ENERGY SAFETY CANADA

SAFETY ALERT

ISSUE # 10-2021

Hydraulic Fluid Leak Causes Fire Damage

Description:

A crew was called out to a fire at a heavy oil well site when hydraulic oil leaked onto an engine exhaust manifold. While no one was injured in the incident, the fire destroyed an engine skid, hydraulic system and associated equipment.

What Went Wrong:

Following an analysis of the incident, it was determined the bourdon pressure gauge failed at the dial face and vent, causing hydraulic oil to leak onto the engine. The gauge was not effectively isolated because of the piping configuration and the fire ignited from the engine's exhaust manifold. The gauge was under constant pressure in a high vibration/pulsation and high temperature environment. Over time, the bourdon tube of the pressure gauge failed.

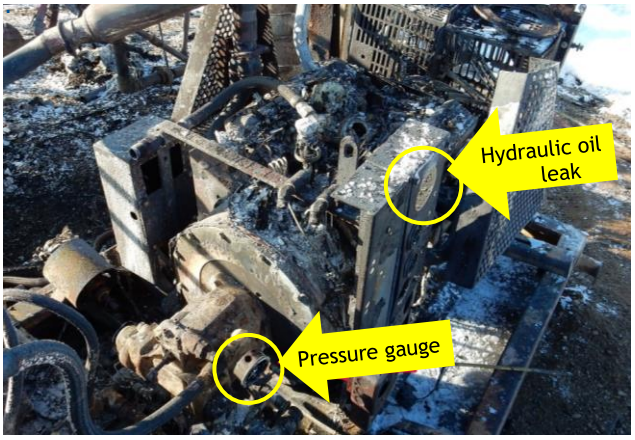
Actions Taken/Recommendations:

A pressure gauge and integrity review were completed across all operations, during which:

- All pressure gauges were checked for correct application, positioning, isolation and venting, as per manufacturers' recommendations.
- All hydraulic systems on engine skids were fitted with a recommended pressure gauge isolation piping design.

Industry Resources:

- Free Online Process Safety Awareness Course
- Barrier Focused Approach
- Walk the Line
- Fire & Explosion Hazards Guide



Burned engine: location of pressure gauge and oil leak

Recommended pipe configuration for pressure gauge isolation.

Help industry by sharing lessons learned from an incident. Submit your Safety Alert.

SHARE AND COLLABORATE

Energy Safety Canada (ESC) works collaboratively with industry to share information aimed at helping companies of all sizes improve safe work performance.

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