Applying Data Science To Contaminated Site Projects

TRUST THROUGH DATA

CAPP
CANADIAN ASSOCIATION OF PETROLEUM PRODUCERS

AREA Alberta Real Estate Association

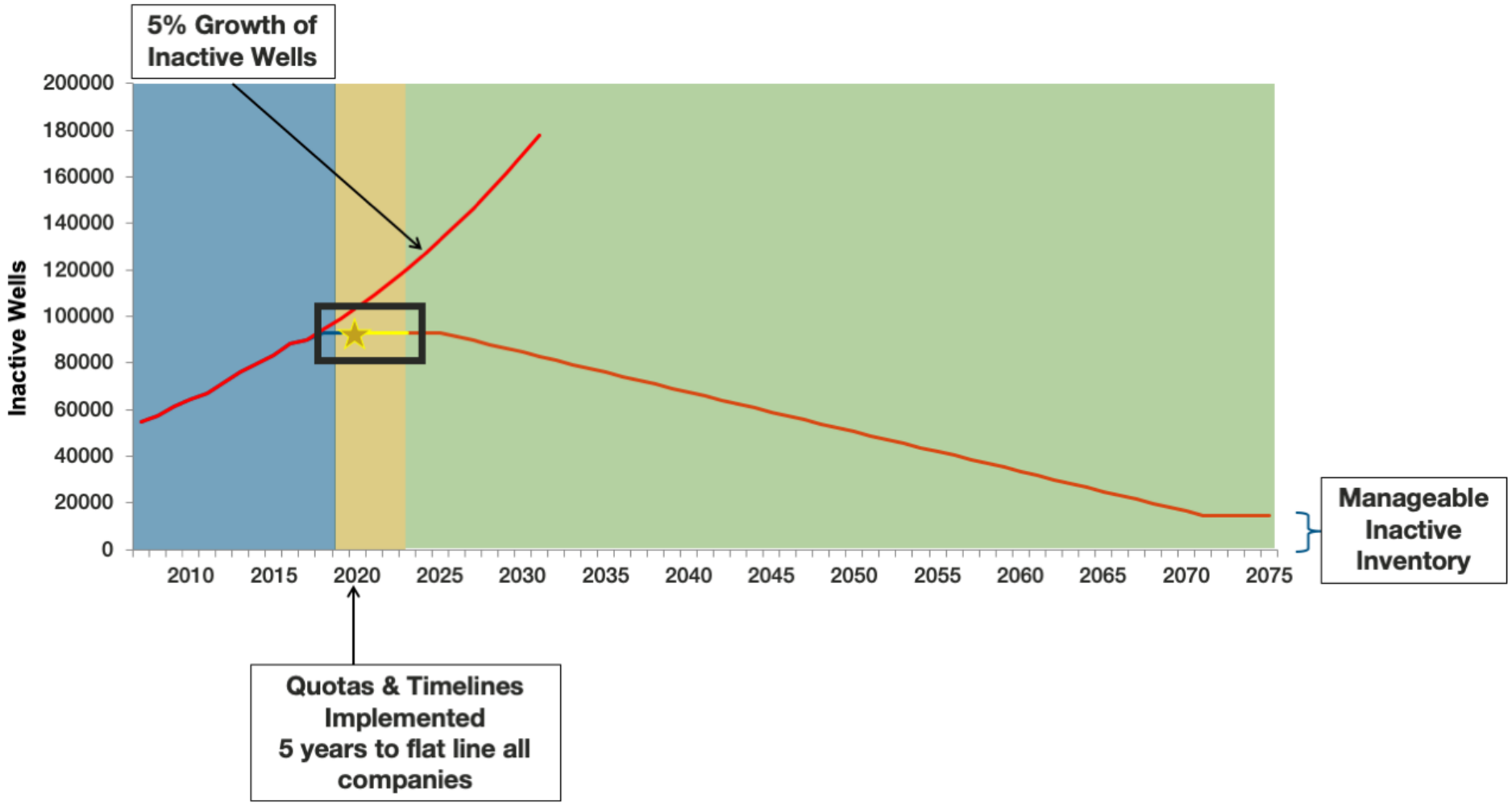
Alberta Environment and Parks
Environmental Protection and Enhancement Act
REMEDIATION CERTIFICATE AMENDMENT REGULATION

Alberta Energy Regulator

$$\text{Levy} = \frac{A}{B} \times \$45\,000\,000$$

Bulletin 2018-07 2018/19 Orphan Fund Levy

Closure Requirements Needed
Next 5, 10 years and beyond



AER ROSC Sections

Providing the following information is optional but recommended where Tier 2 modification, Tier 2B SST, or SSRA have been undertaken. Default Tier 1 information is assumed unless amended.			
Soil Details		**Groundwater Details**	
Organic carbon content (g/g)	0.005	Hydraulic conductivity (non-aquifer) (m/y)	320
Bulk density (g/cm3)	1.7	Hydraulic gradient (non-aquifer) (m/m)	0.028
Water content (g/g)	0.07	Recharge (m/y)	0.06
		Hydraulic conductivity in DUA (m/y)	320
		Hydraulic gradient in DUA (m/m)	0.028
		Thickness of DUA (m)	5

APPENDIX 19A

Human Health and Ecological Risk Assessment – Technical Report

Alberta Government

Alberta Tier 1 Soil and Groundwater Remediation Guidelines

APPENDIX 19A

Human Health and Ecological Risk Assessment – Technical Report

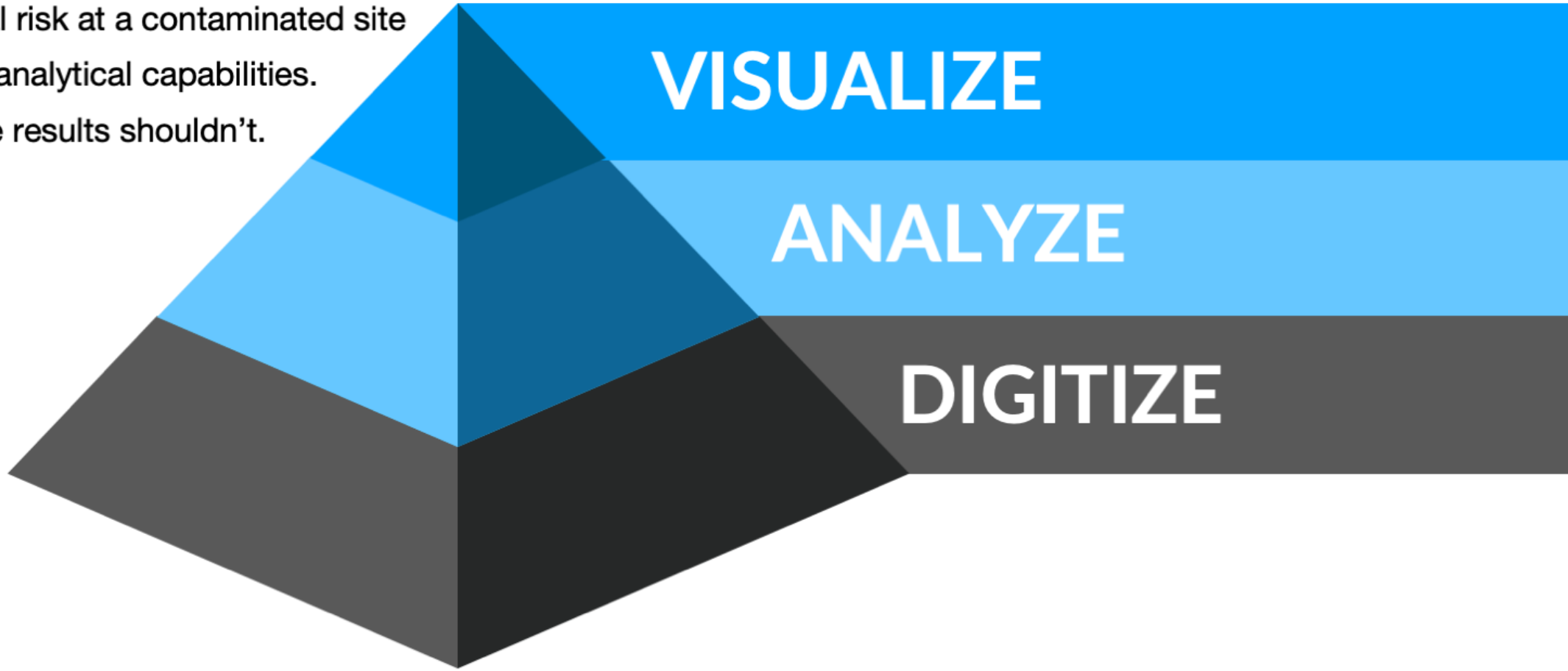
The Majority of Sites

Alberta Government

Alberta Tier 1 Soil and Groundwater Remediation Guidelines

Solid Science in Plain Language

Determining actual risk at a contaminated site involves complex analytical capabilities. Understanding the results shouldn't.



What Actually Matters

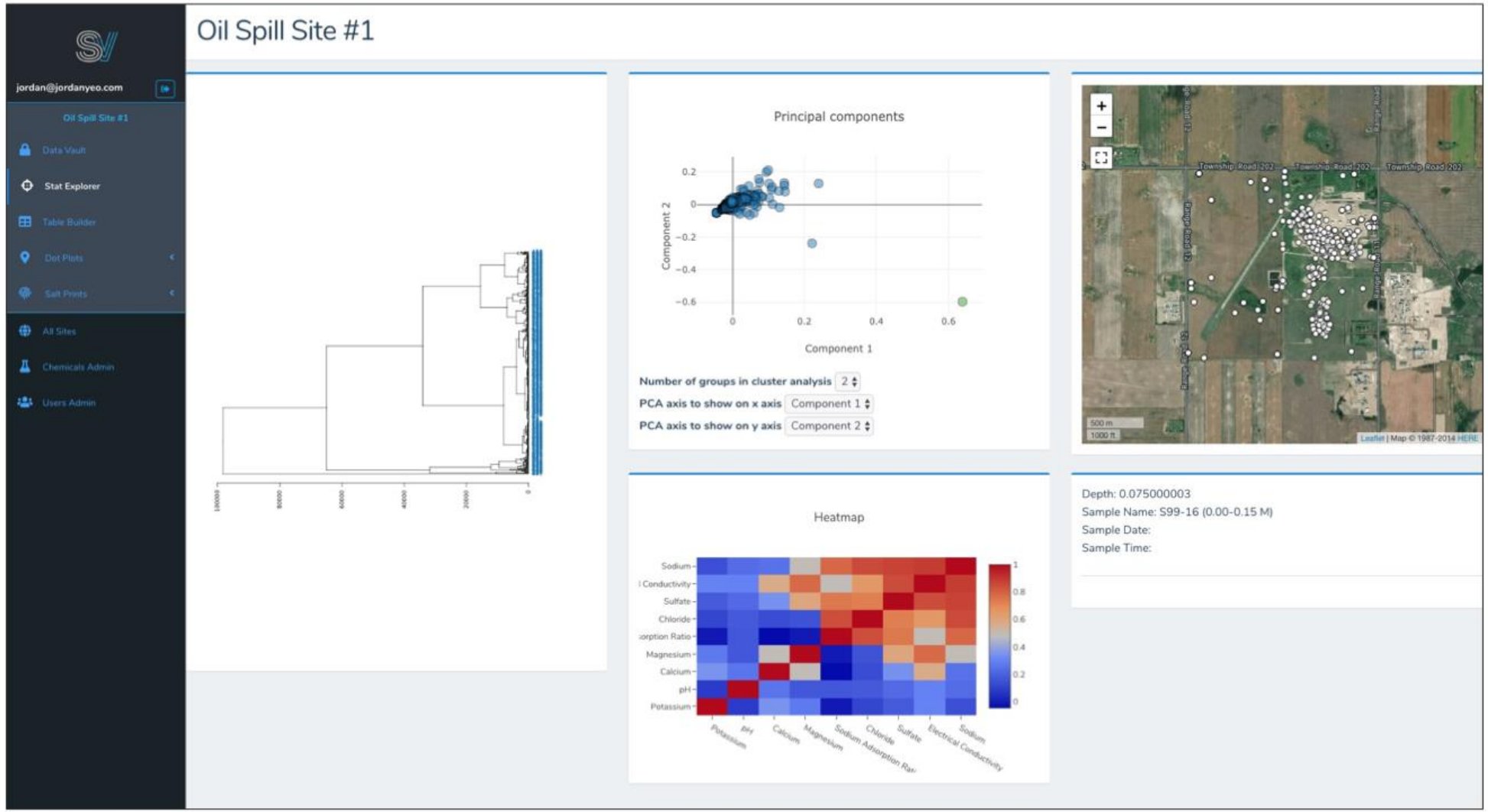
Is there a source still present and if so, what is it doing?

- What can we defensibly determine based on the reliable data we possess?
- We don't care what should have happened. We only care what is happening.
- Predictions of future theoretical behavior must always be based on a thorough understanding of actual historical behavior.

What is the risk of harm?

- Evaluate each remedial action plan by how many receptors it protects.

Interactive Data Exploration



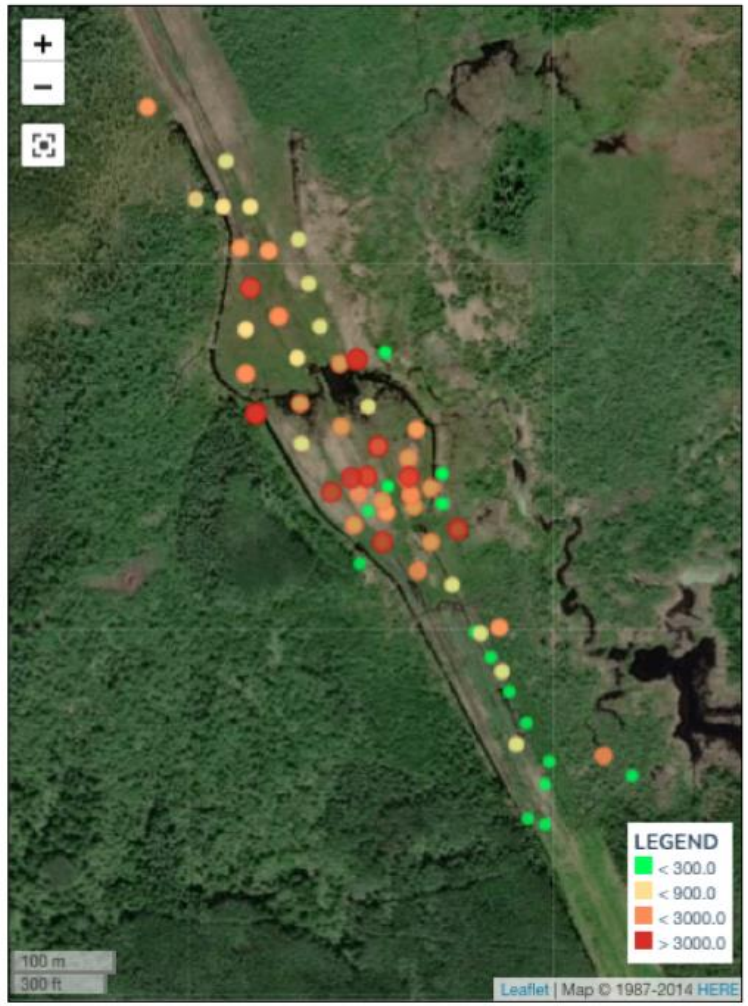
Remote Pipeline Break

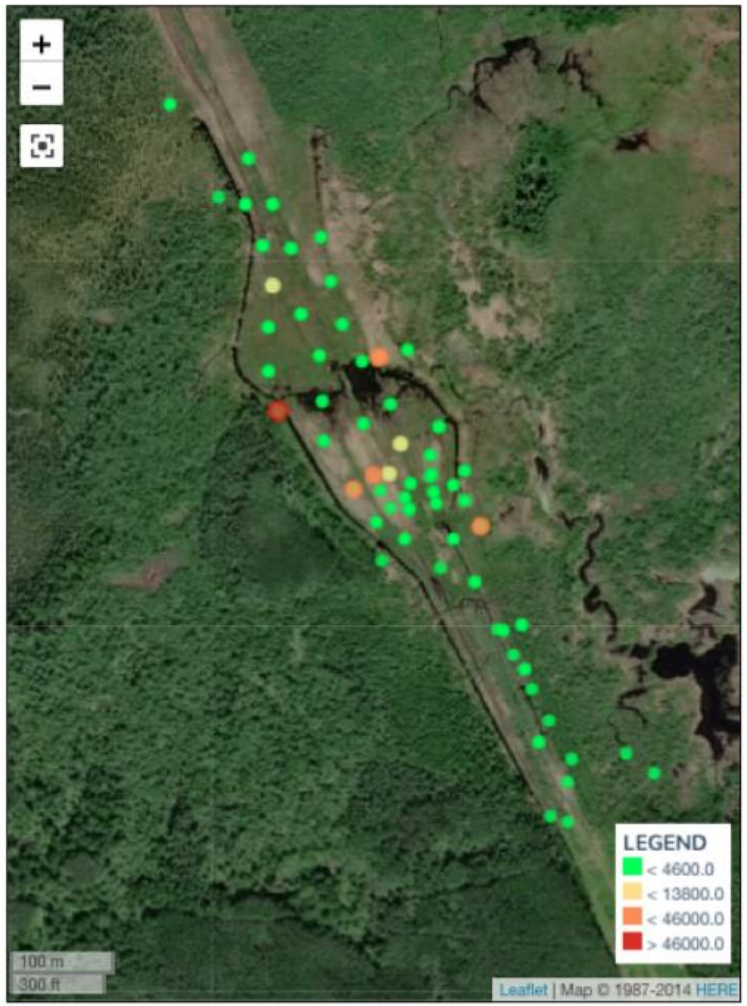
Conventional Assessment

- Volume = 13,800 m^3
- At \$130/m^3 = \$1.7 Million

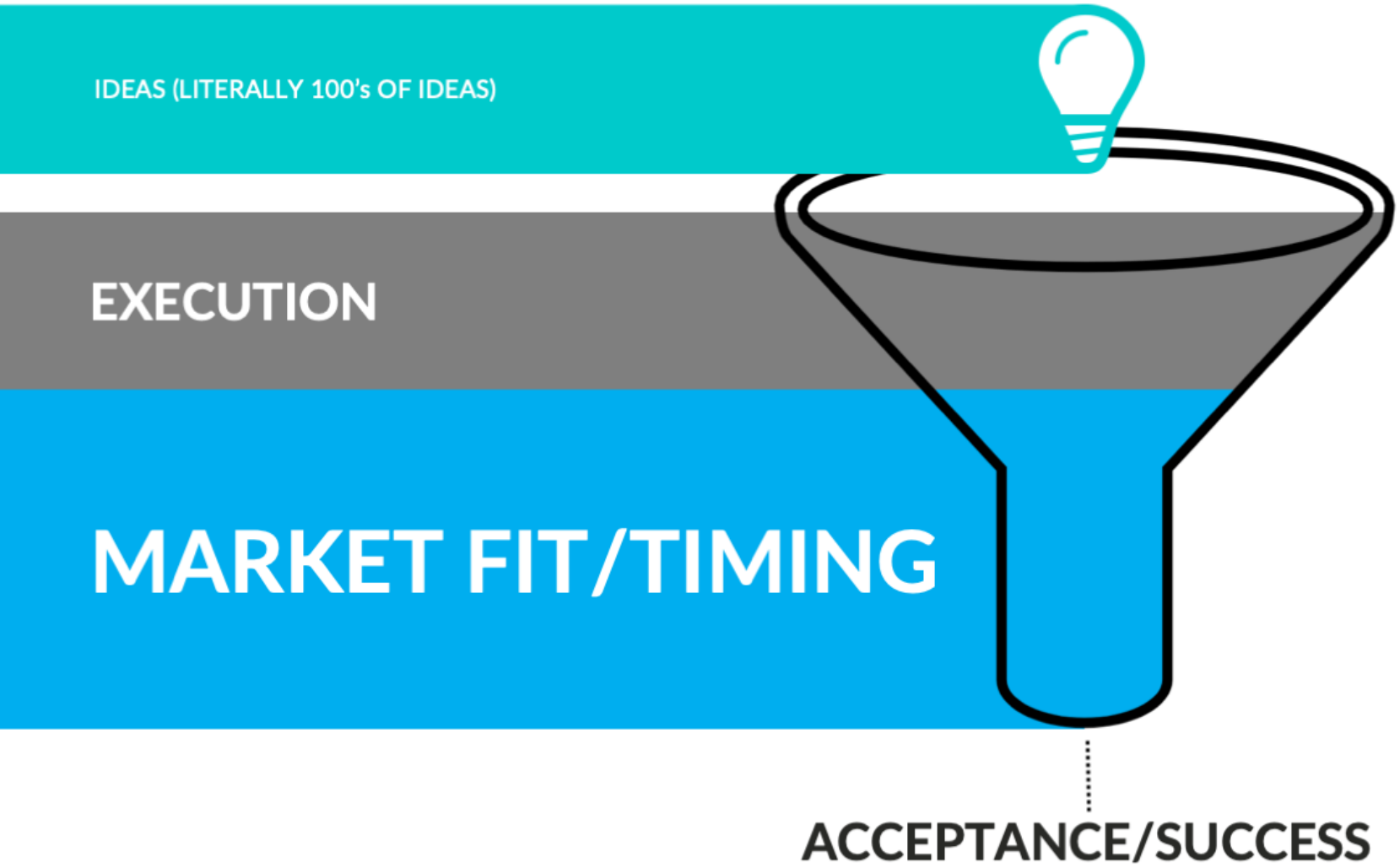
Managing Risk of Harm

- Soil and surface water sampling



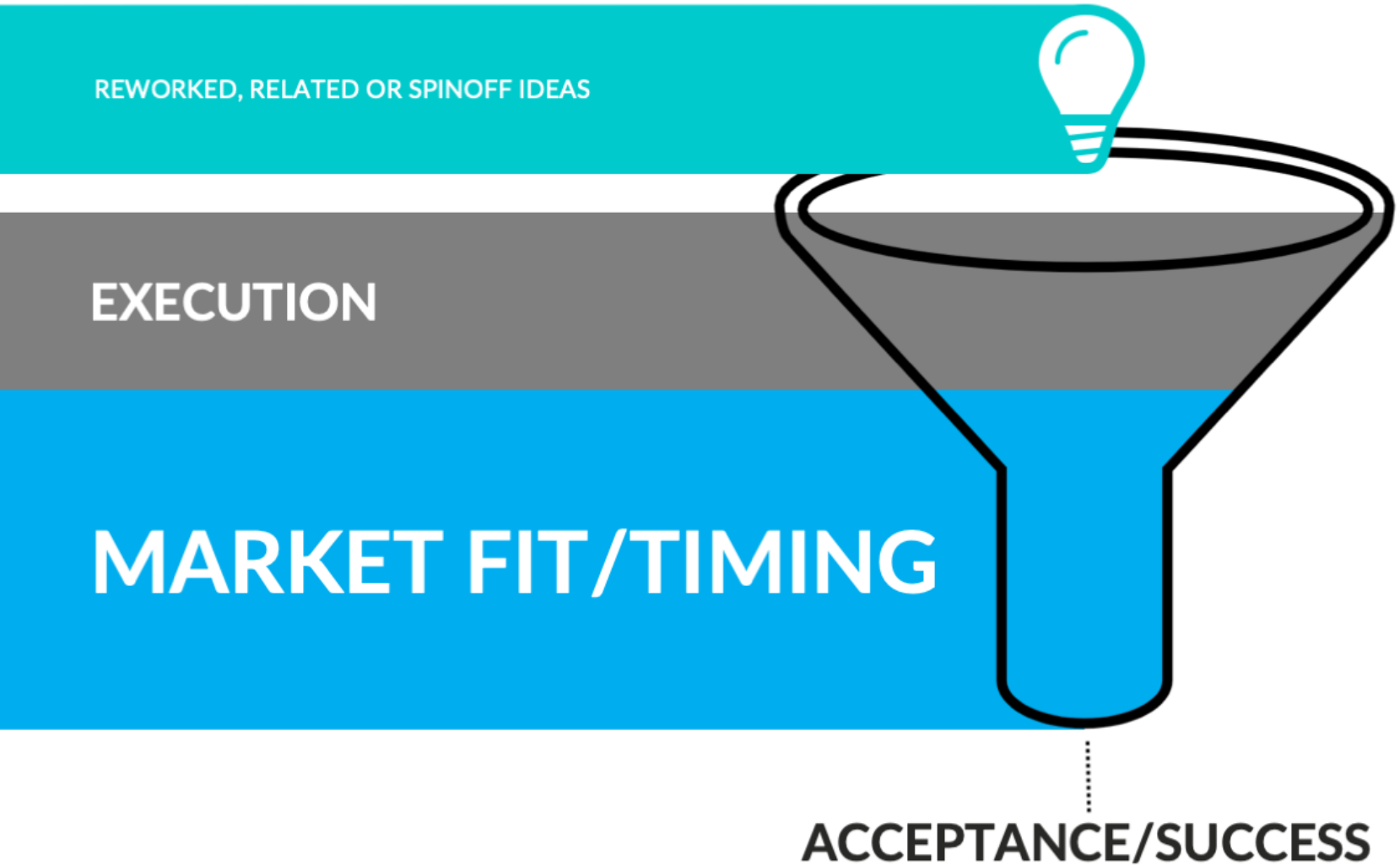


Innovation ➡ Acceptance




THE PIVOT

Re-Innovation ➡ Acceptance



Thank you

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