

PITTSBURGH MINING RESEARCH DIVISION



Contract Update: Design and Construction Considerations for a Protected Compressed Air Line to a Refuge Alternative

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Refuge Alternative Webinar

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Pittsburgh PA



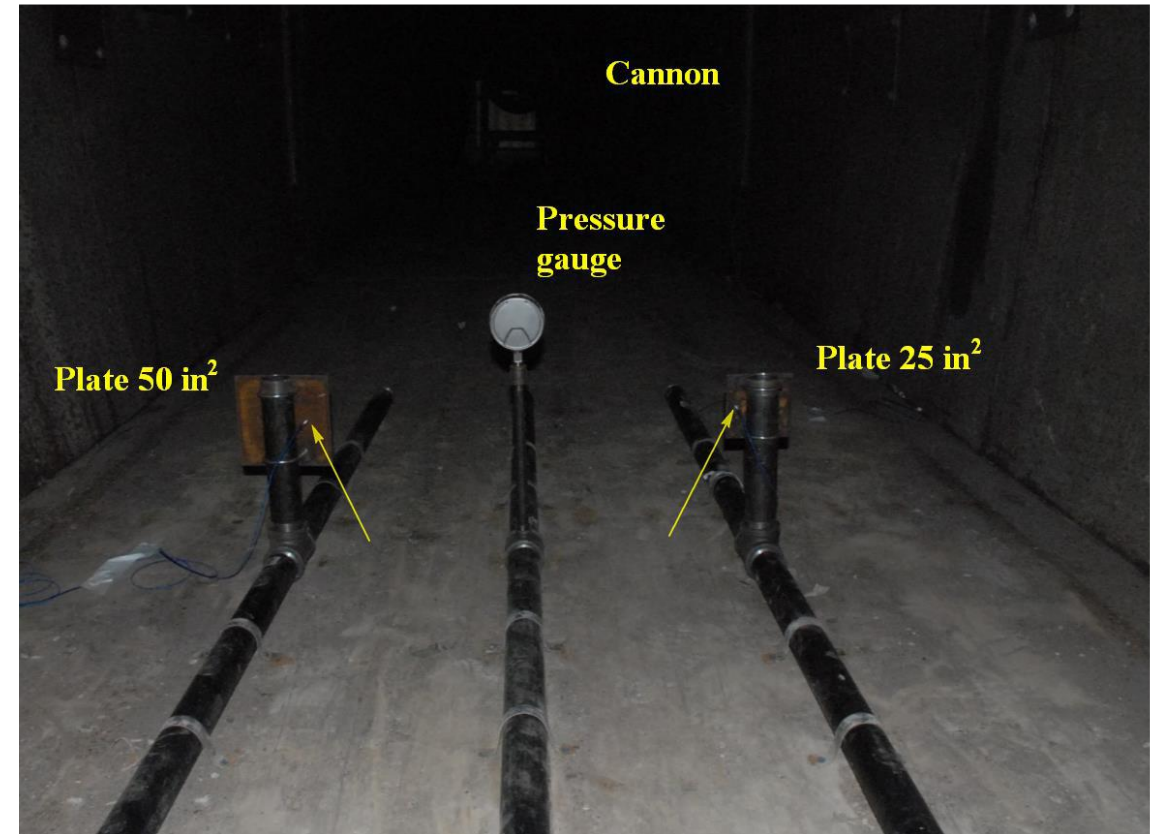
University of Kentucky Research Contract

“Design and Construction Considerations for a Protected Compressed Air Line to a Refuge Alternative”

The proposed research includes:

- Air line anchoring system designs and air line fitting survivability
- Impact testing of different air line materials and thicknesses
- Air line impact protection scenarios
- Effects of corrosion on air lines

Pipe Samples for Shock Tube Testing

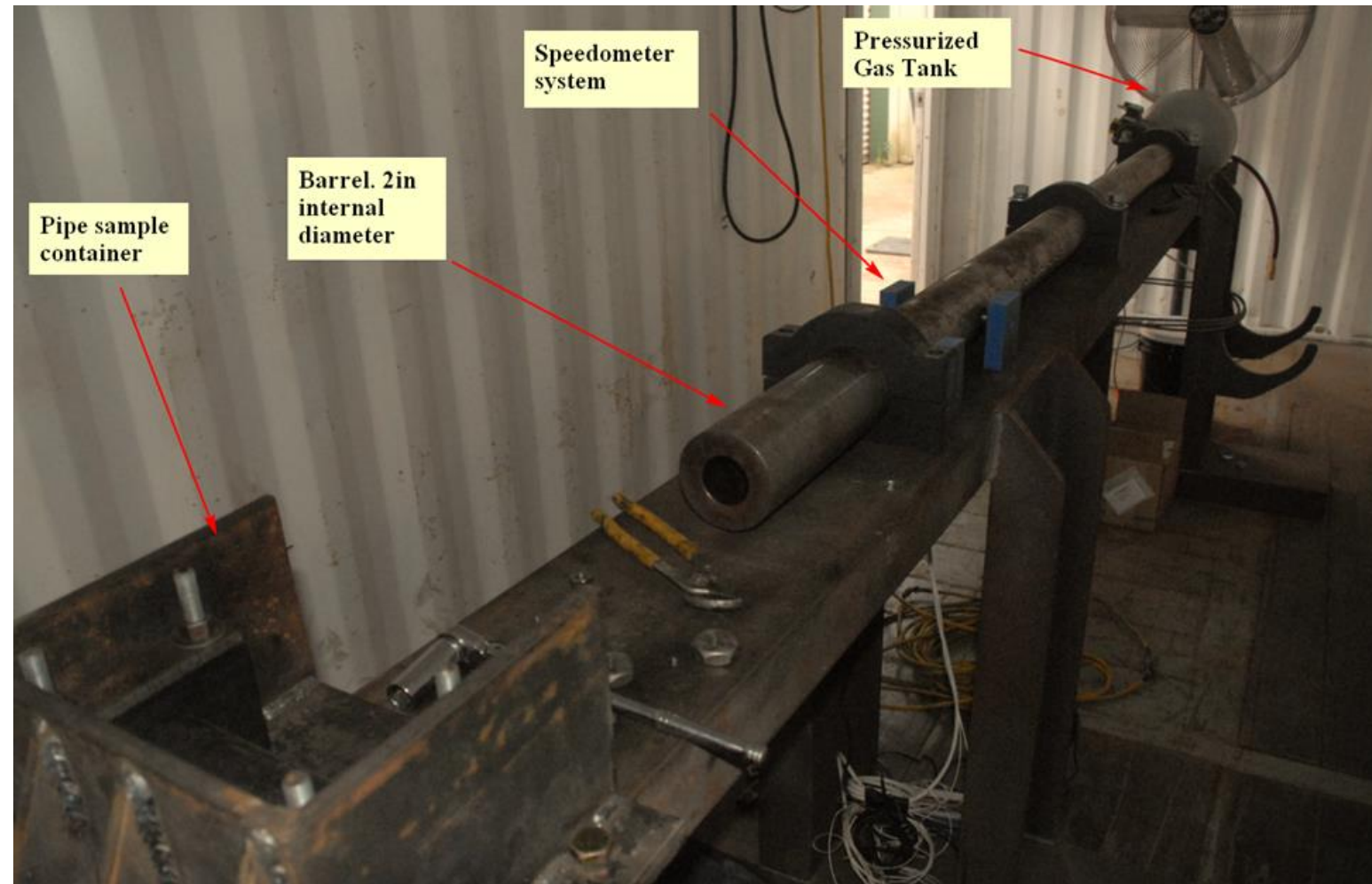


Photos courtesy of University of Kentucky

Shock Tube Explosion with Pipe Samples



Pipe Impact Tests



Modified Hopkinson-Bar device for high strain-rate experiments

Photos courtesy of University of Kentucky

Pipe Impact Video



Video courtesy of University of Kentucky

Pipe Impact Samples



Different pressures and different wall thickness pipe

Photos courtesy of University of Kentucky

Pipe Impact Samples



Different protection scenarios
using clay, gravel, clay with gravel

Photos courtesy of University of Kentucky

Research Contract Summary

- Shock tube tests on air line anchoring, pipe fittings and gauges completed
- Pipe impact tests of different materials, thicknesses, and protection scenarios completed
- Corrosion testing in progress
- Results to be available upon contract completion (August 2016)

Questions?

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