

Liquid Pipeline Internal Corrosion Examples

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Areas Susceptible to Internal Corrosion Issues

- Areas with low or no flow that allow sediment and/or water to collect
 - Portions of pump stations that rarely operate
 - Drain lines
 - Relief lines
 - Valve bodies
 - Sumps
 - Tank bottoms

Low Pressure Lines

- Typically fail as a leak due to low operating pressures and localized metal loss
- These leaks can be a challenge to find due to infrequent pressurization

Pipelines segments that operate infrequently

- Water and debris can drop out of the produce when the line is shut down
- The water may accumulate, run to low areas, and may initiate internal corrosion

Above Ground Storage Tanks

- Water and debris may drop out of refined products or crude oil
- Tank bottom corrosion may occur
- Tanks often concentrate water and incubate bacteria
- If the water is not drained from the tank, it may be transported along the pipeline, potentially causing additional IC issues

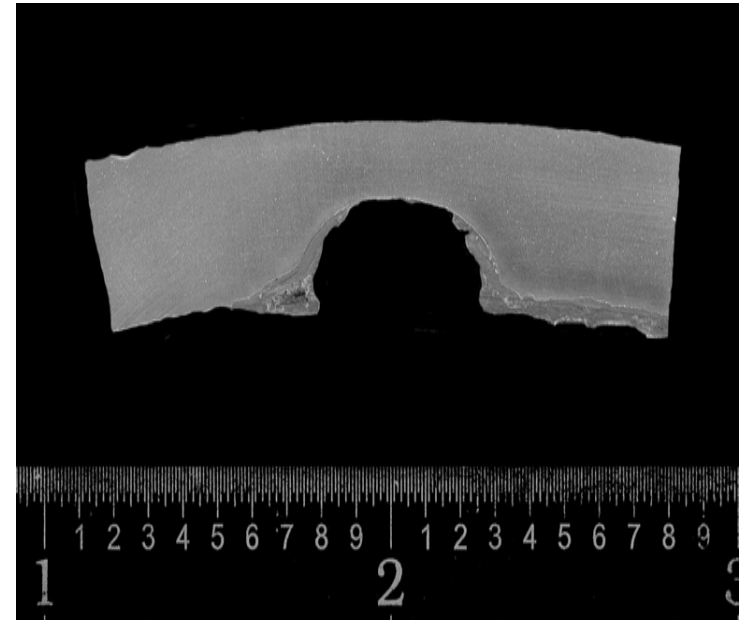
Options to reduce liquid line internal corrosion

- Monitor and restrict the amount of water transported along with the product
- Drain water from above ground storage tanks prior to pumping
- Purge drain lines, relief lines, and portions that do not normally operate to displace the accumulated water
- Inspect with NDT to detect potential corrosion areas

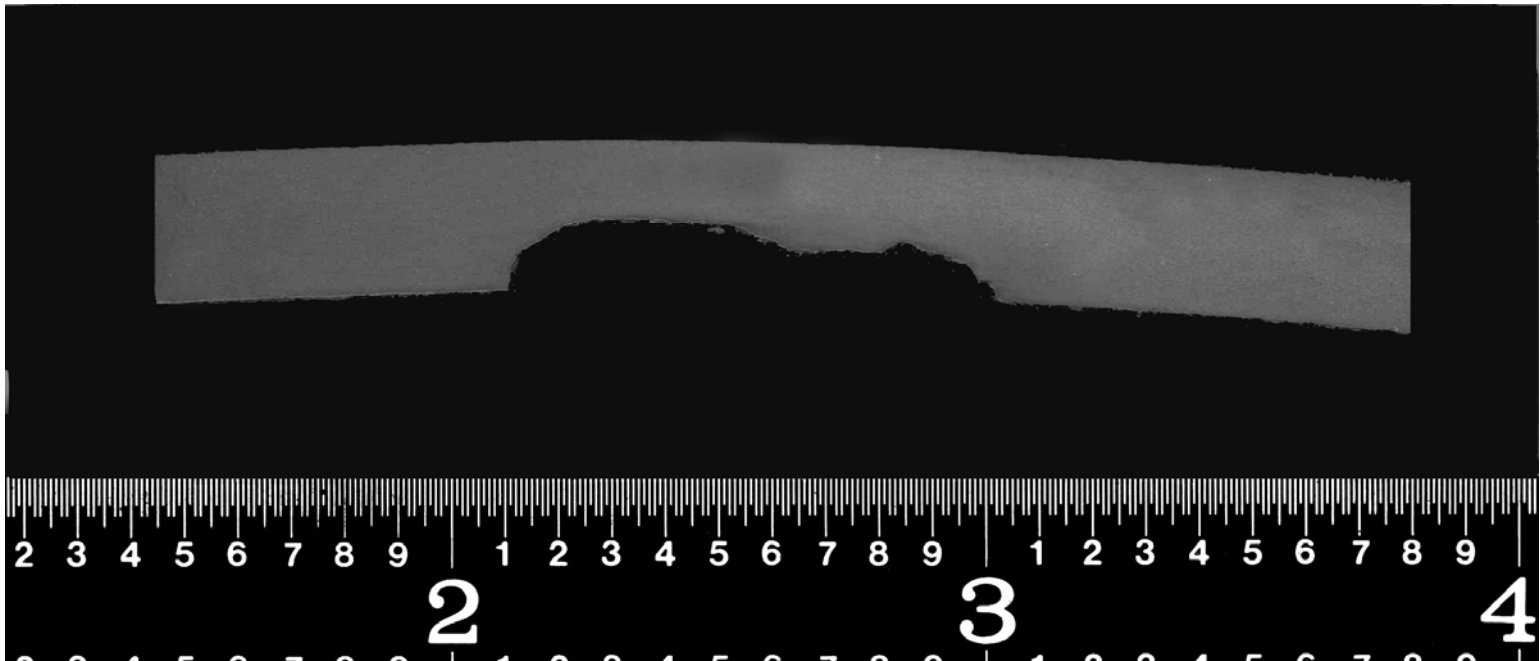
Corrosion Area



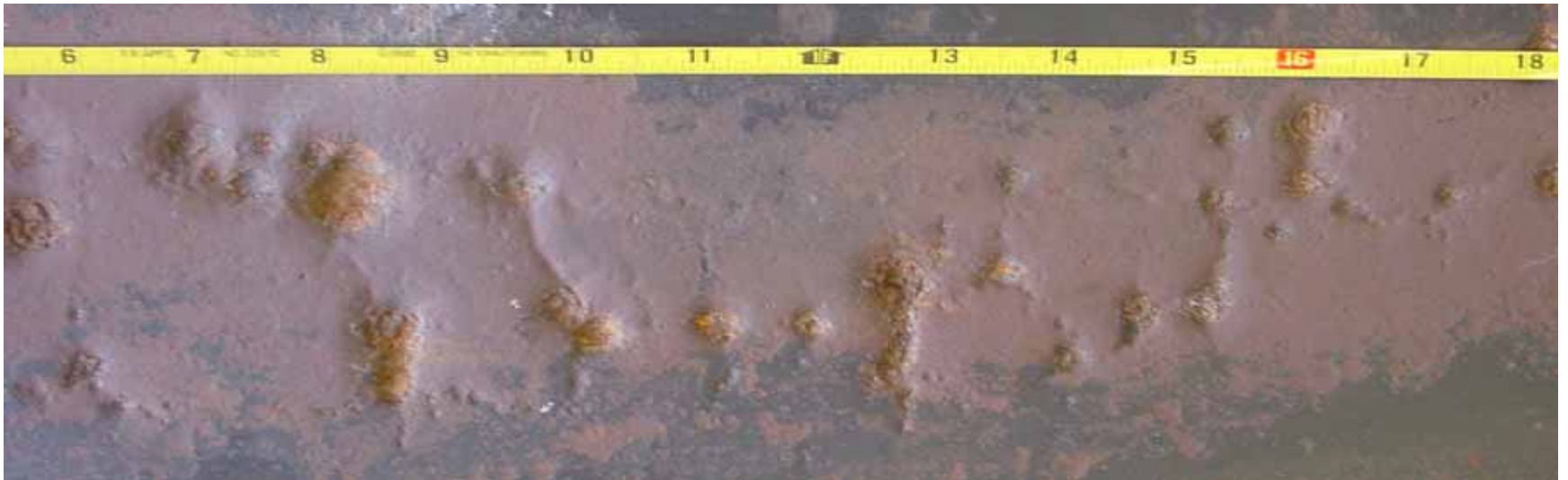
Internal Corrosion 1



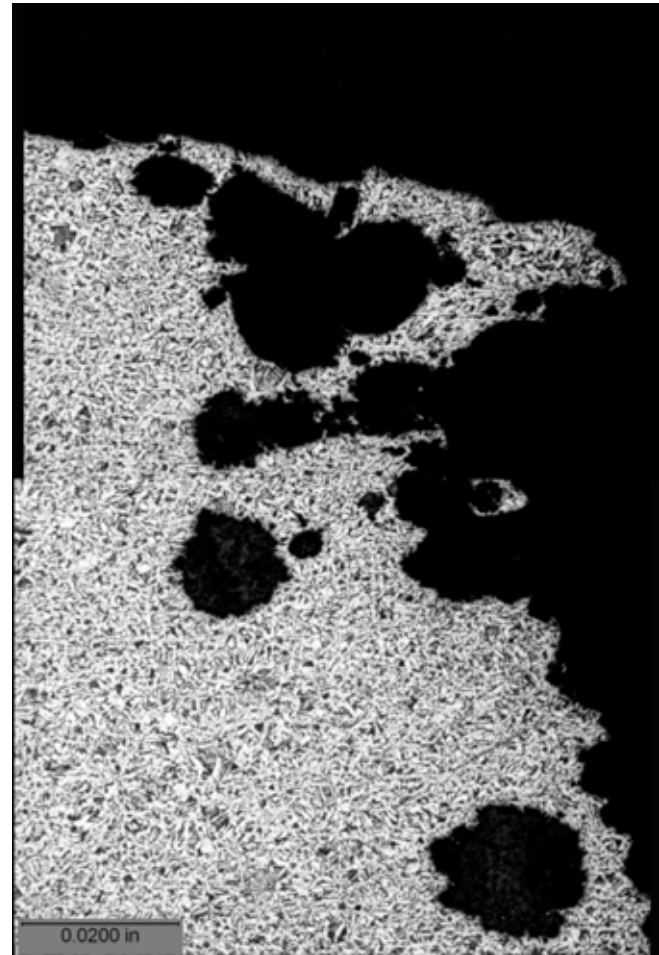
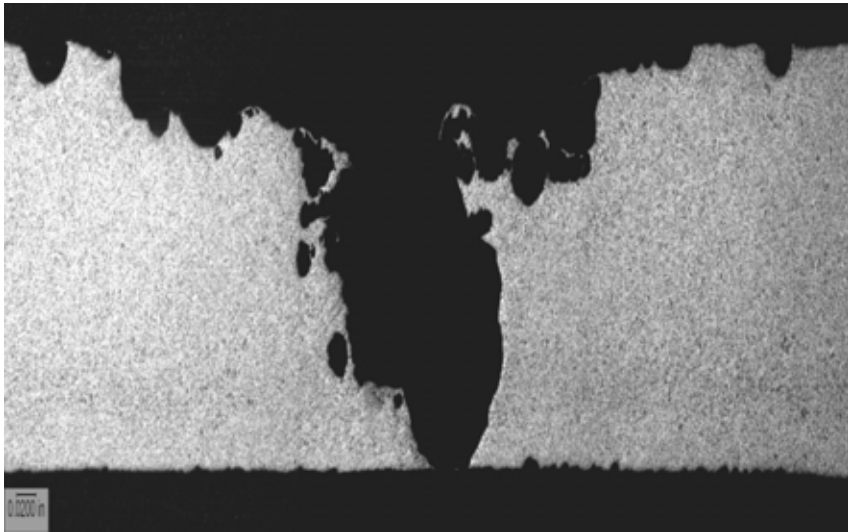
Additional Cross-Section



Multiple Internal Pits



Multi-Plane Corrosion



AST Corrosion



Tank Cross-Sections

