STOP IT® Pipe Repair System Case History*

Idaho National Laboratory (INL) Advanced Test Reactor (ATR)

TRA-63 (TRA-605 WARM WASTE LINE)

Failure of Underground 4-Inch Radioactive Warm Waste Pipe and Leakage Discovered During Waste Piping Replacement Construction Project

"The source water to the 4-in. warm waste pipeline was stopped by turning off the pumps to the effluent radiation monitor system in the TRA-605 Process Water Building. Seepage from the pipe then stopped. A "Stop-It" patch, which is a water-activated polyurethane resin on fiberglass ([government-furnished equipment] pipe wrap repair system) by InduMar Products, Inc., was installed over the break on October 18, 2001. The 4-in pipeline was used until it was isolated on both the upstream and downstream ends in May 2002. The 4-in. pipeline was replaced with a new 4-in. pipeline in May 2002."

Quick Facts:

- **Pipe Material:** DURIRON PIPE
  Pipe Diameter: 4 inches
  Hole Size: 1/2-in. offset shear with corrosion
  Fluid or Gas in Pipe: WARM WASTE WATER
  Contamination Potential: RADIONUCLIDES

"On October 9, 2001, during excavation of soil for the 30-in. TRA-605 Warm Waste Pipeline Replacement Project, a radiological control technician detected contamination in a backhoe bucket load of removed soil. A survey of this soil with a hand-held frisker confirmed the presence of 30,000 dpm of contamination in the removed soil. Excavation continued to approximately 72 in. bgs. At this depth, the 4-in. warm waste pipeline (WDC-605) was uncovered, and water was observed seeping from around the 4-in. pipeline. As soil was removed from around the pipe, a puddle of approximately 3 gal of radioactively contaminated water formed in the hole around the pipe It became evident from an approximate 1/2-in. offset shear in the pipe that the 4-in. warm waste pipeline had broken.

Further, the edges of the sheared pipe were corroded, indicating that the break may have existed for some time. The ratio of the surface area of the crack to the cross-sectional area of the pipe was approximately 0.13; approximately 13% of the discharge through the pipe could potentially have been lost through the crack. Approximately 9,000 gal of warm wastewater flowed through this line on a daily basis. A survey of the soil was performed using a hand-held frisker and confirmed the presence of 300,000 dpm of contamination in the removed soil."

WORKS ON:

Any Metal or Plastic

Steel • Copper • Aluminum • Galvanized • Black Iron • Stainless Steel • PVC • CPVC • Fiberglass • Polyethylene • Polypropylene and even PVDF.

USED FOR:

Routine and Emergency Leak Repair • Hazardous Material Spill Control • Structural Reinforcement • Sealing Joints • Rebuilding Thinning Walls • Corrosion Proofing • Abrasion Protection • Repairs in Hard to Reach Areas • Underwater Repairs • and Much More.

USED WORLDWIDE BY:

Petrochemical & Refining • Industrial Processing • Pulp and Paper • HazMat Response • Military • Marine • Irrigation • Offshore • Power Generation • Facilities Maintenance • Water/Wastewater • Manufacturing • Commercial Fishing • Food Processing • Pharmaceutical • Automotive

PRESSURE to 400 PSI

TEMPERATURES to 500° F

PIPES to 18" in Diameter

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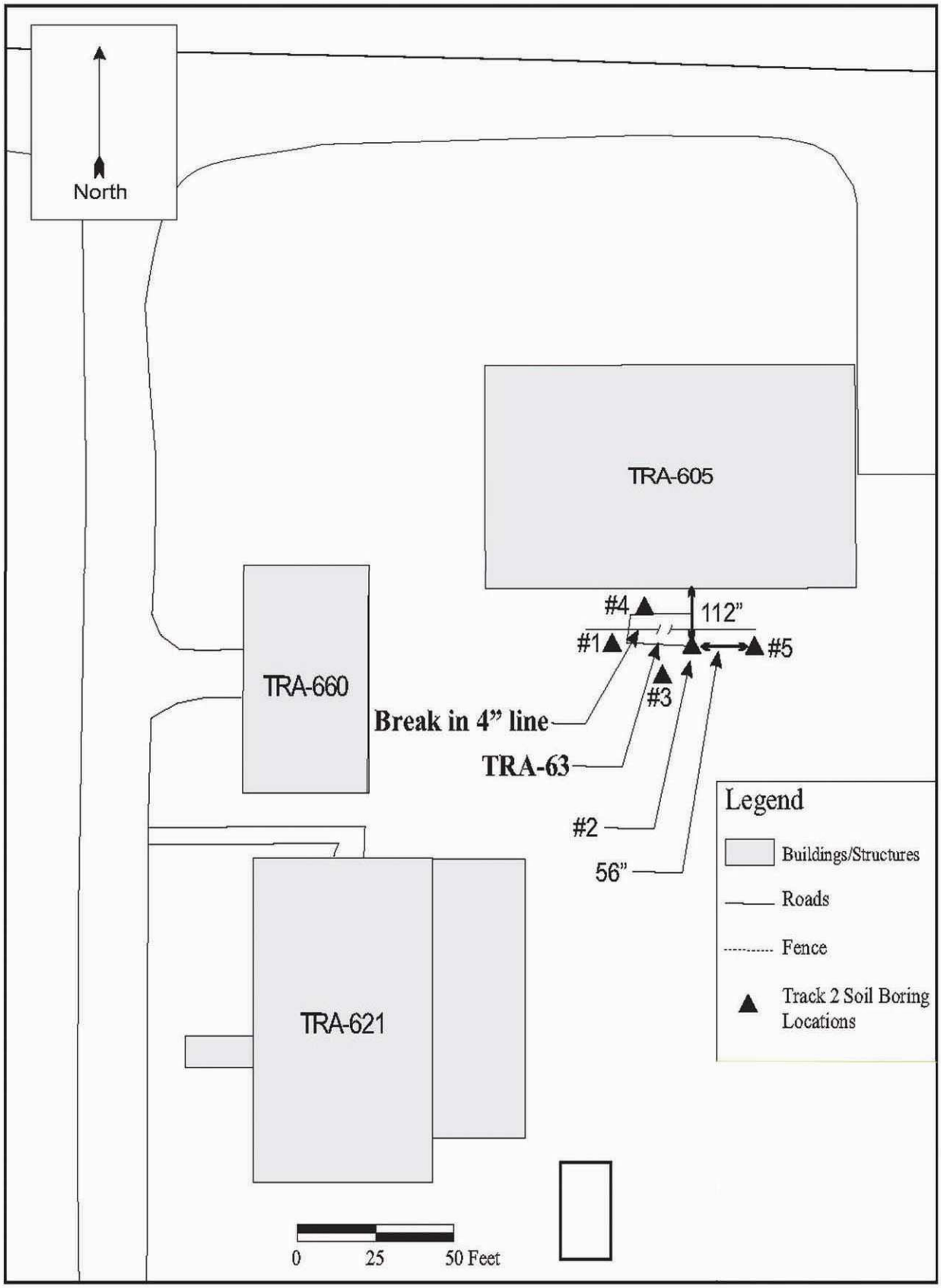
www.indumar.com

*Obtained from public documents (available on request)

InduMar PRODUCTS, INC.
PROBLEM SOLVING PRODUCTS FOR INDUSTRY™


North
TRA-605
TRA-660
TRA-621
#4
112"
#1
#5
#3
Break in 4" line
TRA-63
#2
56"
Legend
Buildings/Structures
Roads
Fence
Track 2 Soil Boring Locations
0
25
50 Feet