



Global Industries, Ltd.

Safety Alert

DELTA "P"



Delta "P" or "Differential Pressure" has been one of the "buzz" words for years throughout the diving industry. It is an invisible hazard that accounts for numerous diving incidents and fatalities.

The above picture is a 36" pipeline that failed in the weld while conducting davit operations. At the time of the failure the pipe was approximately 4' off bottom.

Although the crack was only and 1" wide at the 12 o'clock position, one must consider the following dynamics.

- The water depth at the crack location was approximately 110 fsw producing an differential pressure of 49 psi.
- The crack extended from 7 o'clock around the top of the pipe and down to 5 o'clock, with the widest point 1" at the 12 o'clock position.
- The above geometry will give you an orifice of approximately a total of 47 sq in. Equaling 2300 lbs (49 psi x 47 sqin = 2303 lbs) of total suction across the crack.
- Water flow through this crack may exceed 5000 gpm into the pipeline.

Divers were in the water at the time of the incident and reported a loud "bang" followed by a loud pulsating sound. Divers immediately evacuated this area.

Even though the crack was small compared to the overall size of the 36" pipeline it is still extremely hazardous, with 5000 gpm entering the pipeline, anything in the immediately vicinity would be drawn to the crack location and even if the object only covered 1 side or ½ of the crack it would take over 1000 lbs of pull to escape it's grasp.

Do not go near a situation where differential pressure may exist. Soft tissue damage or death could be the result.