



ADV Integrity & Failure Analysis

ADV Integrity's ACER Approach to Metallurgical Assessments and Failure Analysis



Prove It In Here So You Can Push It Out There™

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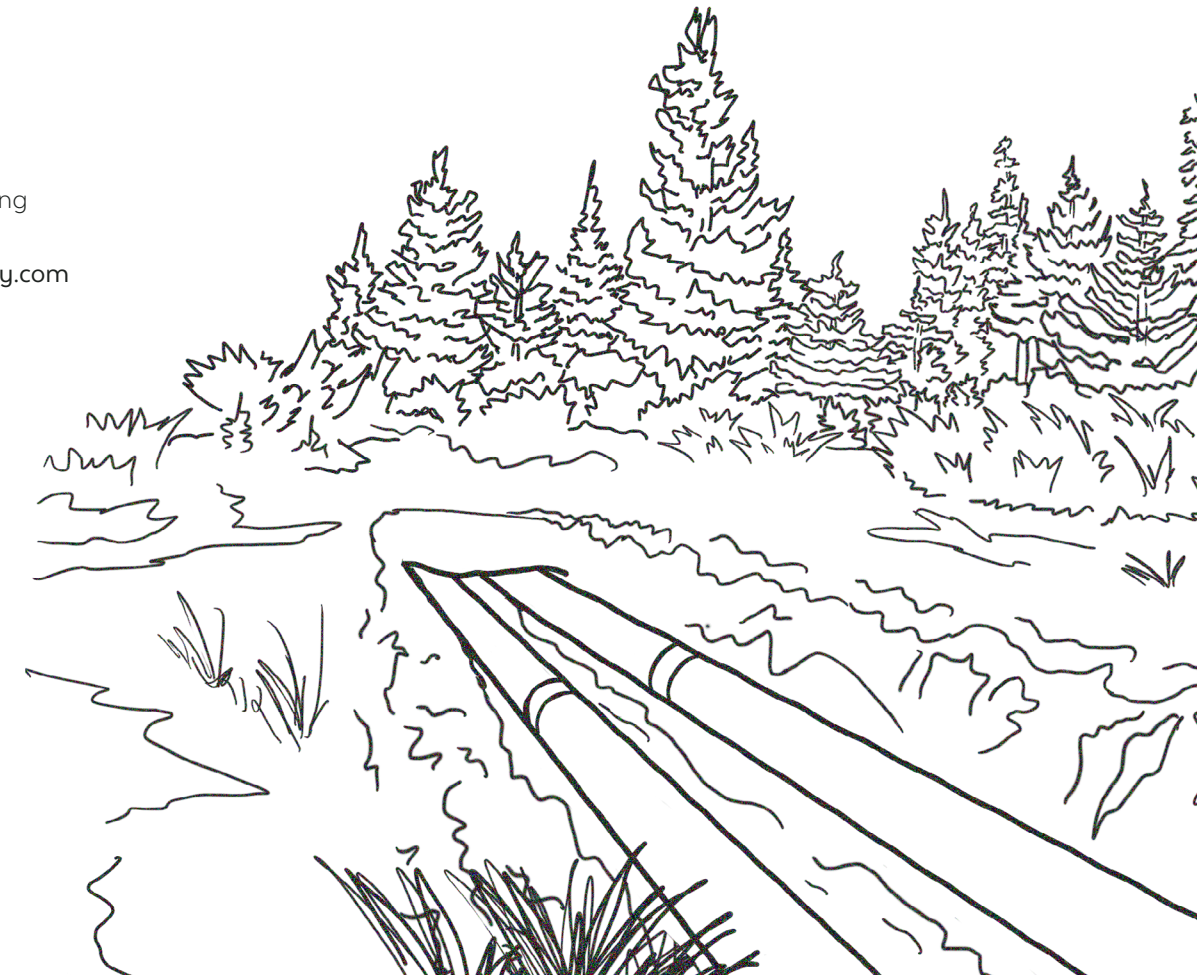
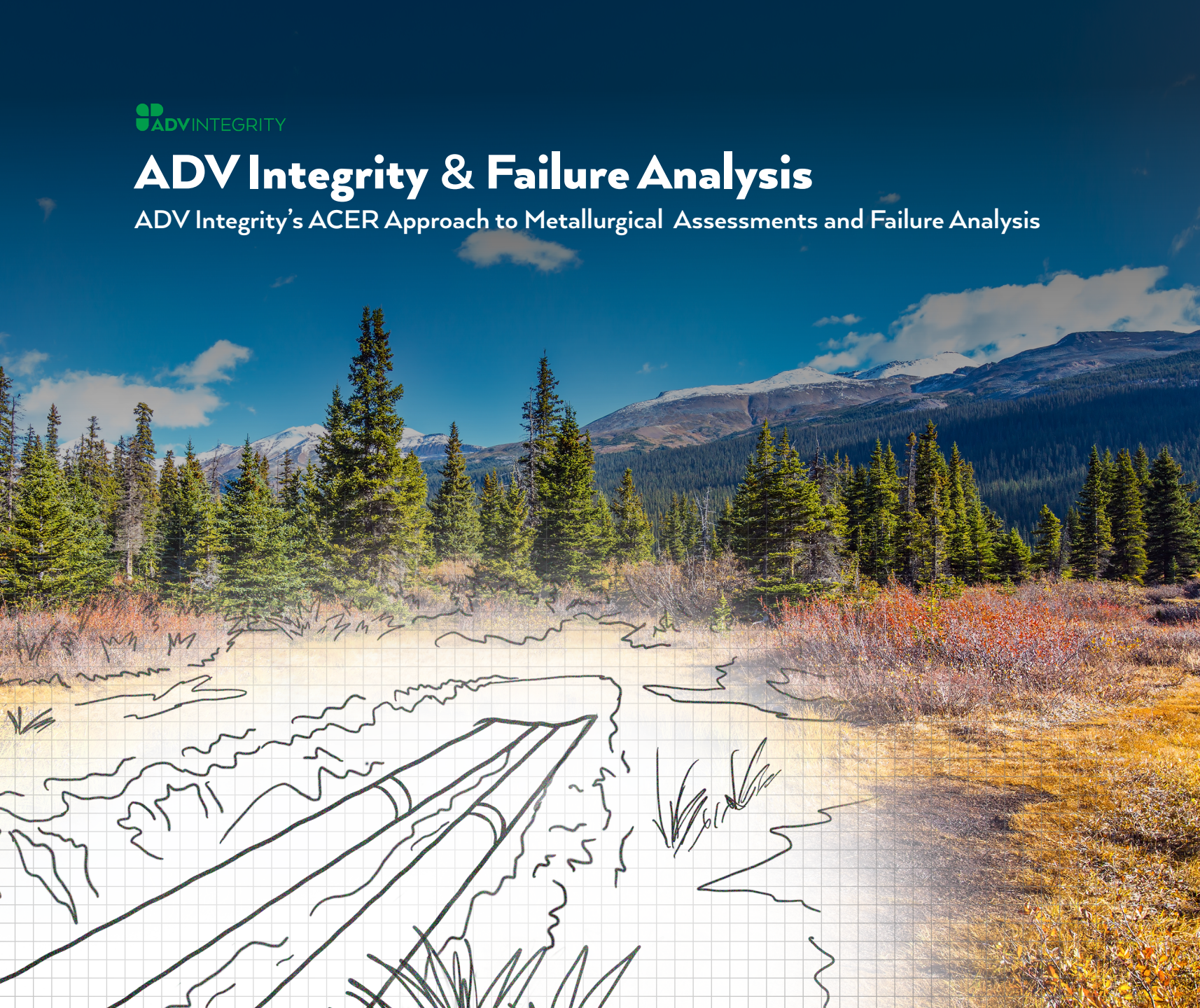
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ACER: ADV Integrity's Approach to Metallurgical Assessments and Failure Analysis

ACTION

When the need for a failure analysis arises, the first step is to establish a plan of action. According to the Pipeline and Hazardous Materials Safety Administration (PHMSA), a properly formulated plan can **reduce risk of errors and inefficiencies**.

At ADV Integrity, **our industry-leading metallurgical experts** can guide you through this first step in the failure analysis process. The plan of action will encompass the following elements, according to PHMSA regulatory standards:

- Sample collection and documentation
- Failed section removal process
- Relocation logistics and transfer of custody
- Measurement & non-destructive examination guidance



COLLECT

As part of the collection phase, **background information and photographs** must be documented at the site and at the testing facility. A Chain of Custody must also be established, documenting everything from removal to shipping, as well as a procedure for protecting the sample. The outcome of this phase will be a **comprehensive set of data** about the failed section's history, background, and its operating environment.

The failure analysis experts at ADV Integrity will coordinate the data collection process and ensure compliance with PHMSA regulatory standards. Our provided **Collection Guide** will walk you through the proper collection, relocation, protection, and transportation procedures of the sample to ensure regulatory compliance.

EVALUATE

Our experts can create a **customized testing protocol** based on extensive knowledge of pipeline degradation mechanisms for testing the samples to determine the root cause of the failure, including:

- Nondestructive testing
- Measurements of line pipe characteristics and geometry
- Fractographic examination
- Metallographic examination
- Mechanical testing

We will perform the failure analysis test at our fully-equipped ADV Integrity facility. Our **efficient analysis process** will ensure you meet your timeline requirements. Additionally, our metallurgical experts will guarantee that your results are verifiable and reliable.

Our **full-scale testing and numerical modeling capabilities** provide you with a one-stop shop to evaluate and understand even the most complex failures.

REPORT

After performing the test, our experienced metallurgical experts will produce a final report detailing the failure analysis results. The report will include comprehensive information to aid in your decision-making regarding **asset integrity and risk management**.

Our experts have **unique perspectives and experiences** with PHMSA regulatory compliance and operator-specific objectives and concerns—we understand that no two failures are exactly alike. Your report content will be customized to the demands of your specific situation, so you can walk away knowing the key insights pertinent to **safe, reliable, and efficient** decision-making.

Advancing Industry Together