Closing Environmental Incidents

A Pacific Region Perspective

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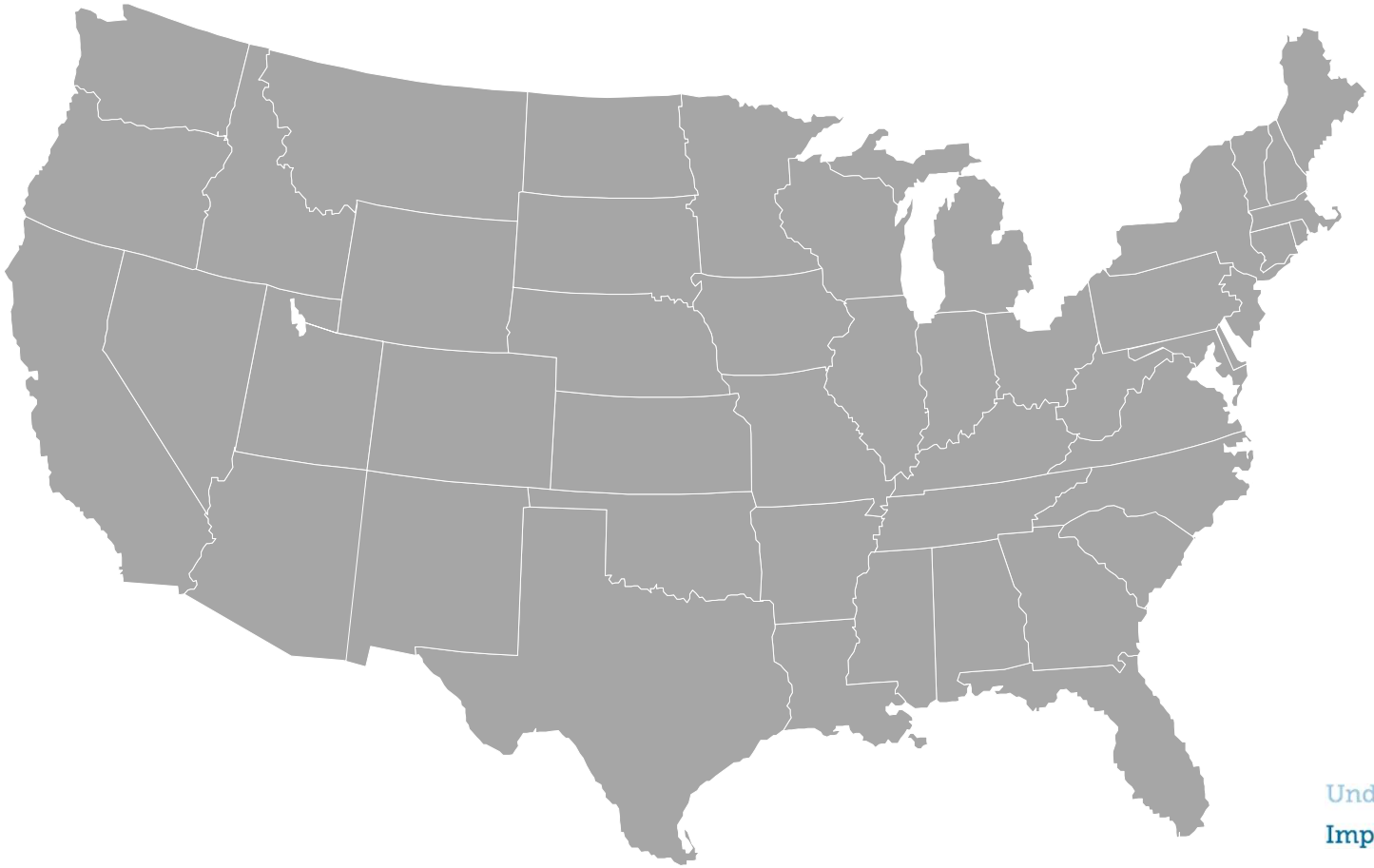
Agenda

- Regional Comparison and Background Context
- Retail Petroleum Case Closure Trends: CA, OR, WA
- Washington Closure History and Trends
- Washington Themes: Closed Sites and Sites Remaining Open
- Key Elements of Successful Closure Programs
- Questions

National Experience with Similar Contracts



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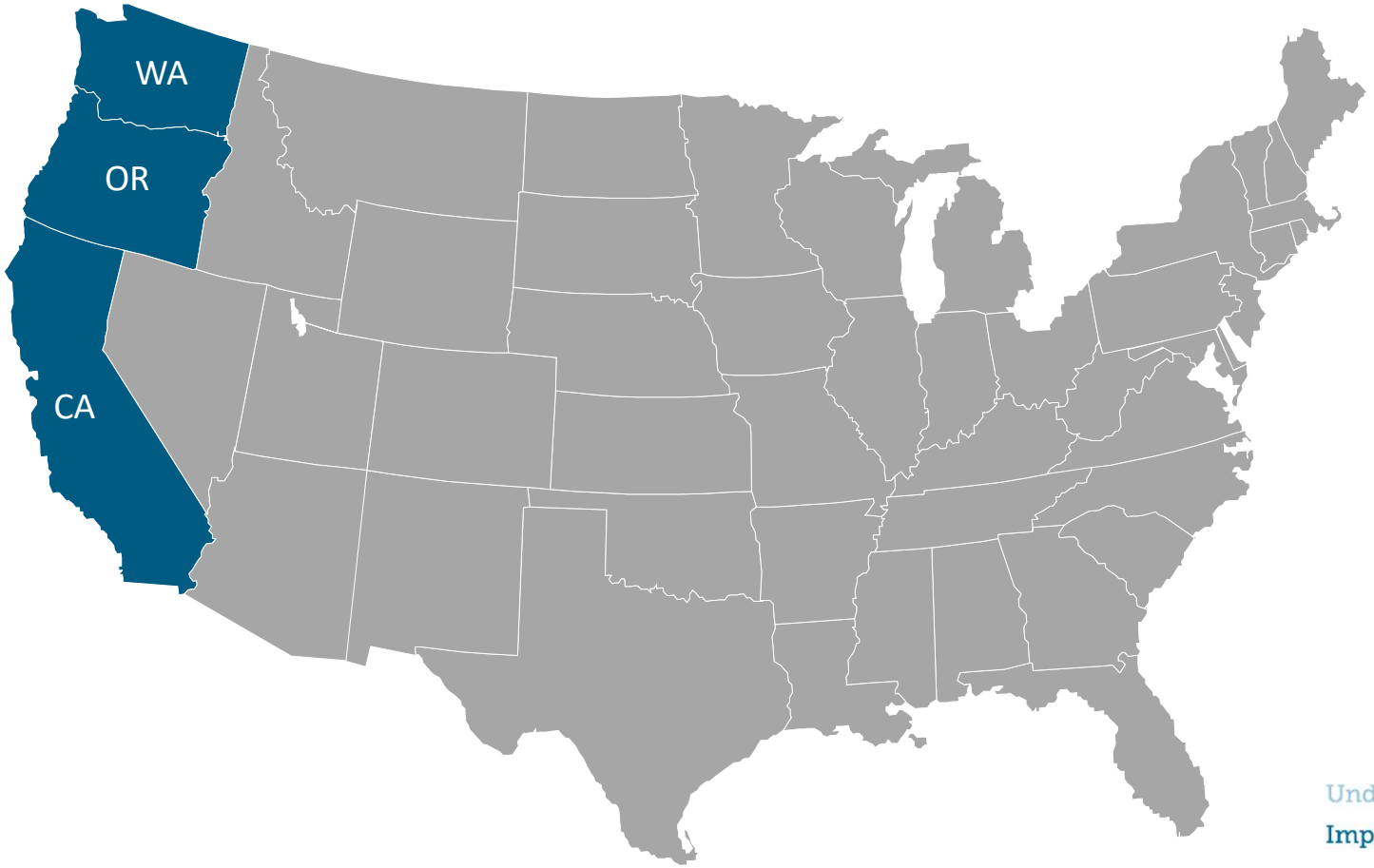
2009-2022: 234 Pacific Retail Petroleum Cases Managed



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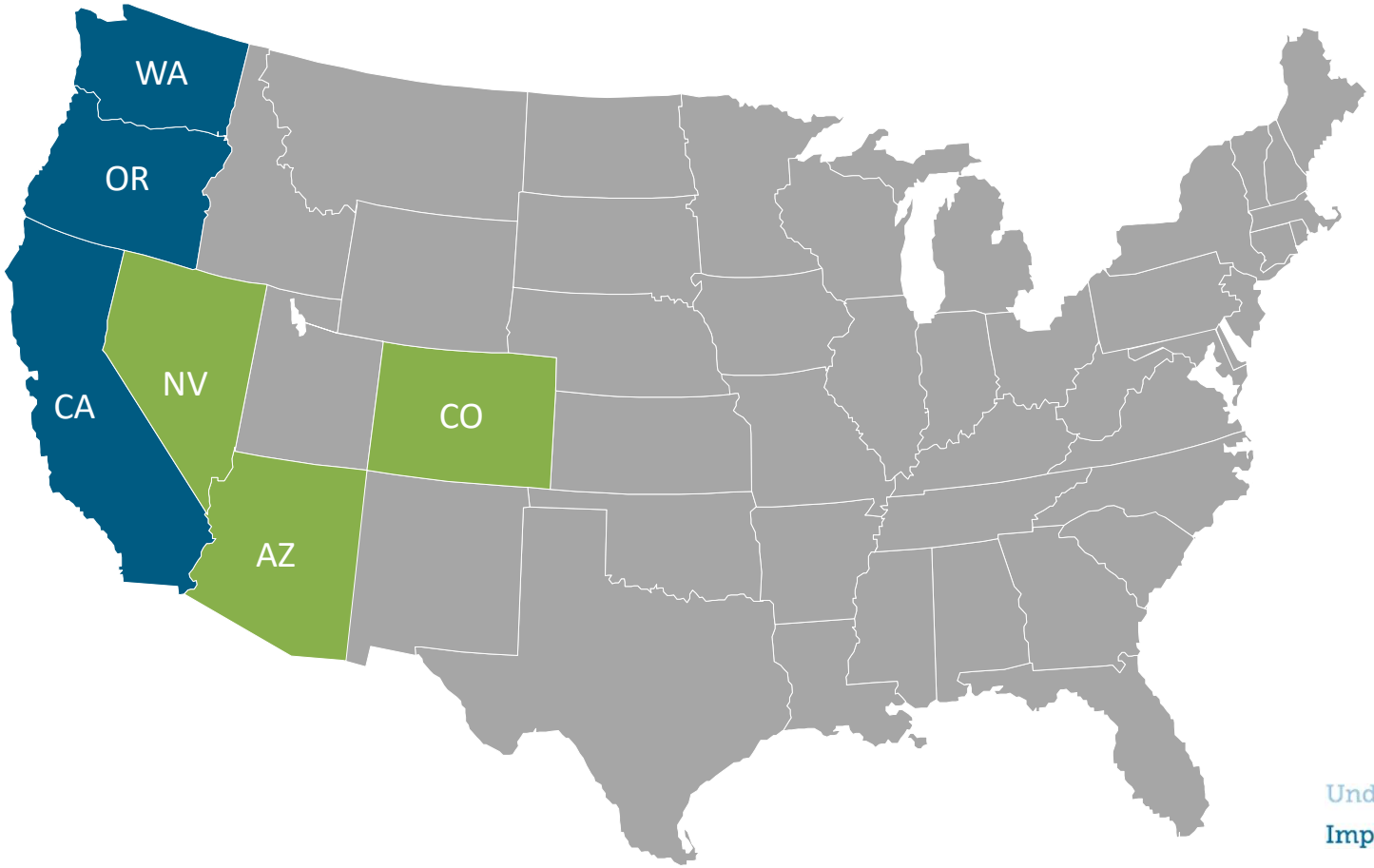
Regional Success Closing Sites



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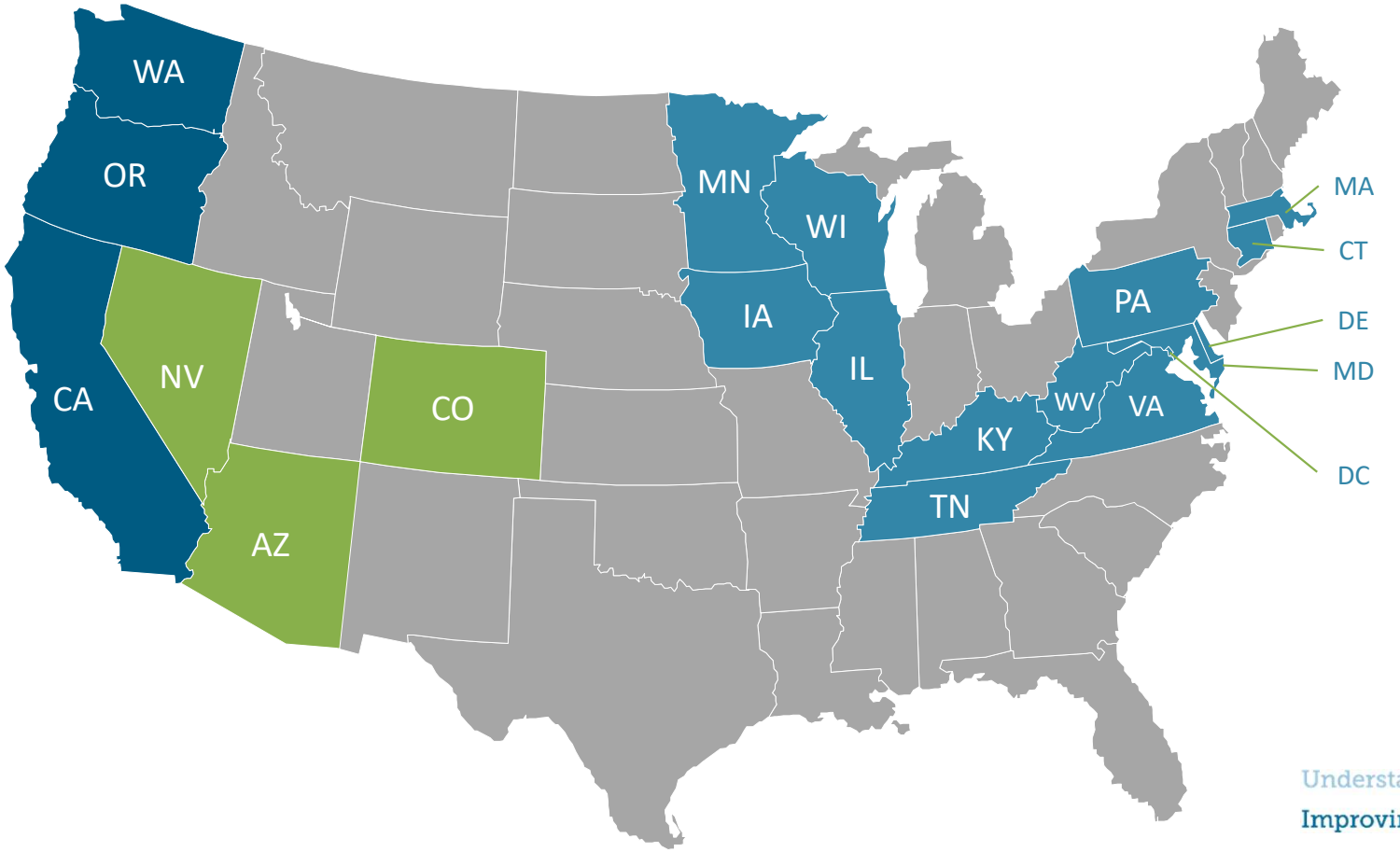
Success Using Risk-Based Closure Pathways on Similar Multi-Site Regional Portfolios



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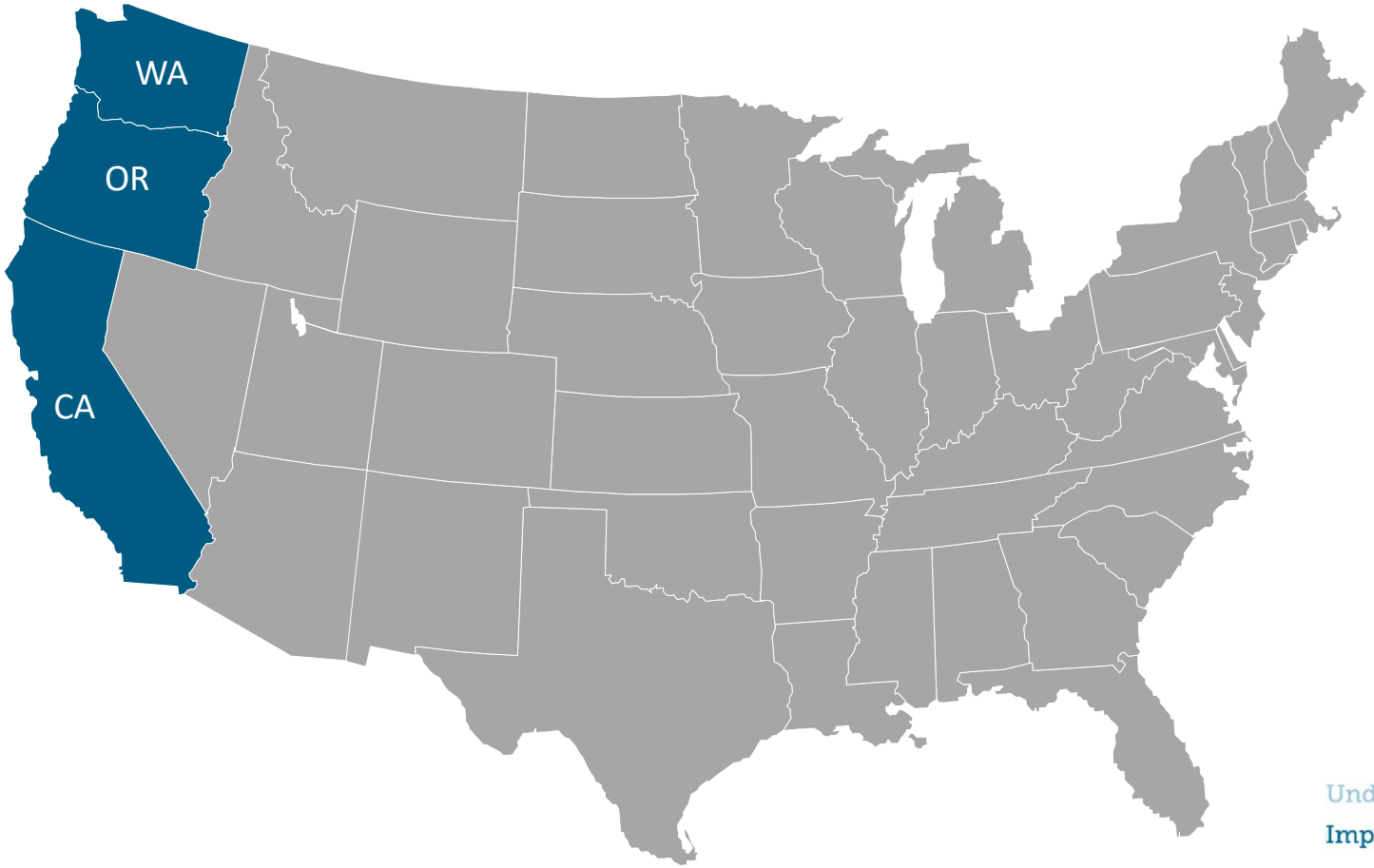
2009-2022: 234 Pacific Cases Managed



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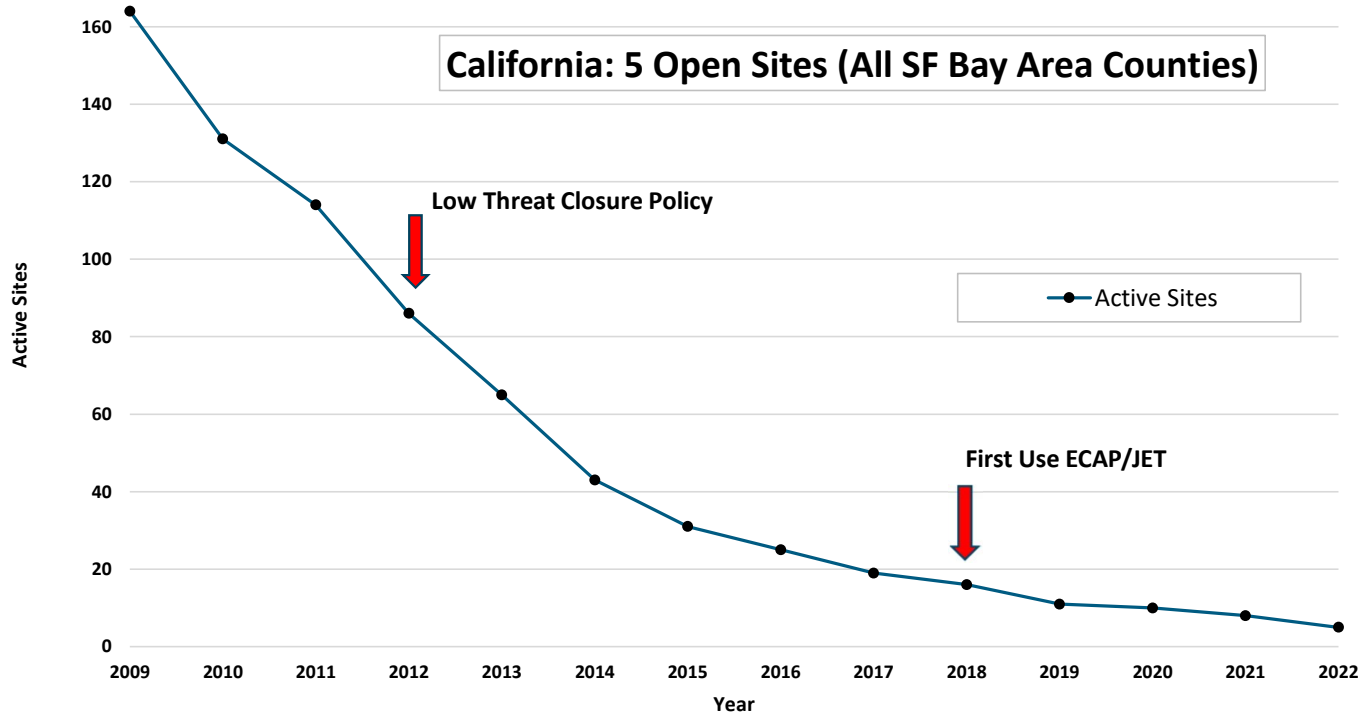
Pacific Closure Trends: California-164 Sites



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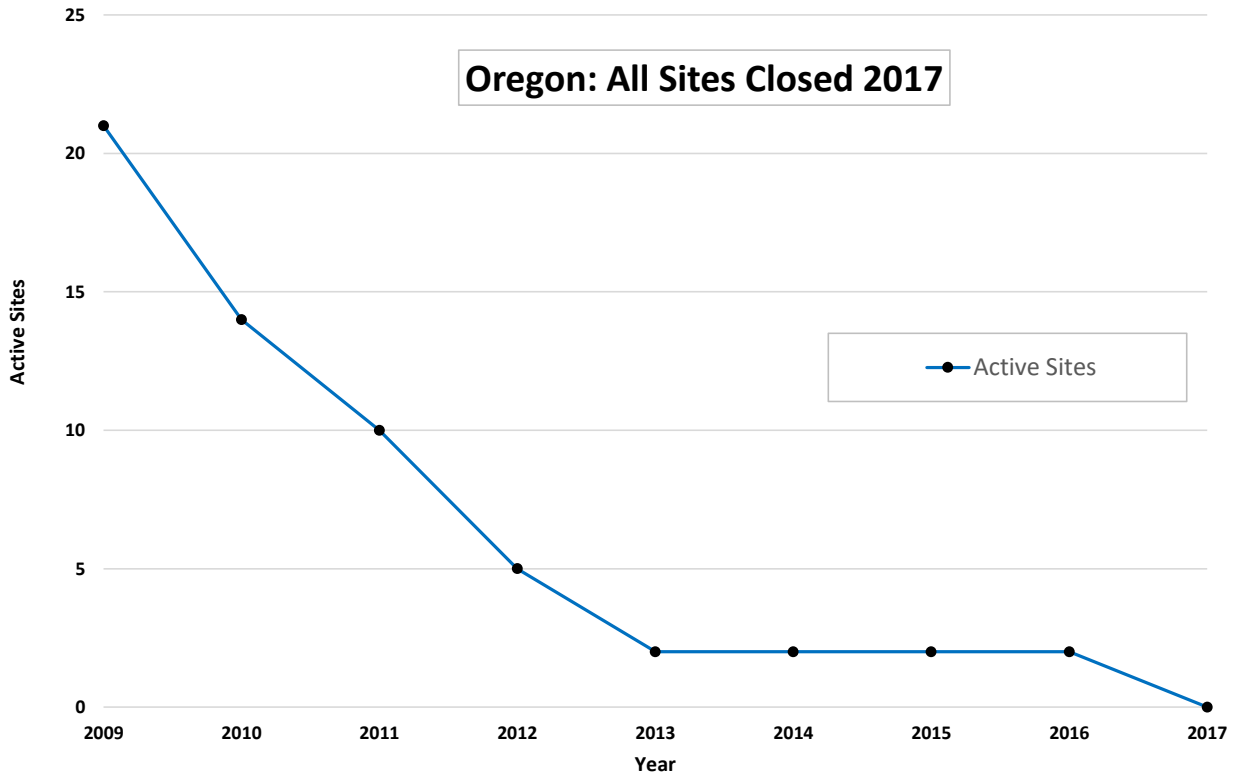
Pacific Closure Trends: Oregon-21 Sites



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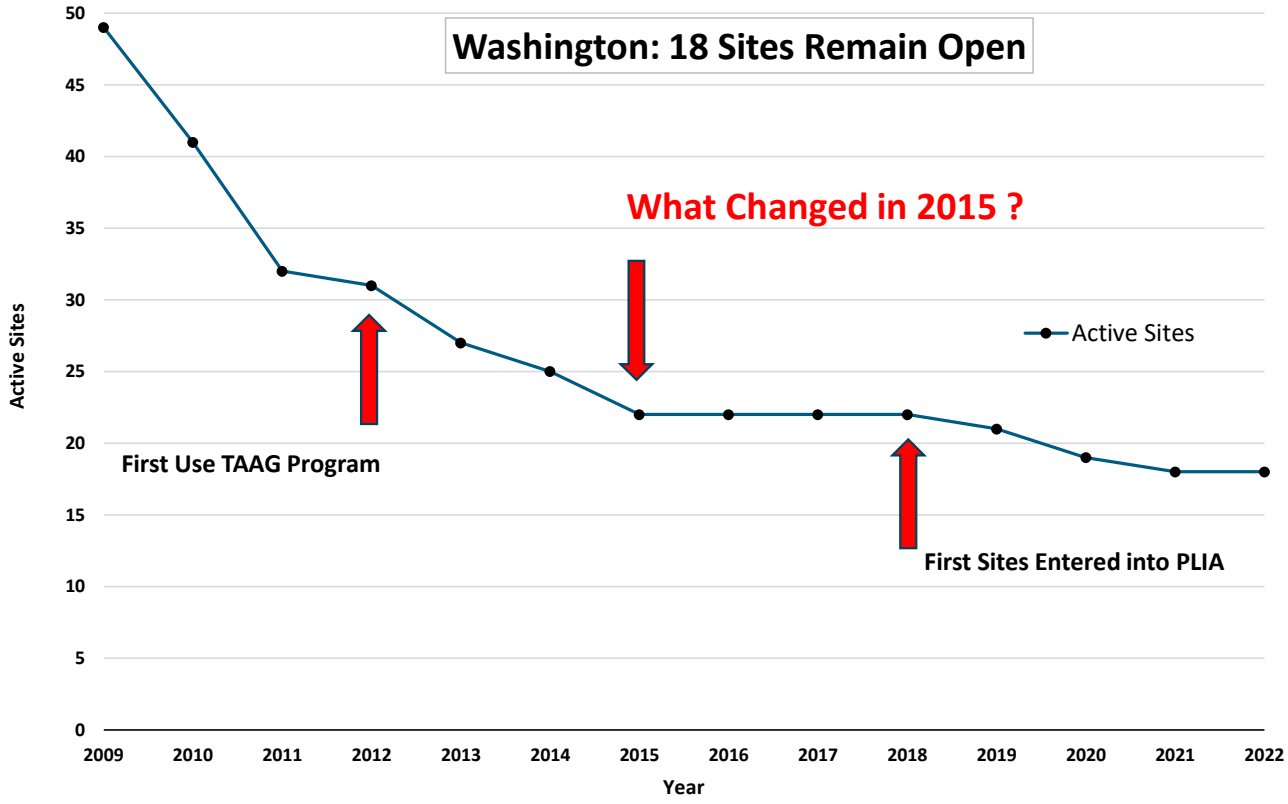
Pacific Closure Trends: Washington-49 Sites



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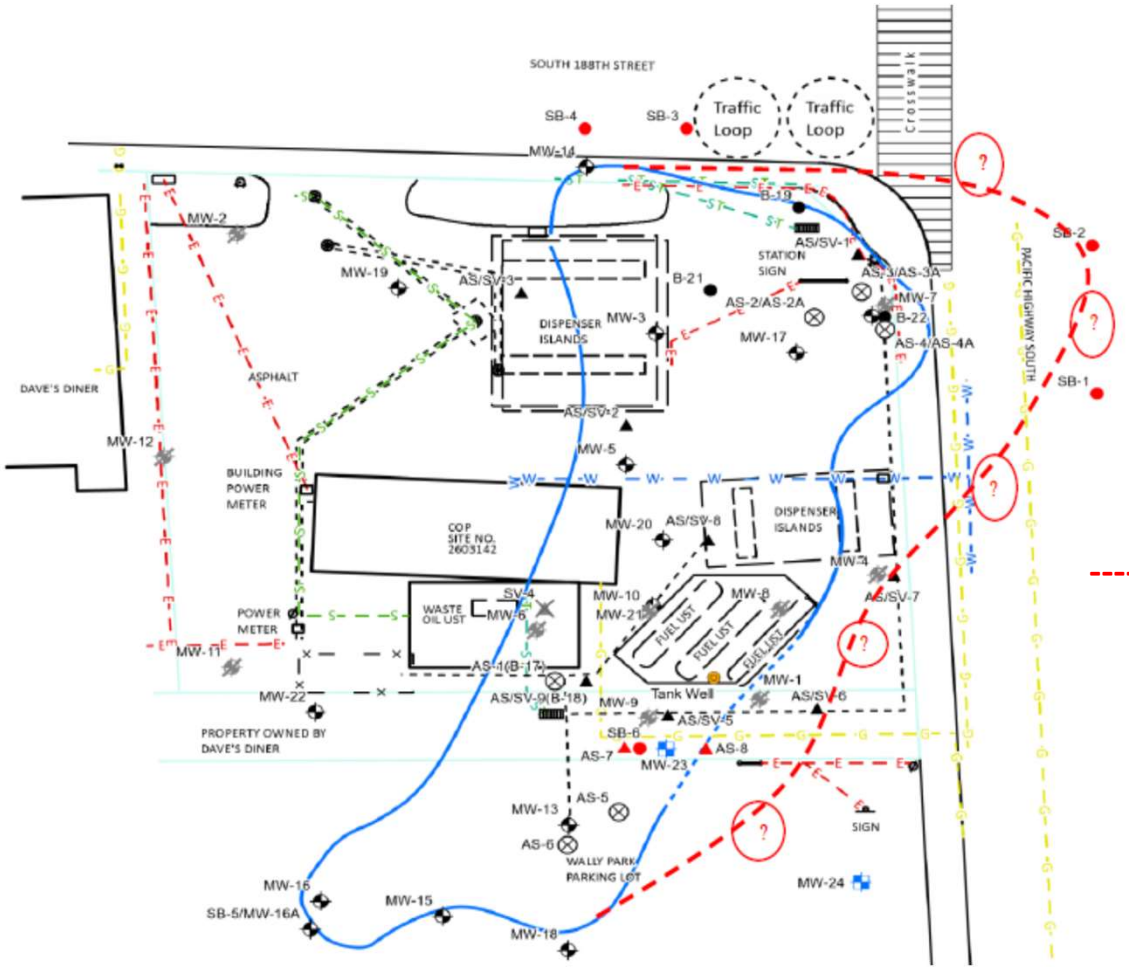
What Has Changed: Excessive Delineation



---- ?---- **Regulatory Delineation Gap**

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What Has Changed: Excessive Delineation

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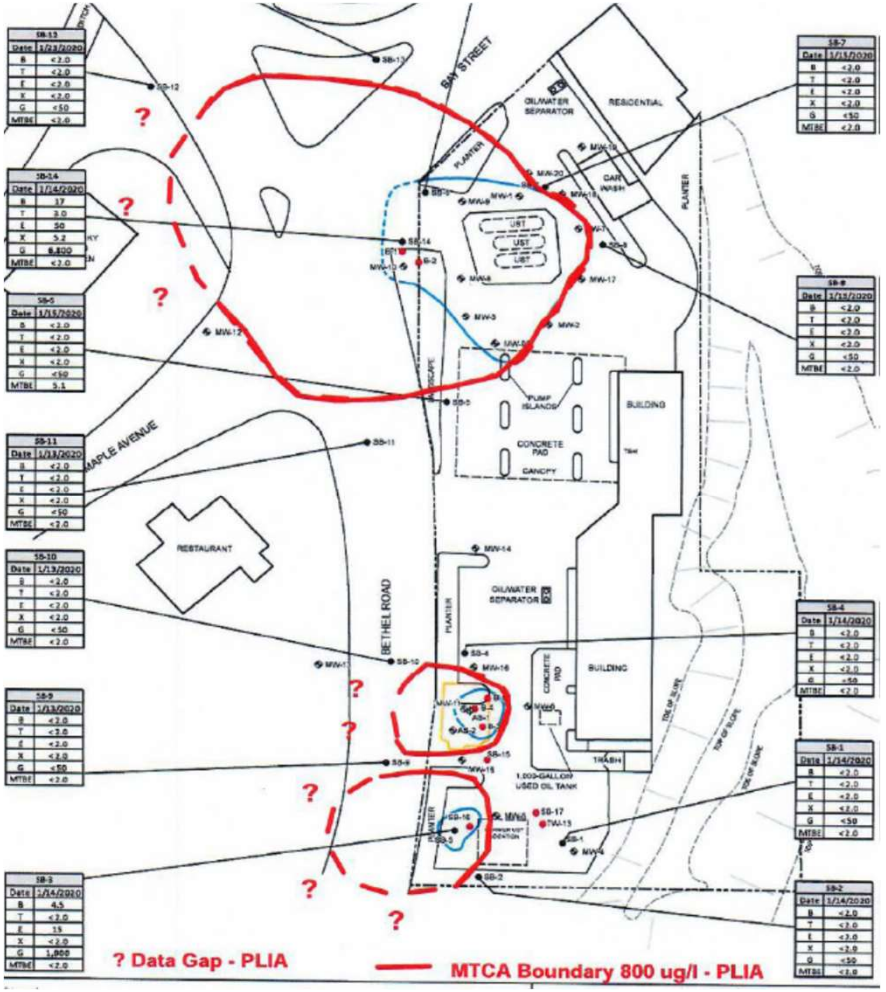

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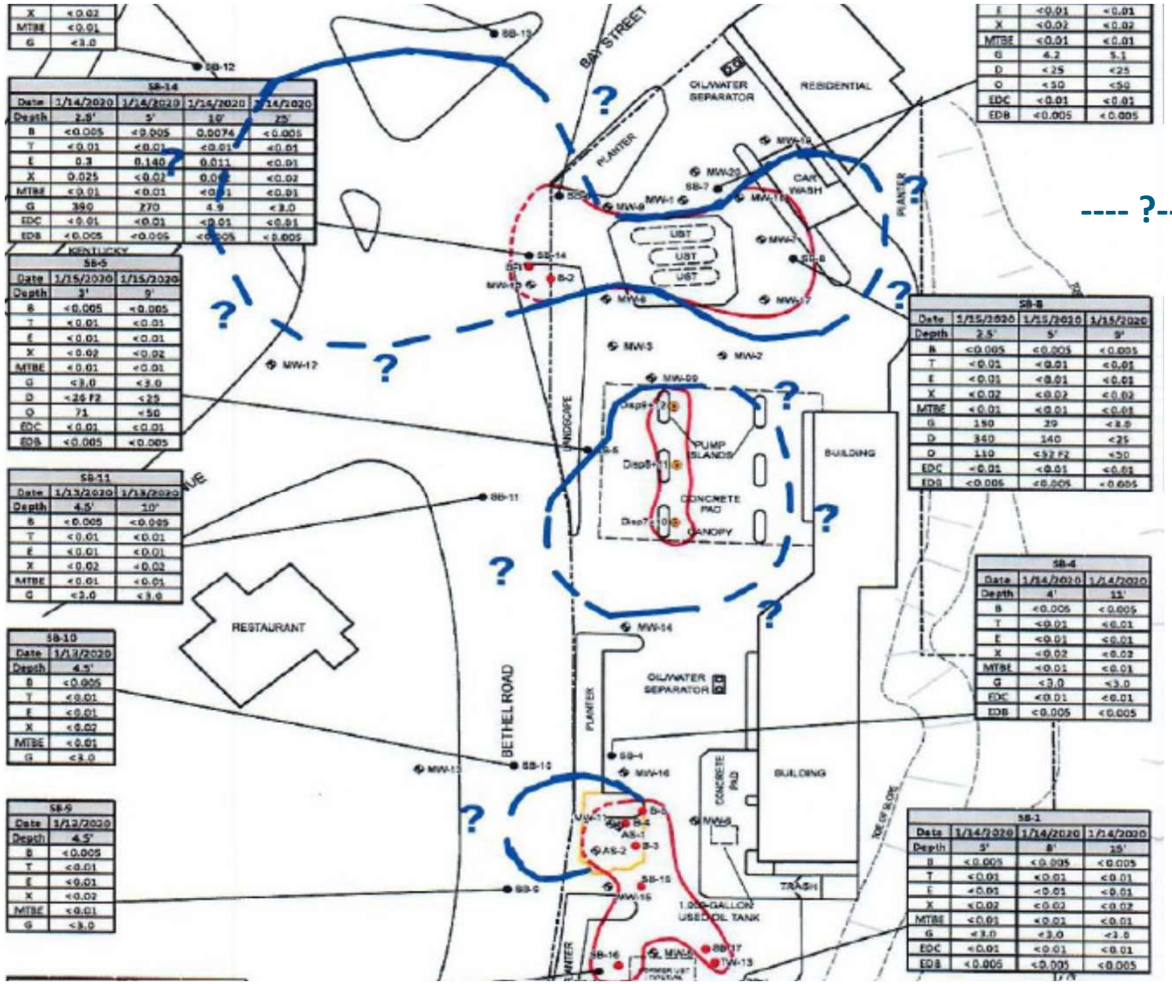

---- ?---- **Regulatory Delineation Gap**

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Excessive Delineation Challenges: Urban Hydrogeology

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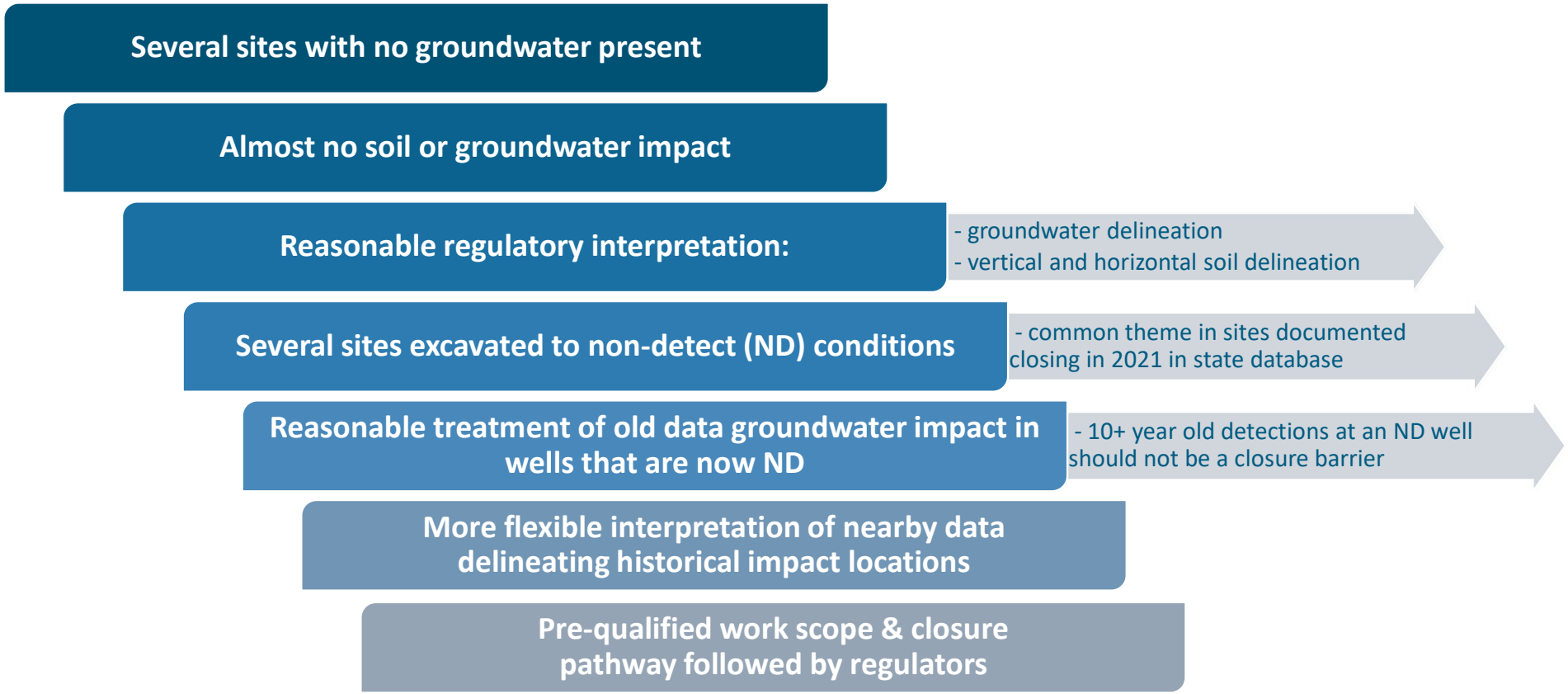
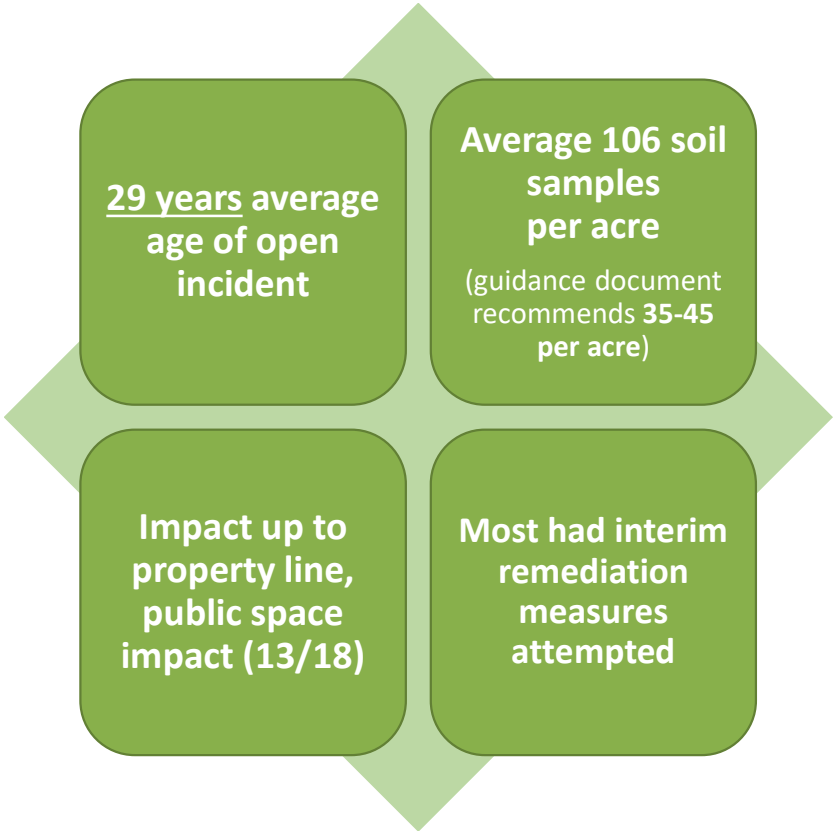
Common Themes: WA Closed Sites 2009-2015



Common Themes: 18 WA Sites Remaining Open



- The soils underlying the sites are **not favorable** for aggressive "conventional" remediation
  - dense tills **not suitable** for AS/SVE or chem-ox
- Extensive groundwater data demonstrating **decreasing** groundwater impact
- Project direction and closure progress suffers from regulatory response **inconsistencies**
  - Completed agreed upon work scope, more delineation requested
- **17/18** projects would likely be **closed in every other state** we are working in

What Has Changed: Overinterpretation of Regulations

Regulatory focus on over delineation

Need for effective pre-qualification of work scope and closure pathway

- Always leads to requests for more work
- How much is **enough** data?

Environmental Covenant process could be a major catalyst for closure

Inconsistent treatment of historical data

- **Old data exceedance in current ND wells treated as impacted**
- **Won't accept old delineation data and we need new data**

What Has Changed: Regulatory Engagement

Inconsistent communication, response gaps, and delays result in ***loss of project focus***

Regulatory focus on excessive interpretation of regulations and guidance documents

Unwillingness to agree on closure pathways from limited delineation through final closure

Years of outreach and engagement attempts have not resulted in ***follow through*** results

There must be a willingness to:

- create a review culture willing to close site incidents
- consider risk absence when applying existing regulations and guidance documents

The same regulations delaying cases today resulted in case closures 2009-2015

Long-term reform is necessary to overhaul both *administrative regulations* and *guidance documents* to transform culture of environmental oversight

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What Would Improve the WA Closure Process

MTCA soil and groundwater impact standards unrealistic, especially in urban hydrogeology settings

- **10-15 years to reform these regulations?**

Consistent interpretation of existing administrative code and guidance documents

- **Why have new guidance documents resulted in fewer closures and more delineation?**

Absence of meaningful risk evaluation removes ability to close low impact sites

Enrollment in TAAG, TAP, and VCP programs did not result in meaningful changes in closure success

Environmental Covenant use should be a key tool for timely project closures

- Eliminate unnecessary offsite delineation through roadway covenant use
- Municipal water access & property use restrictions should eliminate need for "post-closure sampling"
- Low-level TPH exceedances should be eliminated as a closure barrier through EC use and post-closure soil handling plan

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Key Elements of Successful Closure Programs

Accessible and collaborative engagement with state regulators to pre-qualify acceptable closure conditions

Accepted use of data analysis and plume evaluation tools in closure consideration

Effective use of risk-based site evaluations and closure pathways (ex. **California Low Threat Closure**, **Nevada Exemption Closure Pathway**, **Pennsylvania Environmental Covenant use**)

Environmental Covenant use to restrict potential exposure pathways (ex. no water wells, no subsurface enclosures, no day care facilities, commercial use/slab on grade construction)

Eliminate need for “post-closure” sampling

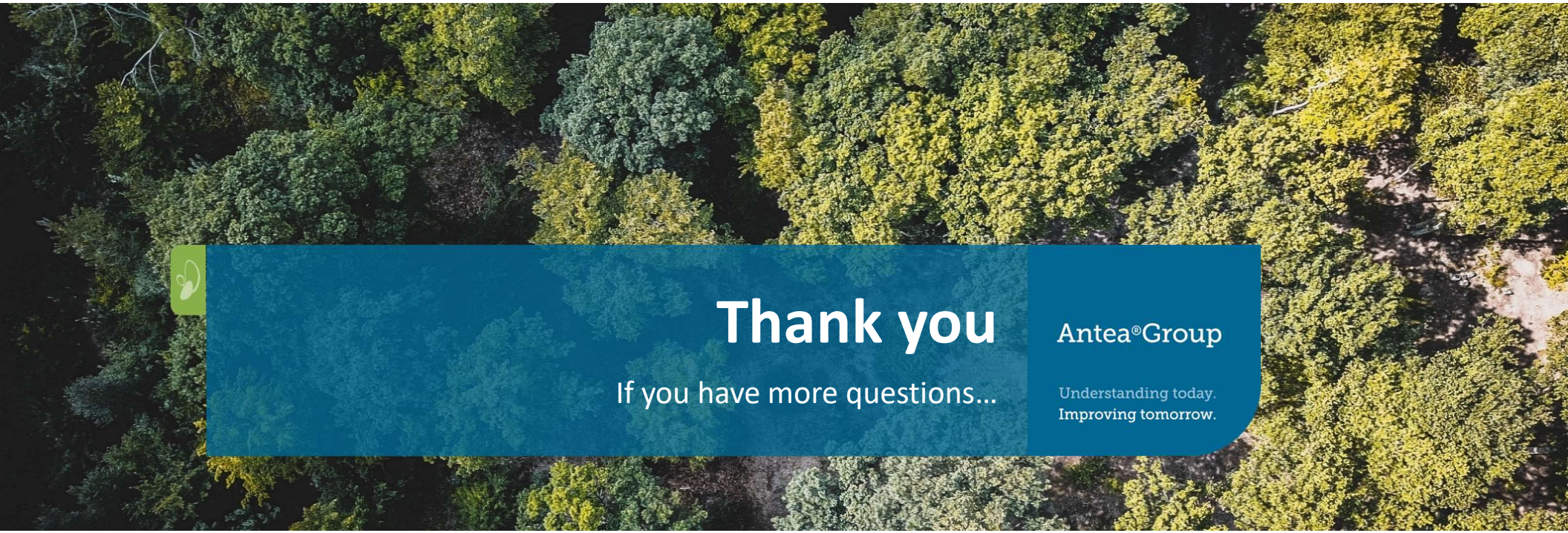
Tiered approach to closure with acceptable soil and groundwater impact levels based on area sensitivity, property use, potential exposure pathways

Industry recognized environmental incident closure letter

Questions?

Antea Group Presentation Team – Thank You!

- Jon Pesicka, Senior Consultant, St Paul, MN



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Jonathan Zimdars
Consultant
Antea Group USA
Jonathan.Zimdars@AnteaGroup.us

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