



Decommissioning Oil and Gas Facilities and the Hazards Associated with Aging Infrastructure

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Definitions

- ▶ **Discontinued** – the temporary deactivation of a pipeline or part of a pipeline.
 - ▶ Could be used again
- ▶ **Abandoned** - the permanent deactivation of a pipeline in a manner prescribed by the Pipeline Rules
 - ▶ Will not be used again (back to earth)

Why Decommission Pipelines and Facilities

▶ **Compliance (AER)**

- ▶ *AER Directive D56 and the Pipeline Rules Section 10*

▶ **Protect the asset from damage** (Discontinuation)

- ▶ Can be restored back to operating

▶ **Save money on taxes and corrosion mitigation** (*Abandonment and Discontinuations*)

- ▶ Limited programs maintained on the line

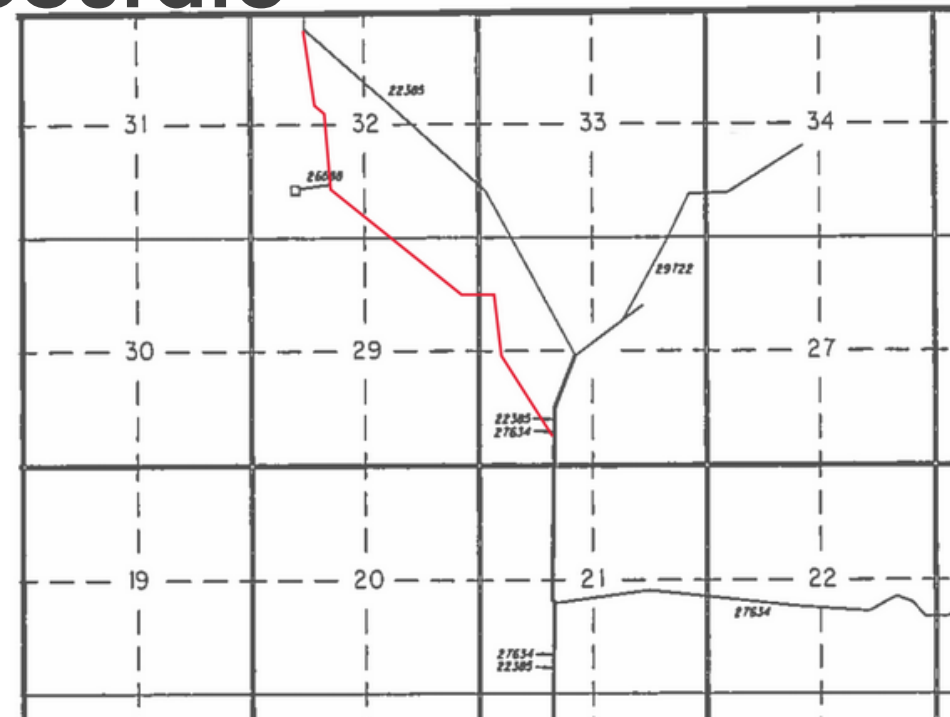
Challenges – Low Market Prices

- ▶ Traditionally oil companies stayed proactive maintaining compliance with pipelines
- ▶ Due to low energy prices and budgets, workforces and programs have been cut resulting in many pipeline & facilities becoming non-compliant
- ▶ Changes in ownership can result in lost data history
- ▶ With layoff packages many senior staff have exited or retired, taking their knowledge with them

Challenges – License Data

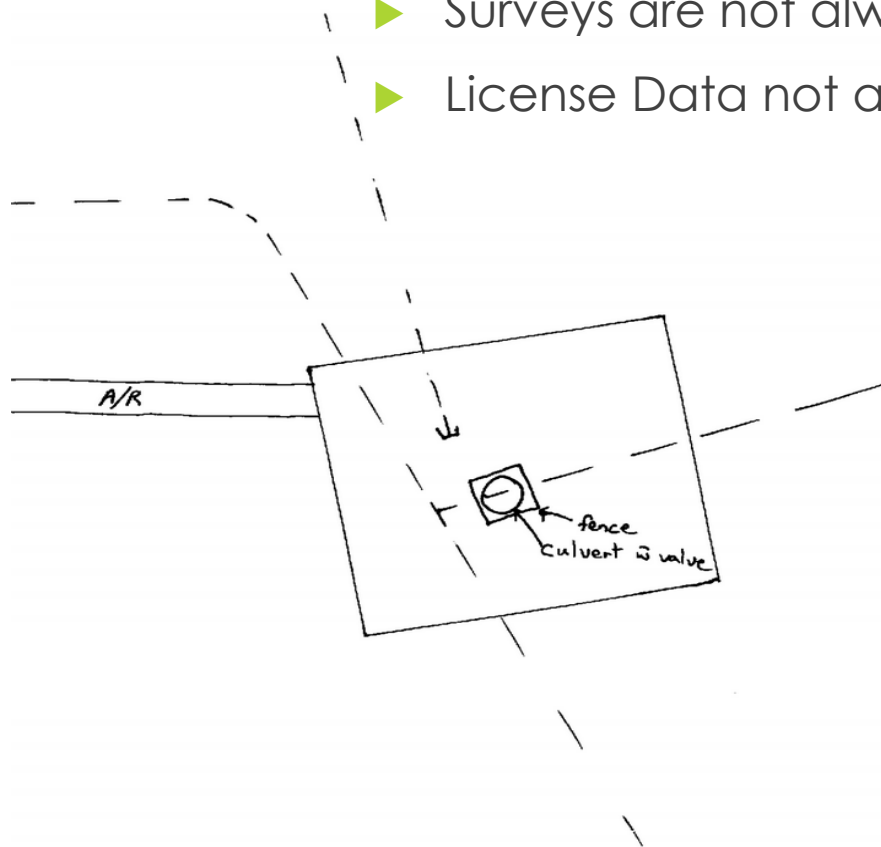
► PL100 data not always accurate

- Duplicate lines
- Never constructed
- Incorrect material and size
- Incorrect to and from location
- Incorrect Status
- Unlicensed lines



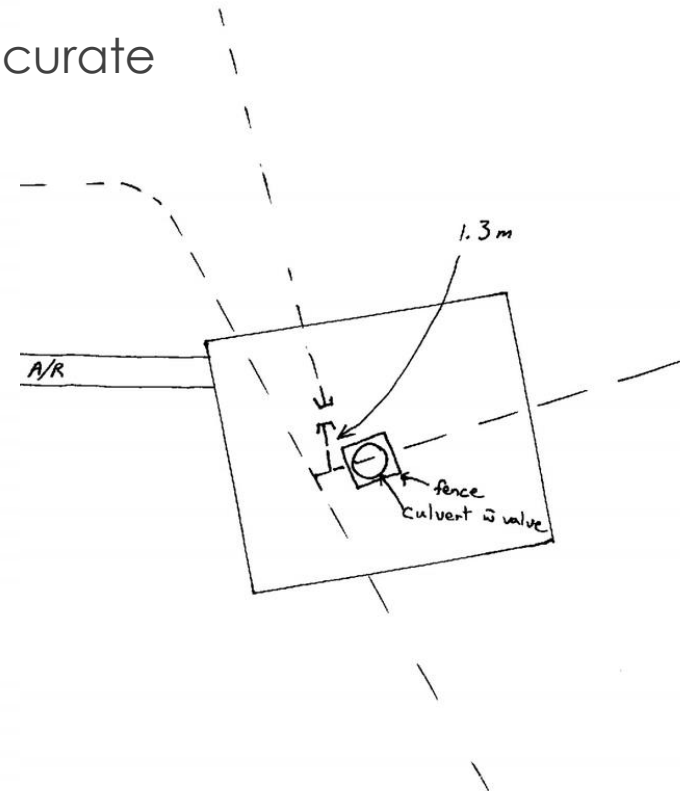
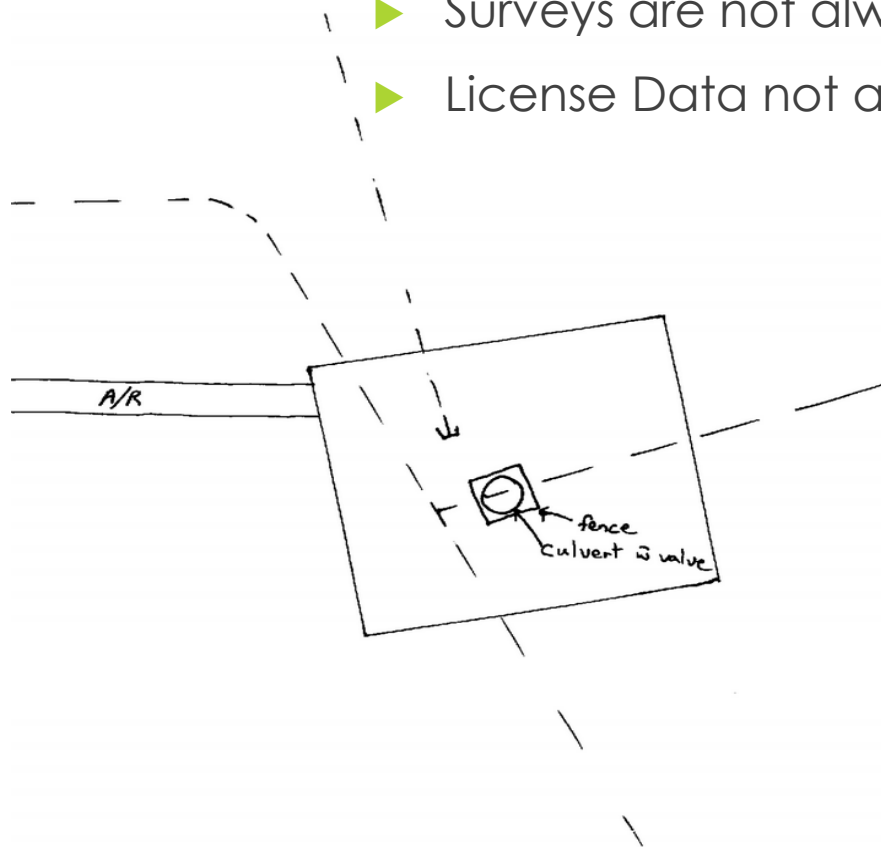
Challenges-Limitations

- ▶ Surveys are not always 100%
- ▶ License Data not always accurate



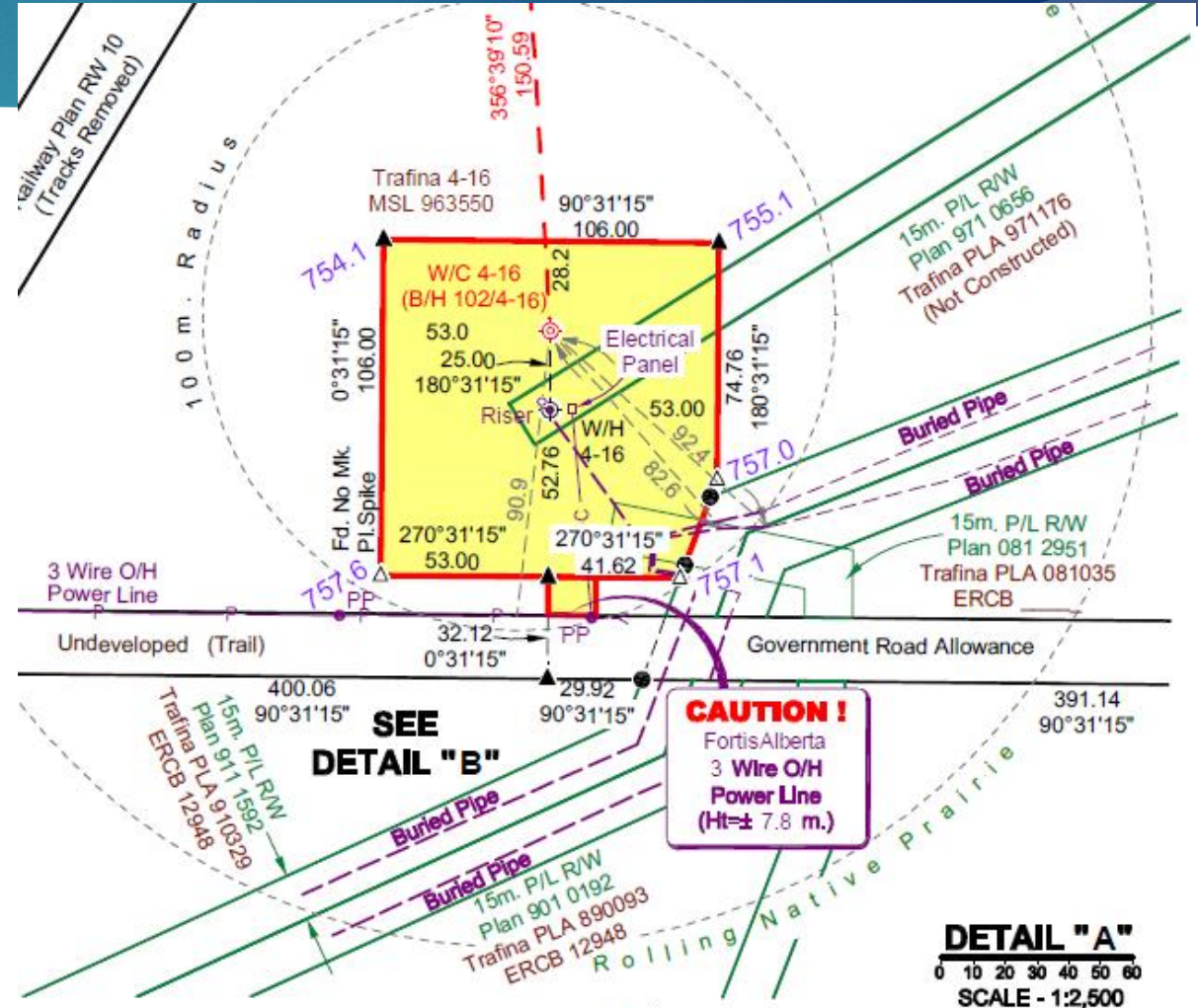
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Challenges-Licensing Limitations

- ▶ When 2 pipelines turns into 7 pipeline segments with different sizes
- ▶ Add cost, complexity to original scope of work (Materials, Services, Scheduling etc.)



Challenges – Sensitive Landowners

- ▶ Historically energy companies have maintained good relationships with landowners
 - ▶ Building and continuing positive relationships with landowners and the communities the producers operate in is of high importance
- ▶ During the downturn low energy prices have resulted in a high rate of insolvency and with that landowners have not being paid surface rights
 - ▶ Some landowners are very upset and will not allow any work to be performed on their land, even if the company owing the surface rights payments has gone out of business.
 - ▶ Certain projects have needed 24/7 security personnel and the RCMP involved to decommission sites.

Challenges-Vandalism

- ▶ Many acts of vandalism and theft have occurred with sites being ownerless



Challenges-Vandalism



Challenges-Vandalism



2016



2018

Challenges-High Graded Sites

- Sites can be high graded or stripped of all valuable infrastructure prior to decommissioning.



Challenges – Past Practices



Pipelines constructed on top of old lines that were never licensed.

Challenges-Past Practices



Challenges –Past practices



Challenges-How was the pipeline left?

- ▶ 2" pipeline believed to be disconnected found with 600psi, tied-in and capped with concrete



Challenges-How was the line left?

- ▶ Was the line cleaned out when shut in?
- ▶ Pressure left on the line?



Challenges-How was the line left?

- ▶ Underground tie-ins?
- ▶ How was the line constructed?
Ex. Size, reductions, threaded connections



Challenges-Location

- Pipelines crossing water courses



Challenges-Location



Challenges-Location

- Proximity to Farms and houses

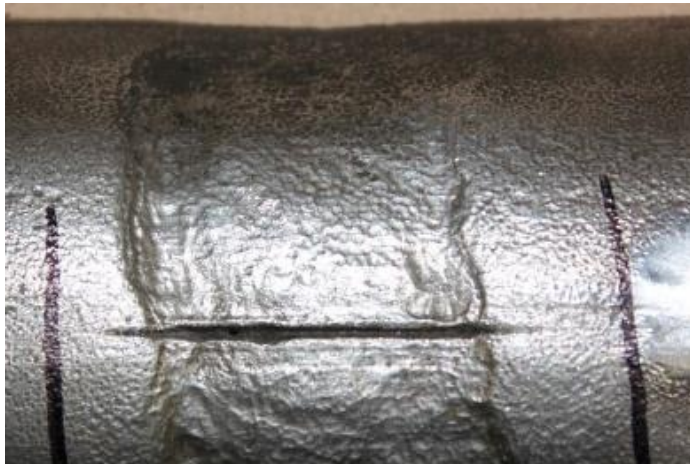


Challenges-Site conditions

- Surface facilities and equipment left in poor repair or hazardous conditions



Challenges- Unsafe Site conditions



Challenges- Unsafe Conditions

- ▶ Arrived on site to a leaking wellbore



Questions?

