswelldrilling/index.html

OSHA standards and regulations: www.osha.gov/law-regs.html

OSHA publications: www.osha.gov/publications

OSHA’s free On-site Consultation services: www.osha.gov/consultation

Training resources: www.osha.gov/dte/index.html



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