Water Crossings from a Pipeline Surveillance Perspective

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Overview

• What is Surveillance?
• Why do Surveillance?
• Types of Water Crossing Surveillance
• Examples
What is Pipeline Surveillance?

- Regular inspection of Pipelines
- Looking for:
  - Erosion
  - Slumping of earth
  - Signs of leaks
  - Missing Pipe Warning Signage
  - Unauthorized construction or disturbance along the ROW
  - Overgrown Vegetation in the ROW
  - Exposed Pipeline
Why do Surveillance?

- Regulatory Requirements
  - Alberta Energy Regulator (AER)
  - National Energy Board (NEB)
- Production Incentive to reduce loss of product
- Moral Obligation and Social License
- Multi-Use Data
  - Prevent leaks and loss of product
  - For repair and new development planning
Types of Water Crossing Surveillance

Mode of Inspection
- Ground Assessments
- Drone
- Aerial
  - Helicopter
  - Airplane
- Underwater / Boat
Types of Water Crossing Surveillance

Technology
• Visual Inspection/GPS points
• Video and Image Collection
• Thermal
• Hyperspectral Sensor
• Lidar Scanning
• Photogrammetry
• Underwater Sonar or scanning technology
Example Water Crossing Imagery

- Some energy companies ID their crossings and track them from year to year
- Watercrossings include any type of waterbody within close proximity to the pipeline right of way
Watercourses of All Sizes
Affiliated with
Sample Hyperlink to an Image