BURIED & UNPIGGABLE PIPELINES

An external view. A focused investigation.

Non-contact magnetometry for locating magnetic anomalies along accessible pipeline corridors.



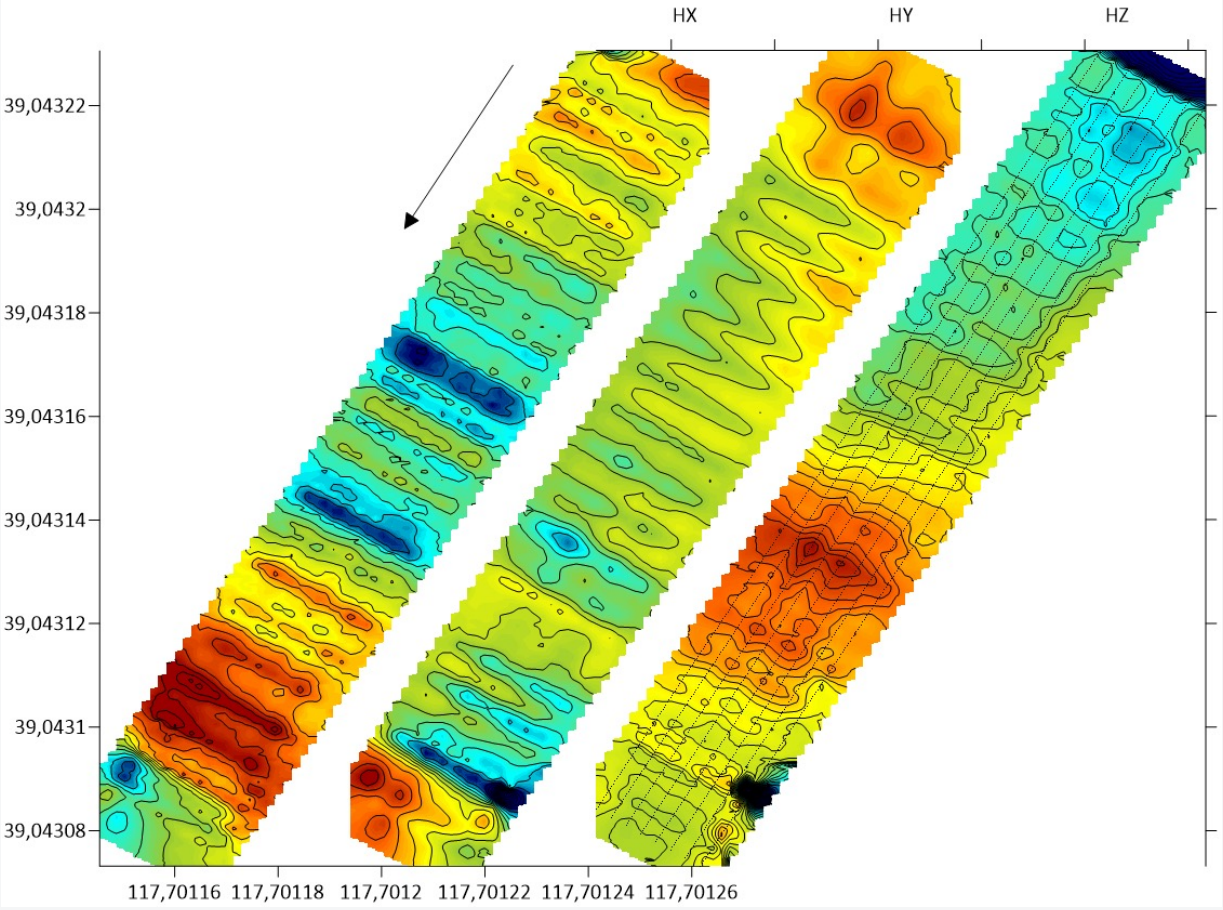
Multi-sensor magnetometry equipment shown in the supporting cast-iron pipe trial material.

Where in-line inspection is impractical, an external survey may provide another source of information for the integrity team. BROT evaluates the application, establishes a repeatable acquisition plan and identifies indications for follow-up examination.

SUPPORTING TRIAL EVIDENCE

Buried line. Magnetic response.

The supplied study includes a survey above a buried water line. The HX, HY and HZ maps below show the three measured magnetic-field components, presented against the survey coordinates.



Original trial map. Colour represents variation within each component; it is not a defect-severity or remaining-life scale. Scales and units must be reviewed with the underlying data.

What the trial highlights

Nearby iron hatches, grilles and other metallic objects contribute to the response. An anomaly therefore requires contextual review and verification before it can be assigned to the pipe or a particular damage mechanism.

APPLICATION DEVELOPMENT

Plan the survey around the asset.



1. Assess feasibility
Review pipe material, diameter, burial depth, route access and nearby metal. The source trials cover cast iron; performance on other materials and configurations requires qualification.

2. Control acquisition
Define sensor position, orientation and stand-off. Establish repeat lines, positional references and an interference register.

3. Correlate indications
Compare the magnetic map with route records, joints, repairs and site features. Select investigation locations with the operator.

4. Verify and update
Confirm selected indications by appropriate direct examination or complementary NDT. Integrate the findings into the asset record and reassess the survey interpretation.

Scope and interpretation

This is an application-development approach, not a stand-alone integrity acceptance test. The supplied trial does not establish universal detection limits, probability of detection, defect sizing or fitness-for-service criteria. Magnetometry is distinct from direct-contact RMF stress screening.

The trial recommends controlling metallic interference, maintaining accurate position and orientation, and limiting sensor distance relative to pipe diameter. Its suggested stand-off of no more than five pipe diameters is a trial recommendation, not a validated burial-depth guarantee.

Source: supplied cast-iron pipe magnetometry presentation dated 30 July 2026. Images and measured maps are historical supporting material, not BROT field deployments. Industry context: PHMSA, Direct Assessment - Gas Pipelines; indirect findings require direct examination and evaluation.

Discuss a feasibility survey: info@blackrockoilfieldtech.com