

Are You Ready to Retire?

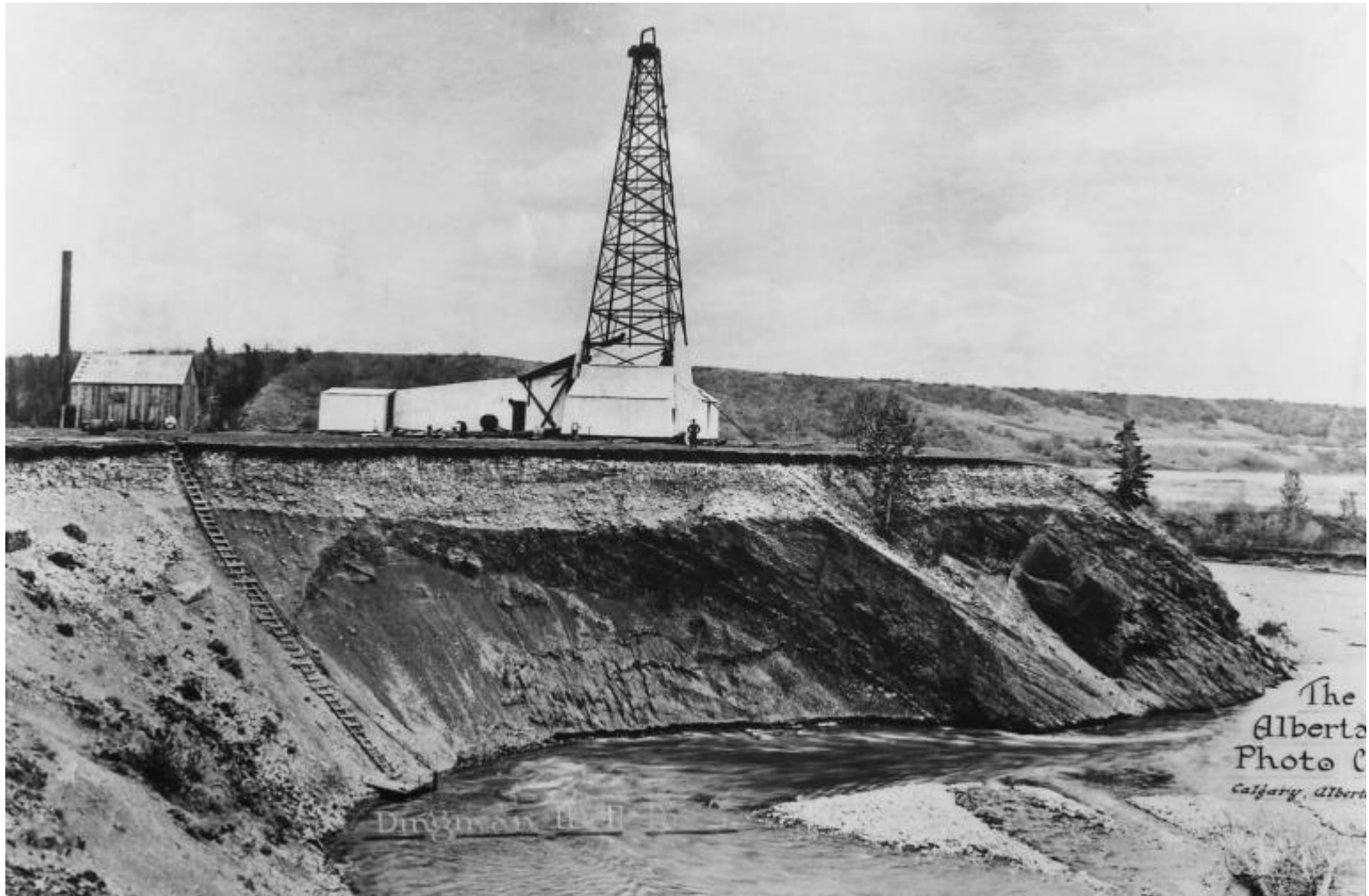
Darcy Cuthill, Director Asset
Retirement and Compliance Solutions

RemTECH
October 19, 2012









Glenbow Archives ND-8-419

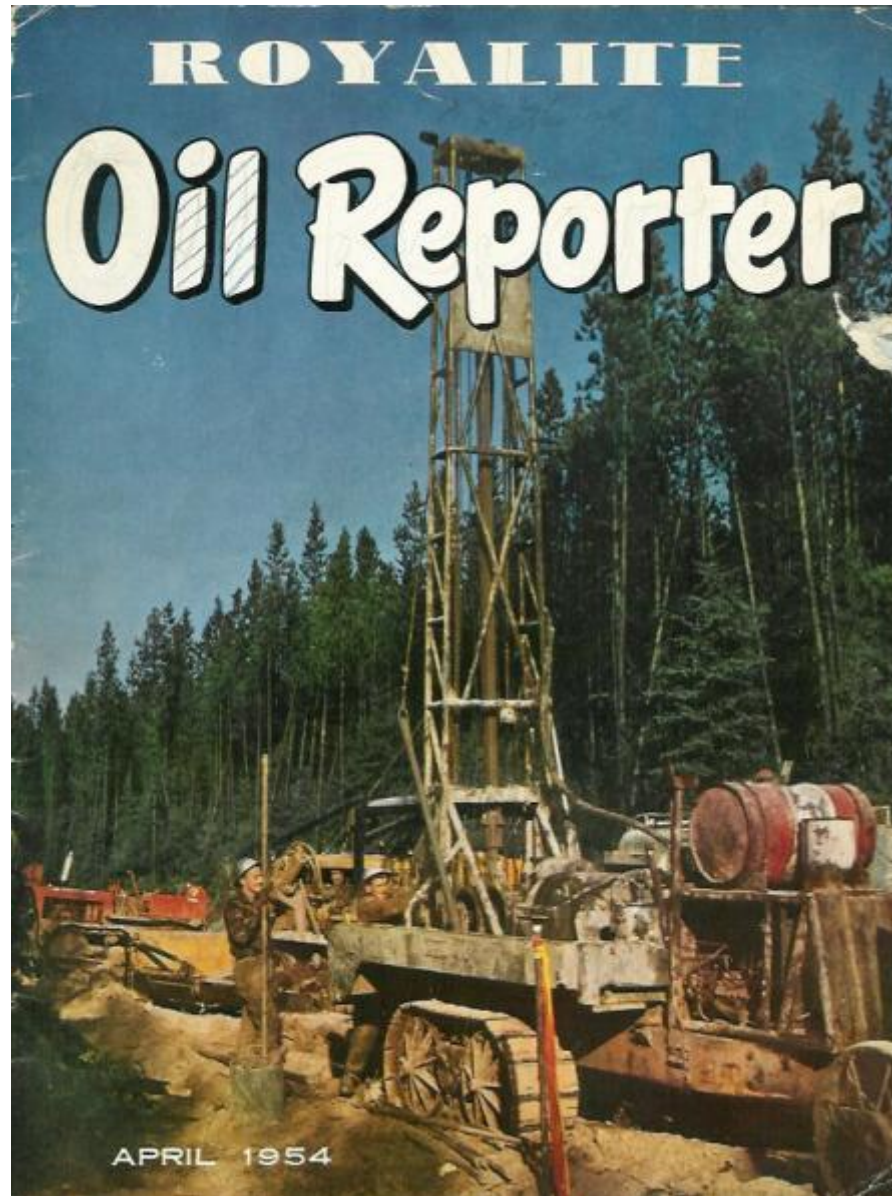


LOOKING WEST, SHOWING DINGMAN WELLS NO. 1 & 2. PHOTO OLIVER.













Dingman II







Agenda

- 1. The issue of age**
- 2. The risk to social license**
- 3. Innovation at the end**



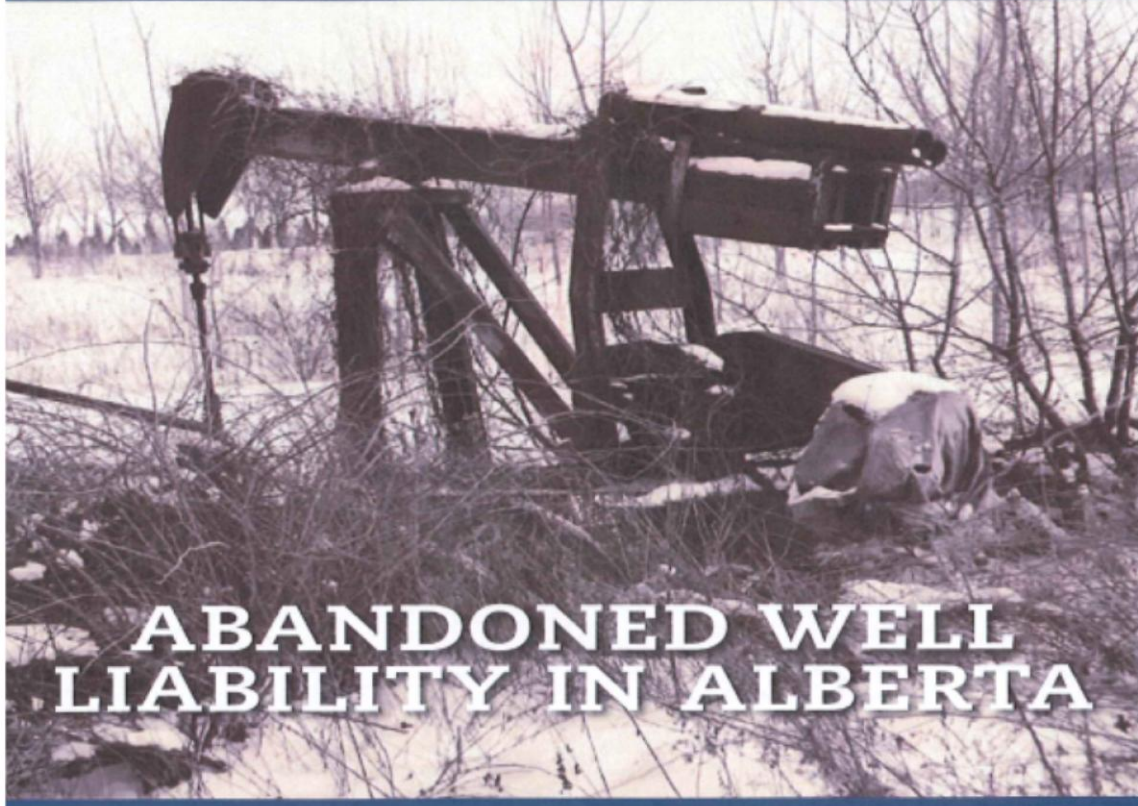
1997

THE NEGOTIATOR

capl

The Magazine of the Canadian Association of Petroleum Landmen
October 2009

capl



ABANDONED WELL LIABILITY IN ALBERTA

Look What's Surfaced
Issues with Secondary
Users of Roads

How Regulatory and Accounting Rule
Changes Impact Inactive Wells
Liabilities and Opportunities

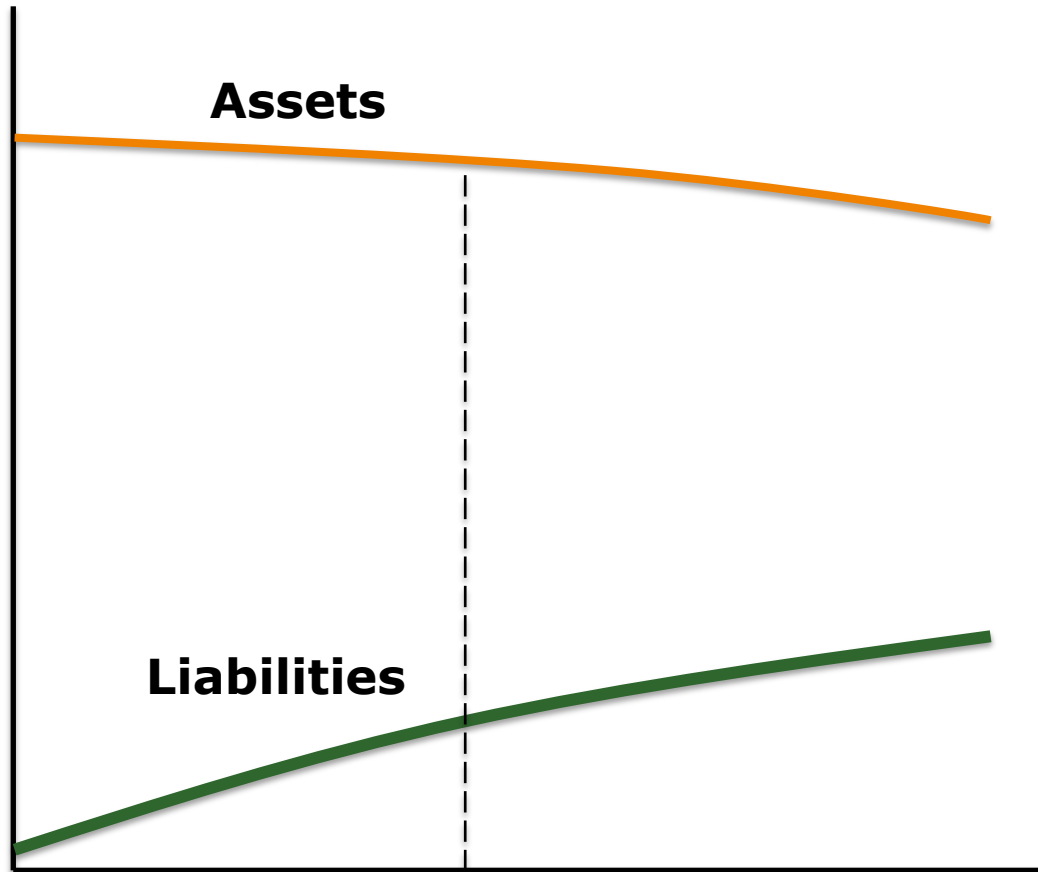
CAPL Member Profile
Greg Strachan

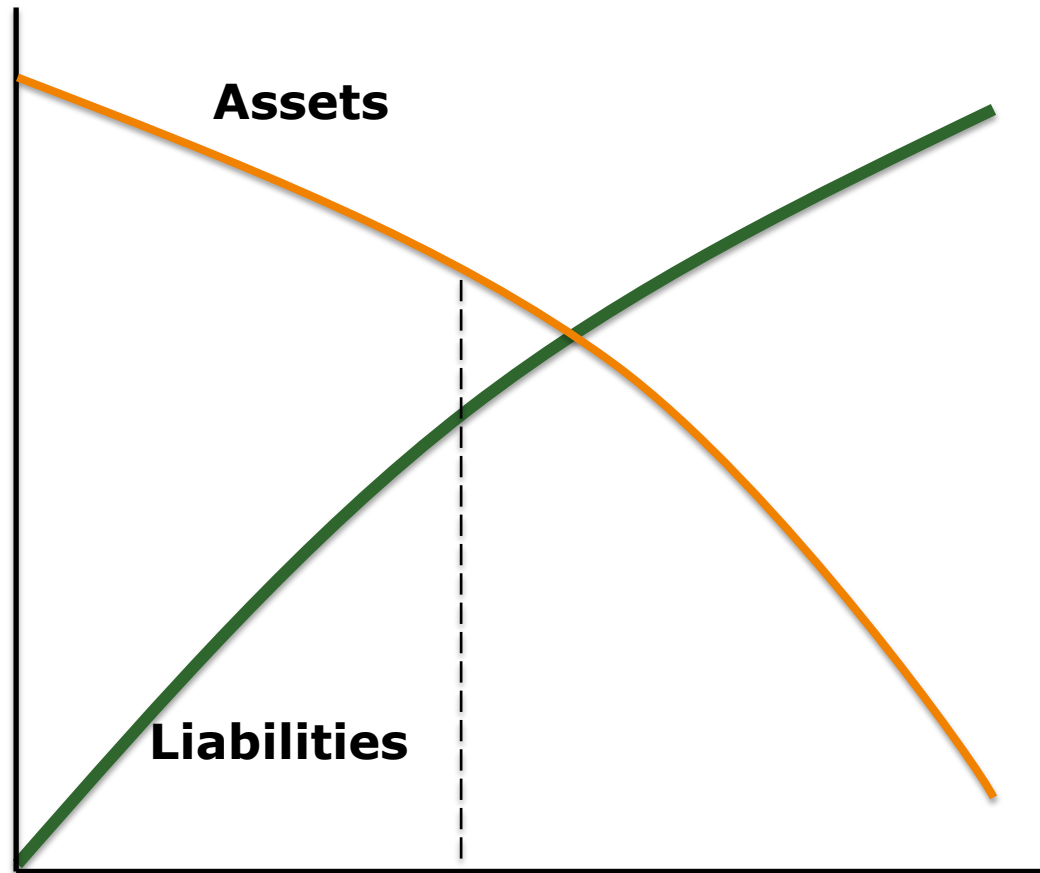


2010





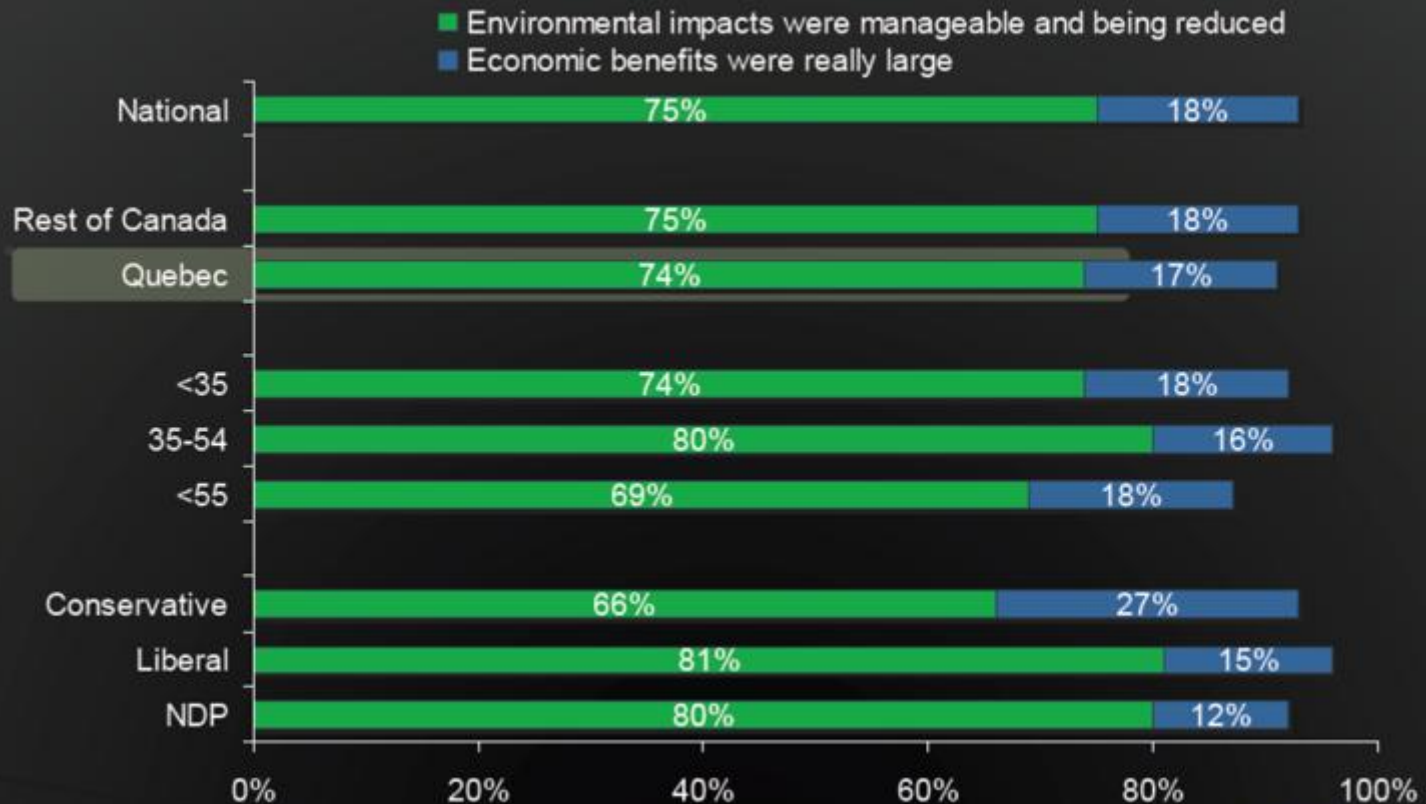








WHAT WOULD MAKE YOU SUPPORT MORE DEVELOPMENT?



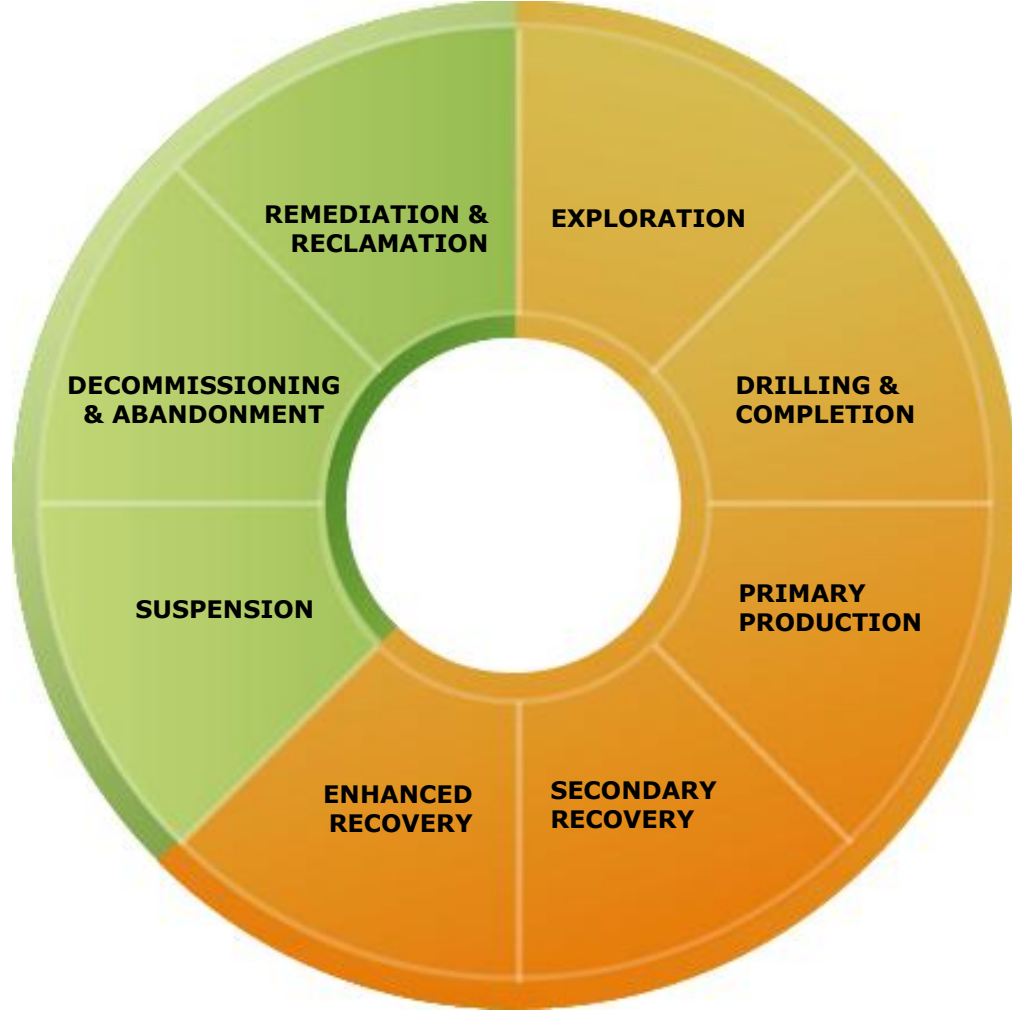
N | A | T | I | O | N | A | L

harrisdecima
A HARRIS INTERACTIVE COMPANY





ASSET RETIREMENT



ASSET DEVELOPMENT



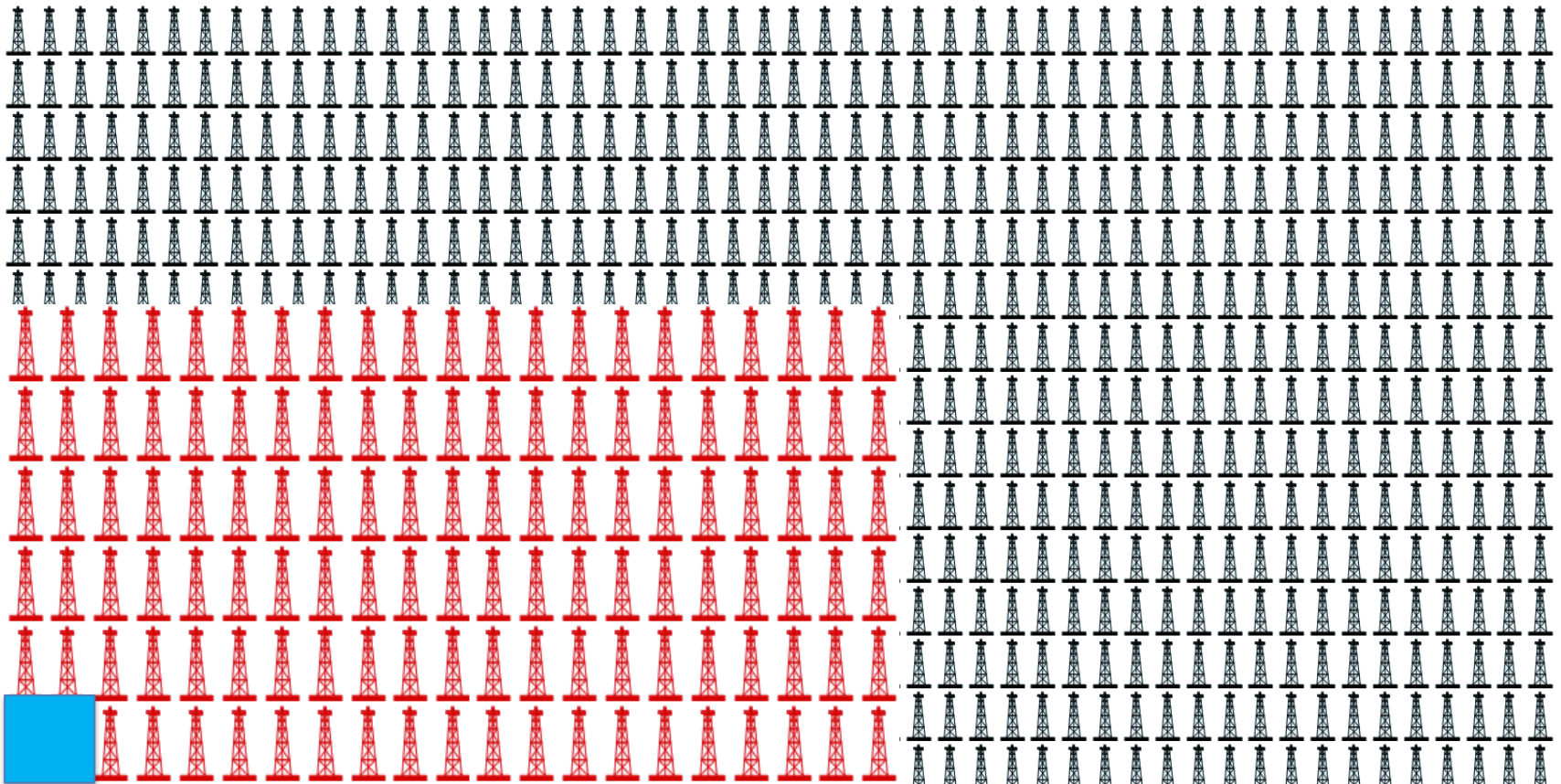


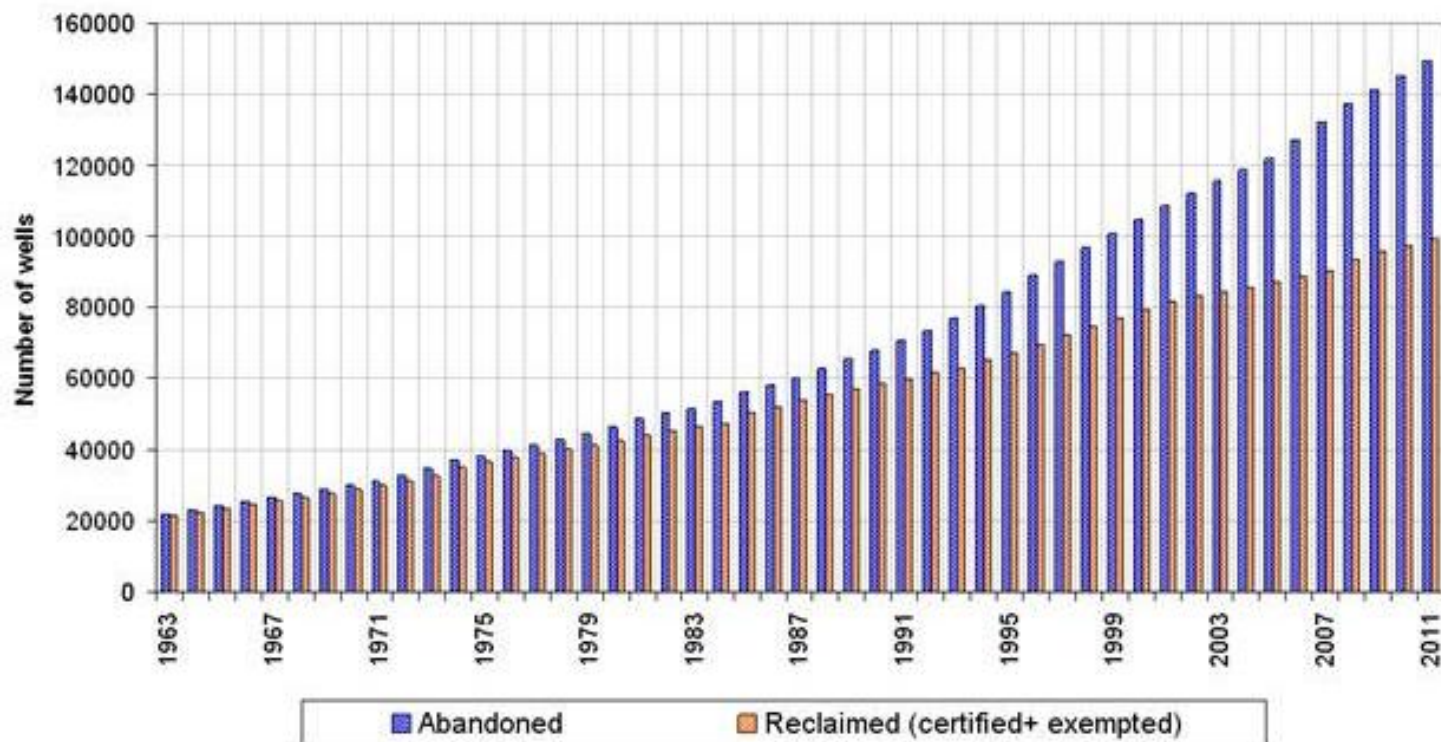
Directive 079

190,000 wells producing

67,000 inactive wells

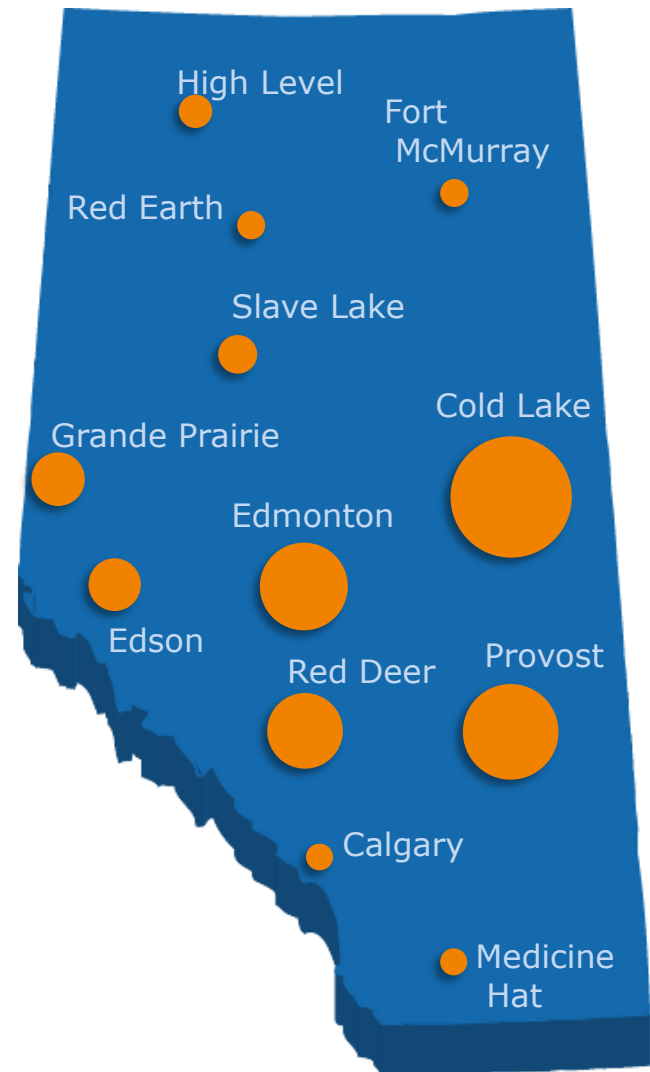
5,000 wells abandoned each year





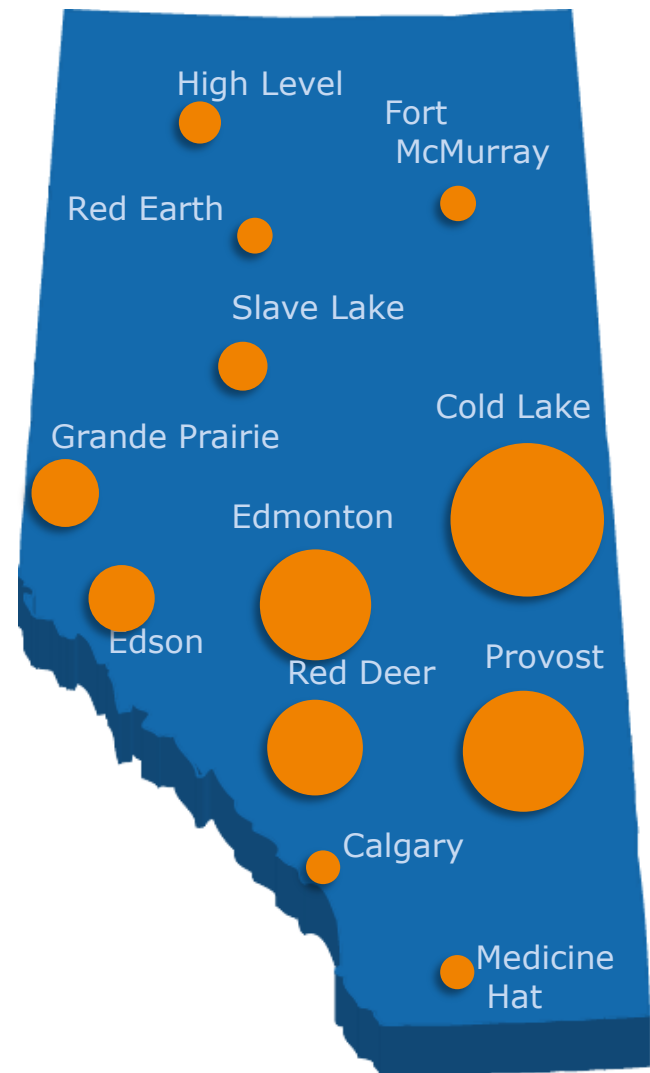
Inactive Wells in 2012

67,408



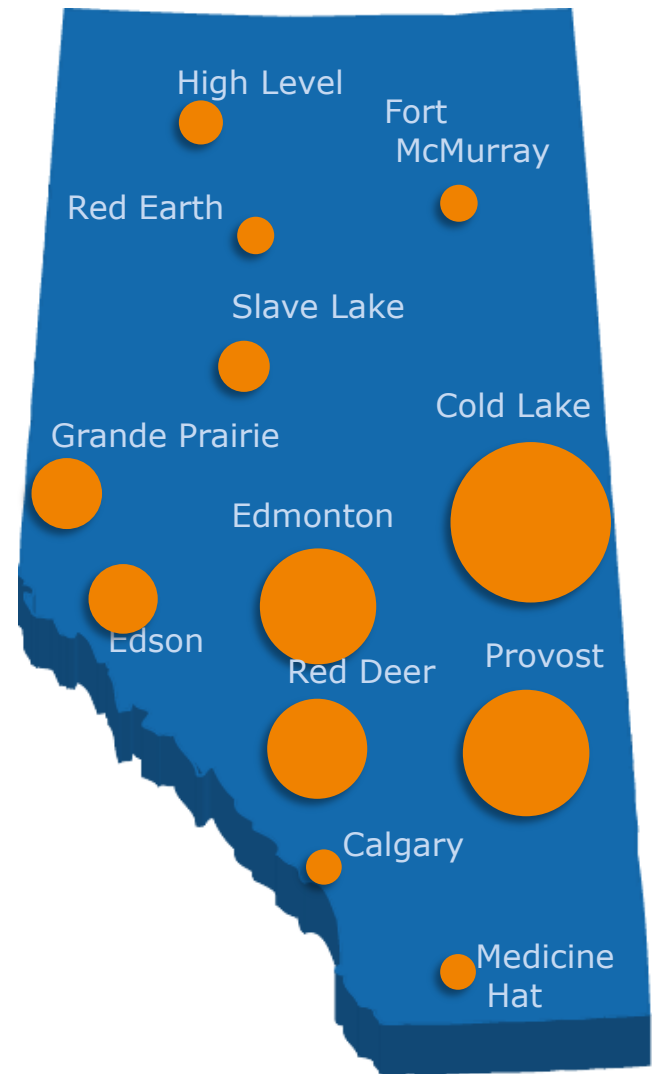
Inactive Wells in 2015

78,075



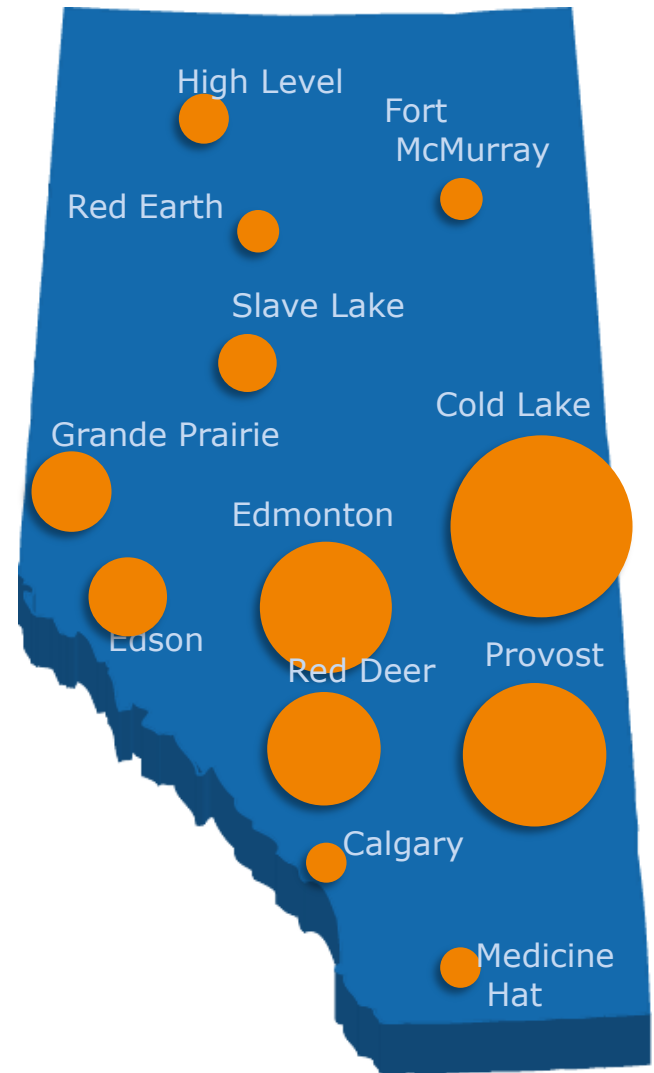
Inactive Wells in 2020

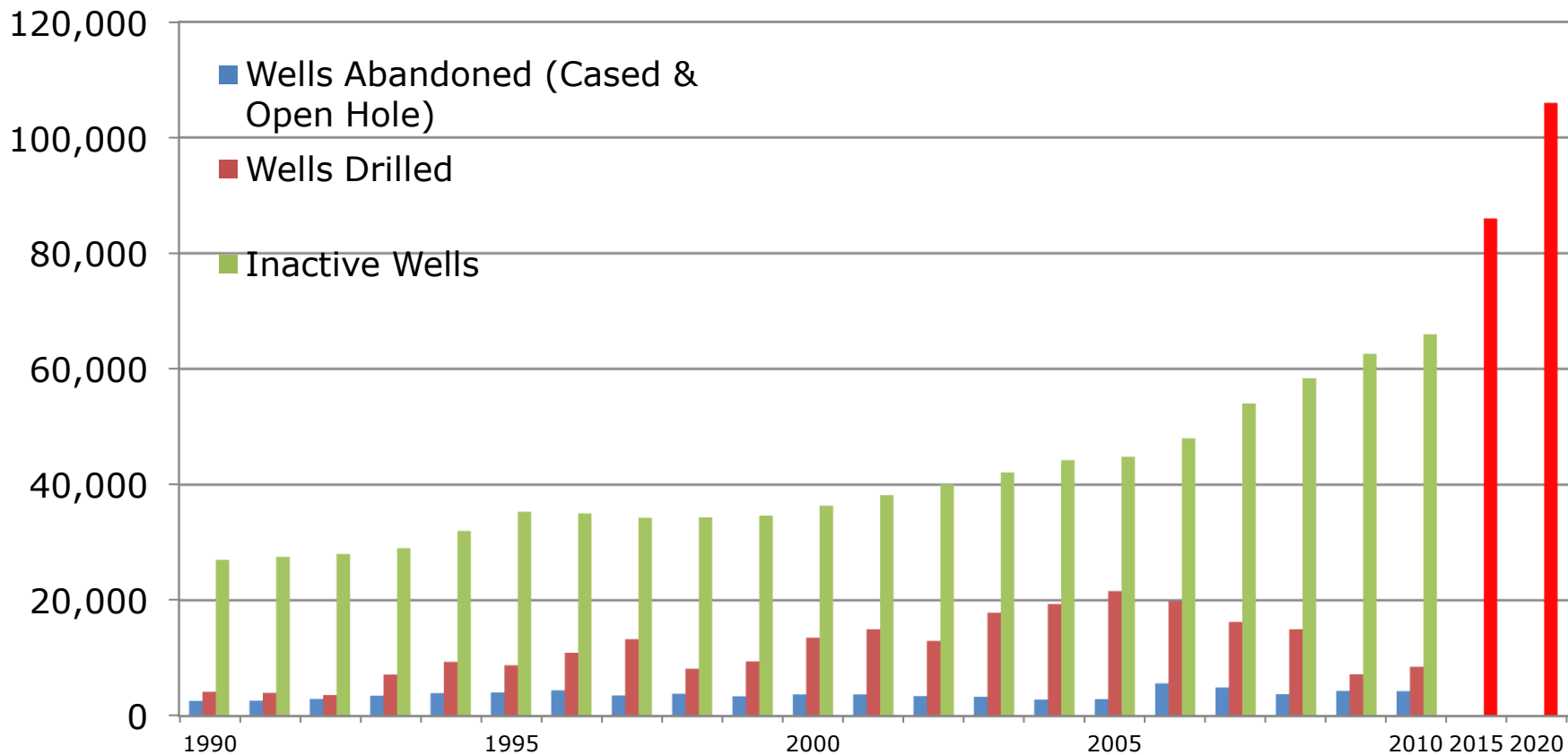
94,860



Inactive Wells in 2025

115,253

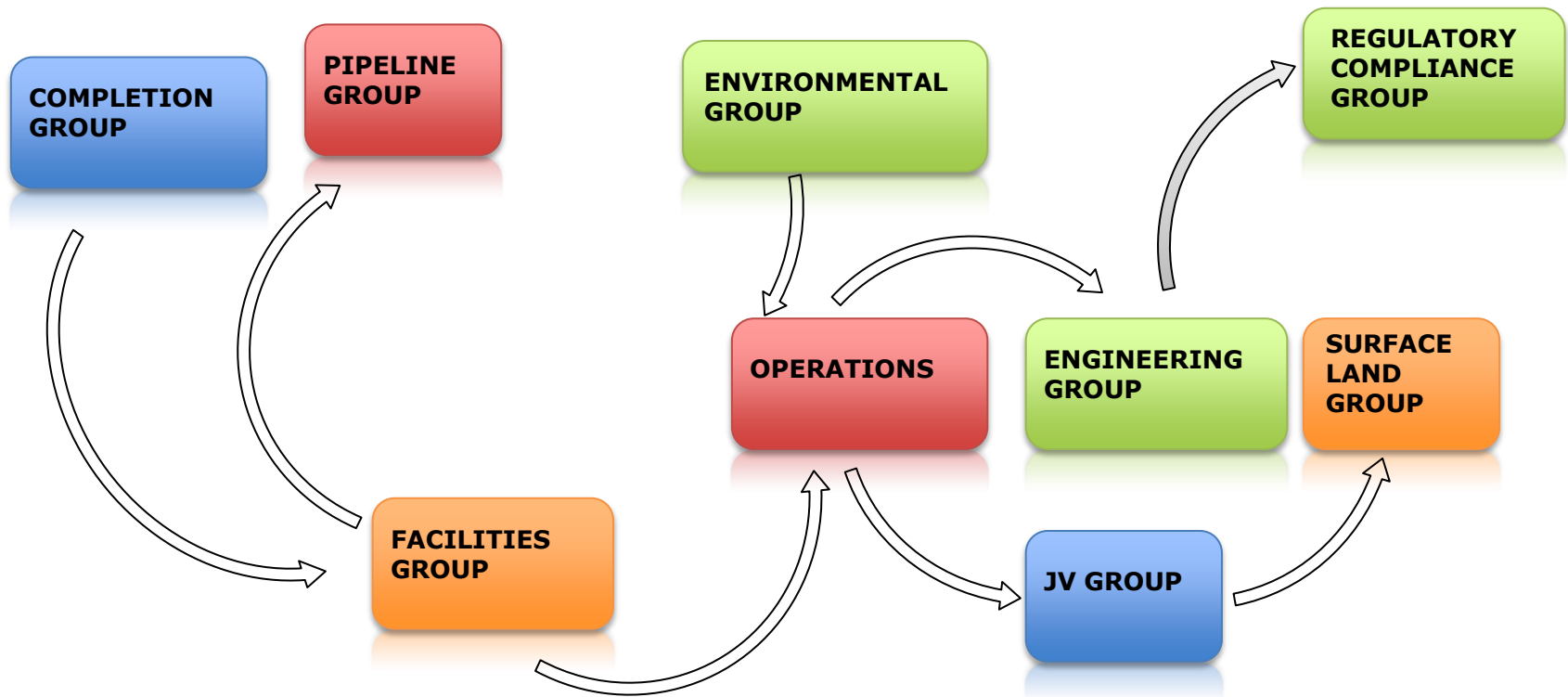


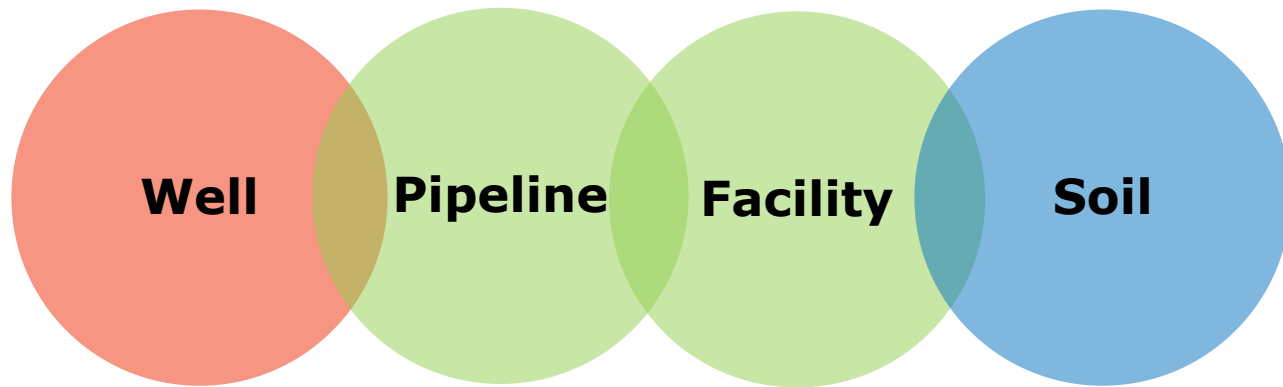




We need safe, cost-effective and efficient management of the entire end-of-life process for wells, pipelines and facilities that restores the land to a natural state, meeting or exceeding regulatory standards.













Case Study in Asset Retirement

Goal: To safely and cost-effectively decommission and demolish client's Gas Plant in Central Alberta



Starting Point



Scope of Work

HazMat Assessment (Golder)
Final Plant Decommissioning
Monitoring Well Abandonment
Pipeline Isolation and Removal
NORM Testing
Plant Demolition
Piling Removal
Waste Disposal
Project Close-Out
Best Practices / Learning Loop



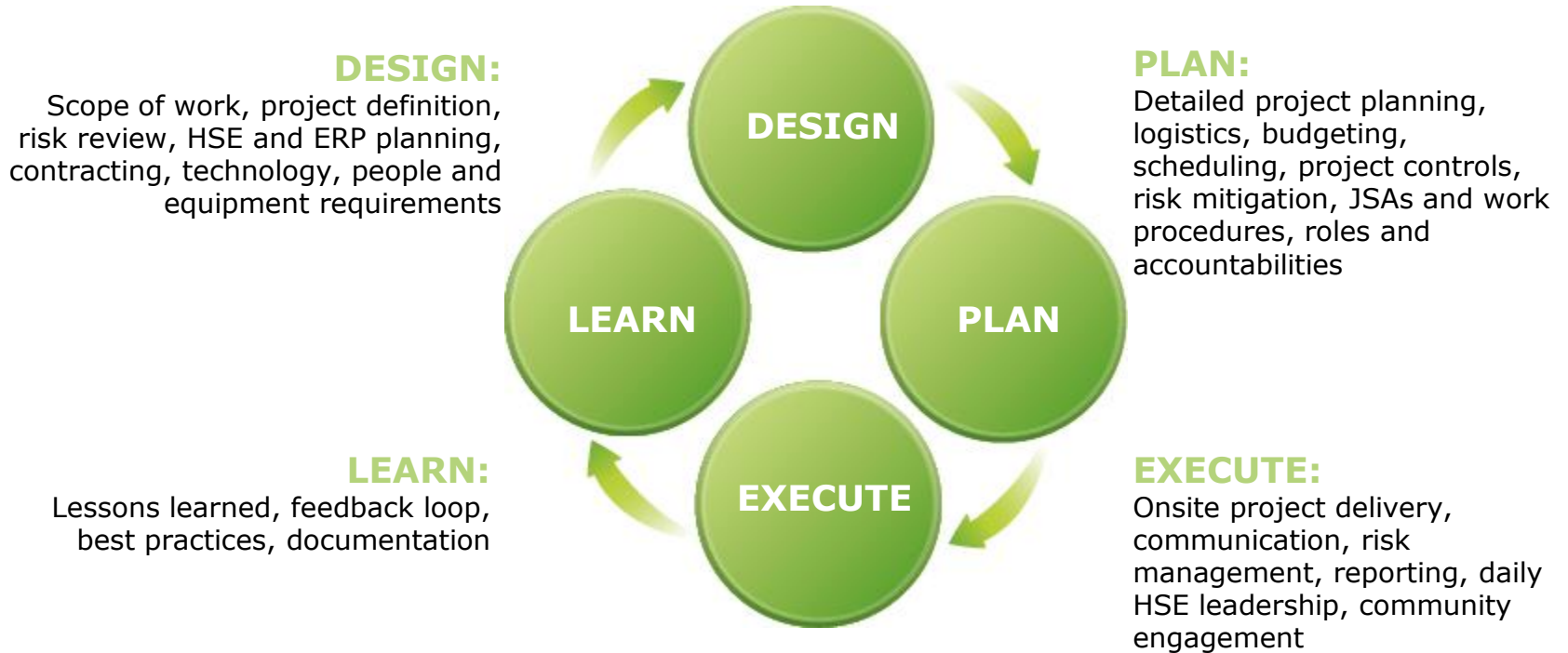
Outcome



**Project completed with no LTIs, 40%
under budget and on schedule**



Key to Success : Project Management





Old Way

Strengthen balance sheet
Reduce Total Cost of Retirement
Shorten time to certification
Maintain Social License to Operate
Manage risk and work safe

New Way



| CATEGORY | BENEFITS |
|------------------------------|--|
| Project Management | Efficiency: <ul style="list-style-type: none"> Accounting: consolidated invoicing, less 3rd party mark-up, lower admin costs Reporting: transparent and auditable documentation |
| Project Efficiency | Cost management: <ul style="list-style-type: none"> Mob/Demob and project cycle time Seasonal access Integrated workforce planning |
| Project Size | Economies of Scale: <ul style="list-style-type: none"> Macro area planning Lower unit costs for services Comprehensive waste management (fluids, solids, sludge, recyclables) |
| Project Schedule | Streamlining: <ul style="list-style-type: none"> Line locates, crossing agreements, road use, etc. Clear communication between phases Permits for life of the project |
| Regulatory Compliance | Sustainability: <ul style="list-style-type: none"> Single-source tracking, reporting and audit trail Streamline communications with all stakeholders |
| Scorecard | Accountability: <ul style="list-style-type: none"> KPIs, continuous improvement, consistent staffing, people 'living the project' Health, safety and environmental performance, community relations |
| Insurance | Protection: <ul style="list-style-type: none"> Against damages Against environmental liability Against risk |



PHOTOGRAPHS SHOWING THE LATEST DEVELOPMENTS AT THE DINGMAN DISCOVERY WELL

AFTERMATH OF OCEAN TRAGEDY IS PATHETIC

The survivors of the Albatross are being fed in the city.

WOULD NOT ATTEMPT TO RECOVER

The survivors of the Albatross are being fed in the city.

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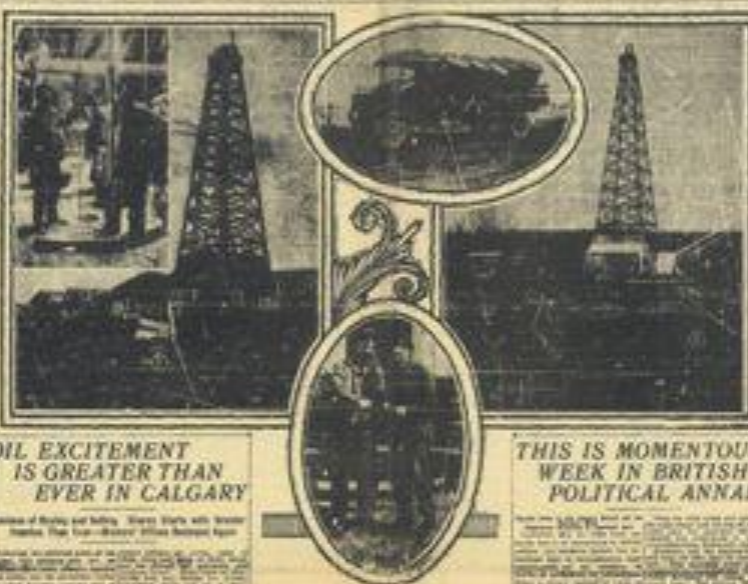
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OIL EXCITEMENT IS GREATER THAN EVER IN CALGARY

Excitement of finding oil is greater than ever in Calgary.

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THIS IS MOMENTOUS WEEK IN BRITISH POLITICAL ANNALS

This is a momentous week in British political annals.

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WILL PUMP OIL OUT OF THE DINGMAN

Will pump oil out of the Dingman.

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Will pump oil out of the Dingman.

EARL GREY WILL PASS THROUGH CITY TONIGHT

Earl Grey will pass through the city tonight.

Earl Grey will pass through the city tonight.

Earl Grey will pass through the city tonight.

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Earl Grey will pass through the city tonight.

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C. N. R. PROPOSAL COMES TO FIRST VOTE TOMORROW

C. N. R. proposal comes to first vote tomorrow.

C. N. R. proposal comes to first vote tomorrow.

C. N. R. proposal comes to first vote tomorrow.

C. N. R. proposal comes to first vote tomorrow.

C. N. R. proposal comes to first vote tomorrow.

C. N. R. proposal comes to first vote tomorrow.

C. N. R. proposal comes to first vote tomorrow.

DEPUTY MINISTER OF MINES VISITS DISCOVERY WELL

Deputy Minister of Mines visits the discovery well.

Deputy Minister of Mines visits the discovery well.

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Deputy Minister of Mines visits the discovery well.

Deputy Minister of Mines visits the discovery well.

Deputy Minister of Mines visits the discovery well.

E. COTTY IS NEW MANAGER OF C.P.R. HOTEL PHILLIPS

E. Cotty is the new manager of the C.P.R. Hotel Phillips.

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DISGRUNTLED THIRD CANDIDATE APPEARS

A disgruntled third candidate appears.

A disgruntled third candidate appears.

A disgruntled third candidate appears.

A disgruntled third candidate appears.

A disgruntled third candidate appears.

A disgruntled third candidate appears.

A disgruntled third candidate appears.

A disgruntled third candidate appears.

A disgruntled third candidate appears.

A disgruntled third candidate appears.

REQUEST WILL BE HELD INTO DEATH OF MRS. JAYNES

A request will be held into the death of Mrs. Jaynes.

A request will be held into the death of Mrs. Jaynes.

A request will be held into the death of Mrs. Jaynes.

A request will be held into the death of Mrs. Jaynes.

A request will be held into the death of Mrs. Jaynes.



**NO OIL
WELL
IN CITY LIMITS**





EARTH MATTERS



The background features a horizontal gradient from dark green on the left to light green on the right. Overlaid on this are three concentric circular outlines. The innermost circle is a thin orange line, the middle one is a thin dark green line, and the outermost one is a thin light green line. They are all centered on the left side of the image.

Thank You