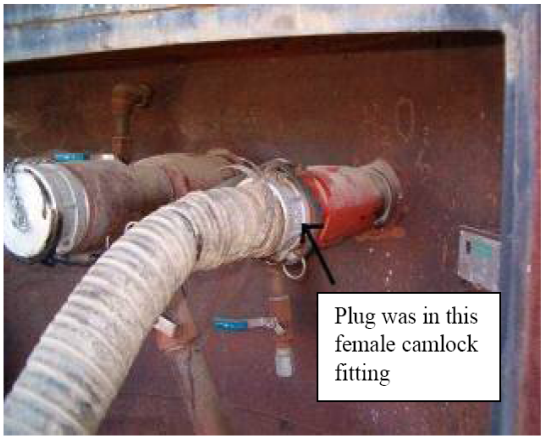
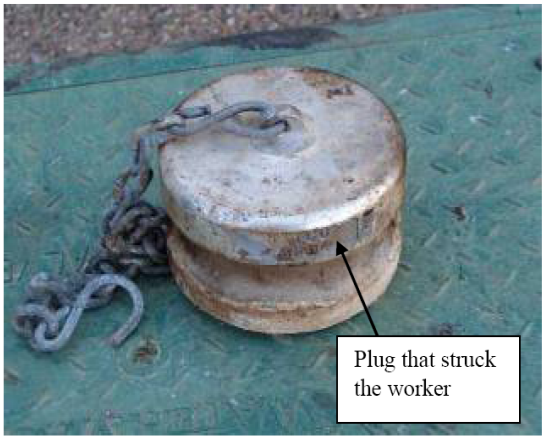
Husky Energy

SAFETY ALERT

POTENTIAL ENERGY AWARENESS IR-09-5676

An incident occurred on July 15th where a worker was struck by a stuck Camlock plug resulting in a fractured finger.





The fitting on this tank is not used very often and the camlock plug (as shown above) was stuck in the female camlock connection (oxidation around the plug was evident). In an attempt to free the plug, the worker was pulling on the plug chain while also tapping around the plug with a hammer. When the plug came free, it came in contact with his left index finger fracturing it, and then came in contact with his chest, leaving a bruise.

Relevant Incident details:

- The valve on the tank was holding as there was no liquid evident in the space between the camlock and the valve.
- The plug was put into place during winter months (assume -30^{0}C).
- The plug was removed during summer months (assume +20^{0}C)

The change in temperature caused the air trapped in the space between the valve and the plug to expand, resulting in a pressurized section of pipe. The calculated pressure from a 50^{0}C change is 3psi (21 kPa). For a 3" plug, this is 21 lbs of force on the end of the plug.

There is not a lot of volume of gas in this situation, however, in terms of potential (or stored) energy, this would be equivalent to dropping a 6lb (2.75 kg) weight from a height of 3' (1m).

REMINDER: Be aware of potential or stored energy – it can be a silent & potentially deadly hazard. Try to bleed off potential pressure in any and all cases. <u>Always</u> stand out of the line of fire when opening any plug/cap/valve, etc.