CUSTOMER SUCCESS STORY

WHY IT MATTERS

- A vessel failure in sour, high-pressure gas service is a safety event, not just downtime
- Operators need documented code compliance
- Operators need traceable sour-service materials
- Operators need verified welds
- TransTech Fabrication builds this documentation into its sour-service work
- The same capabilities can serve operators dealing with H_2S and CO_2 in other basins





TAMING THE DELAWARE BASIN

How TransTech Fabrication builds heavy-wall pressure vessels for sour, high-pressure gas service

THE CHALLENGE: A PUNISHING GAS STREAM

- **Hydrogen sulfide.** H_2S is toxic at low concentrations. In wet service, it drives hydrogen embrittlement and sulfide stress cracking (SSC) in steel that isn't made for sour service.
- **Carbon dioxide.** Mixed with produced water, CO_2 forms carbonic acid. That acid causes internal pitting and wall thinning in gas treating equipment.
- **Multiphase slugs.** High-pressure wells deliver these gases with liquids and high-salinity brine in irregular, high-velocity surges that punish downstream equipment.

THE SOLUTION: BUILT TO CODE FOR SOUR, HIGH-PRESSURE SERVICE

TransTech Fabrication matches the basin's pressures and gas chemistry with engineering, sour-service metallurgy, and code-driven quality control.

ASME SECTION VIII

Division 1 (U stamp). The foundation for primary processing and separation vessels.

Division 2 (U2 stamp). Uses design by analysis, including finite element analysis, for precise stress calculations. This can reduce required wall thickness and improve fatigue resistance under pressure cycling.

NACE MR0175/ISO 15156 SOUR SERVICE

Hardness control. Carbon steel base metal and weld zones are held to a 22 HRC maximum, keeping the metal ductile enough to resist cracking.

HIC-tested plate. TransTech Fabrication sources fully killed carbon steel plate, such as ASTM A516 Grade 70, tested to NACE TM0284 for resistance to hydrogen-induced cracking.

STRESS RELIEF AND INSPECTION

Post-weld heat treatment. Internal firing PWHT uses high-velocity gas burners to turn the vessel into its own furnace, with ceramic fiber blanket insulating the outside to keep the heat even. Thermocouples track the whole cycle so it stays within code, relieving welding stresses evenly across large vessels and towers, in the shop or in the field.

Nondestructive examination. Wet fluorescent magnetic particle testing (WFMT) finds surface cracks. Phased array ultrasonic testing (PAUT) inspects thick, heavy-wall weld seams.

WORK WITH TRANSTECH FABRICATION

TransTech Fabrication builds tanks, pressure vessels, and columns for sour and high-pressure service. Our process design team can help engineer a vessel for your gas composition and operating conditions.

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TRANSTECH FAB