



Safety Alert

From the International Association of Drilling Contractors

ALERT 06 – 34

NEAR MISS INCIDENT BREATHING APPARATUS - VALVE FAILURE

WHAT HAPPENED:

A three month air sample analysis was to be conducted. A random Breathing Air (BA) cylinder was to be sent for testing. The BA cylinders are stored in a horizontal rack in the Emergency Response container. The bottle was grasped by the valve on the end which is the accepted means of lifting BA bottles. Upon lifting the cylinder by the valve from the horizontal position a loud escape of air was heard and the bottle was wrenched from the employee's hand. He realized what had occurred and vacated the ERT container. Once the noise had ceased he looked into the container to find the valve had separated from the BA cylinder. Upon inspection of the cylinder and valve it was found that the threaded brass tube section of the valve had sheared at the neck of the BA cylinder. The BA cylinder pressure at the time of the incident was between 200 – 240 bar (2900 – 3480 PSI). The BA cylinder had been hydro tested on 16/12/2005.

WHAT CAUSED IT:

Inspection of the valve and cylinder shows signs that at some time in the past the cylinder had been dropped. This assumption was based on the following:

1. There was a definite bend and sign of stress in the threaded tube section of the valve.
2. The valve shaft was bent under the rubber tap cover.
3. The threads were squashed on one side of the threaded tube section indicating it had been bent at some stage.
4. The cross section of the break in the threaded tube section is dull and looks like an old break.
5. There is a section on one side that is considered, due to its shiny surface, to be a recent break and it has a sheer or tear appearance (photos attached).

It is not known when the valve was bent however the cylinders are regularly visually inspected as part of a monthly maintenance program. The bottle had been swapped out for one holding higher pressure and placed in the "to be filled rack". The requirement to visually inspect BA bottles prior to use is part of training but is not formally stated and additionally there are no indications of what to inspect.

CORRECTIVE ACTIONS: To address this incident, this company instructed personnel in the following:

1. Continue with integrity testing program.
2. Visually inspect all cylinders for damage or corrosion.
3. Place signs in the ERT container indicating the need for visual examination of all bottles prior to and after use.
4. ERT members and other BA users to be briefed on the incident reinforcing the need for care, handling and inspection
5. Restate the need for reporting any incident which may have damaged a BA cylinder.
6. Safety Alert to be sent to all operations and the company alert database.

The Corrective Actions stated in this alert are one company's attempts to address the incident, and do not necessarily reflect the position of IADC or the IADC HSE Committee.

This material is presented for information purposes only. Managers & Supervisors should evaluate this information to determine if it can be applied to their own situations and practices

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Valve alignment with BA bottle and bent valve under rubber cap



Cross section showing new and old fractures

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