Testbank — Maritime Chemical Accident

1980, July 22 — Mississippi River Gulf Outlet, Louisiana, USA

Pentachlorophenol (Class 6) in paper bags; very toxic solid biocide; **severe marine pollutant**
Hydrogen bromide (Class 2) in steel barrels; corrosive and very toxic gas; TLV 3 ppm (USA), IDLH 50 ppm (USA)

Summary: The outbound West German container ship **Testbank** collided with the inbound Panamanian bulk carrier Sea Daniel. Four containers on Testbank were knocked overboard into the 11 m deep river. The contents of greatest concern in the lost containers were 16 tons of **pentachlorophenol** (PCP) in 23 kg paper bags and 3 steel barrels (first reported 16) of **hydrogen bromide** (reported as hydrobromic acid). Shortly after the collision, a white haze of hydrogen bromide enveloped Testbank. The crew secured the ship's ventilation system and took shelter below decks. The white haze was carried by the winds into a village where the sheriff evacuated 75 residents from their homes. A **safety zone** was established, closing the channel to all non-emergency traffic. A federal OSC from the US Coast Guard was commissioned and a strike team was alerted shortly after the accident. An extensive search started for the sunk chemicals in the low-visibility, muddy river water at first by means of a recording fathometer, magnetometer and a sidescan sonar. Not until after 8 days, the search was successful by a **colour video fishfinder** ("Chromascope"). Three barrels with hydrogen bromide were first very carefully salvaged and sealed in **overpacks**. The PCP containers were found damaged and the PCP scattered on the seabed. A **grid** of 24x33 m was established by long piles driven into the bottom and rising above the water surface. During 10 days approximately 90% of the PCP was recovered by an **air lift dredge**, guided by the pile grid. The dredged mud-water mixture was cleaned in a **flocculation** treatment barge and an **active carbon** filtration system. It was finally tested in a clean water barge before being returned to the environment. Totally 1100 tons of dewatered solid waste residue was packaged in fibre drums for transportation to disposal sites.

Cause of Accident: Improper actions by the steersman on board Sea Daniel were primarily responsible for the collision.

Comments on Response: The Chromascope was found to be an outstanding bottom search tool. Its images provided accurate and comprehensive information about variations in bottom density. The air lift dredge appeared to be effective for recovery of spilled granular materials. The safety zone caused enormous financial losses for the maritime community but was ideal for controlling access to the area. Without this zone, positive control of the traffic through the spill area would have been impossible.

Source of Information: Proceedings of the 1982 Hazardous Material Spills Conference, p. 68-76.
(Abstracted April 1991 by Björn Looström, Swedish Coast Guard H.Q.)