DEPARTMENT OF MINERALS AND ENERGY WESTERN AUSTRALIA

SIGNIFICANT INCIDENT REPORT NO. 92

R C DRILL RIG 3" SAMPLE HOSE CONNECTION – SERIOUS ACCIDENT

INCIDENT

A driller employed on an exploration rig was struck on the upper right side of his body and arm by a 3" diameter cyclone/sampler air hose which blew off its fitting above the drillers operating platform. He received serious injuries to his ribs and right lung and a severely crushed right arm which had to be amputated. The air hose was held on the fitting by a claw type 4 bolt hose clamp. The hose assembly was fitted with a commercially made whipcheck using 6mm diameter wire rope.

CAUSE

The primary cause of this accident was the use of compressed air to unblock the sample hose. There were two secondary causes which were:

(a) The type of hose used on the sample line had been changed and the incorrect fittings had been supplied.
The "rails" of the fittings were a loose fit in the bore of the hose.
The hose clamps were of the wrong size, and the claws could not be located correctly.

(b) The Whipcheck was unrated and failed by pulling out of the ferrule.
(In a series of tests carried out a year ago a similar whipcheck failed when the end of the wire slid out at a load of 1.16T whereas an 8mm wire rope whipcheck was loaded to 7.9T before it failed).

COMMENTS AND PREVENTATIVE ACTION

At a toolbox meeting 10 days previously the washing out of blocked hoses was recommended but it was not enforced.

When the hose became detached from the fitting it no longer had air being supplied to it. The driller's injuries were caused by the energy released by the expanding air stored in the hose which caused a whiplash effect.

The destructive potential of "unrestrained" compressed air hoses should be highlighted to all personnel and advice to that effect included in induction and safety training programmes at each site.

A regular survey should be carried out of all compressed air powered equipment to assess the integrity of the couplings, clamps and hoses and immediate corrective action taken where necessary.

All employers must ensure that the equipment and fittings supplied on their plant is suitable for its intended use, installed as per manufacturer's instructions, and inspected by a competent person before it is transferred to active service.

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SAFETY AWARENESS SAVES LIVES