



California's Low-Threat Underground Storage Tank Case Closure Policy

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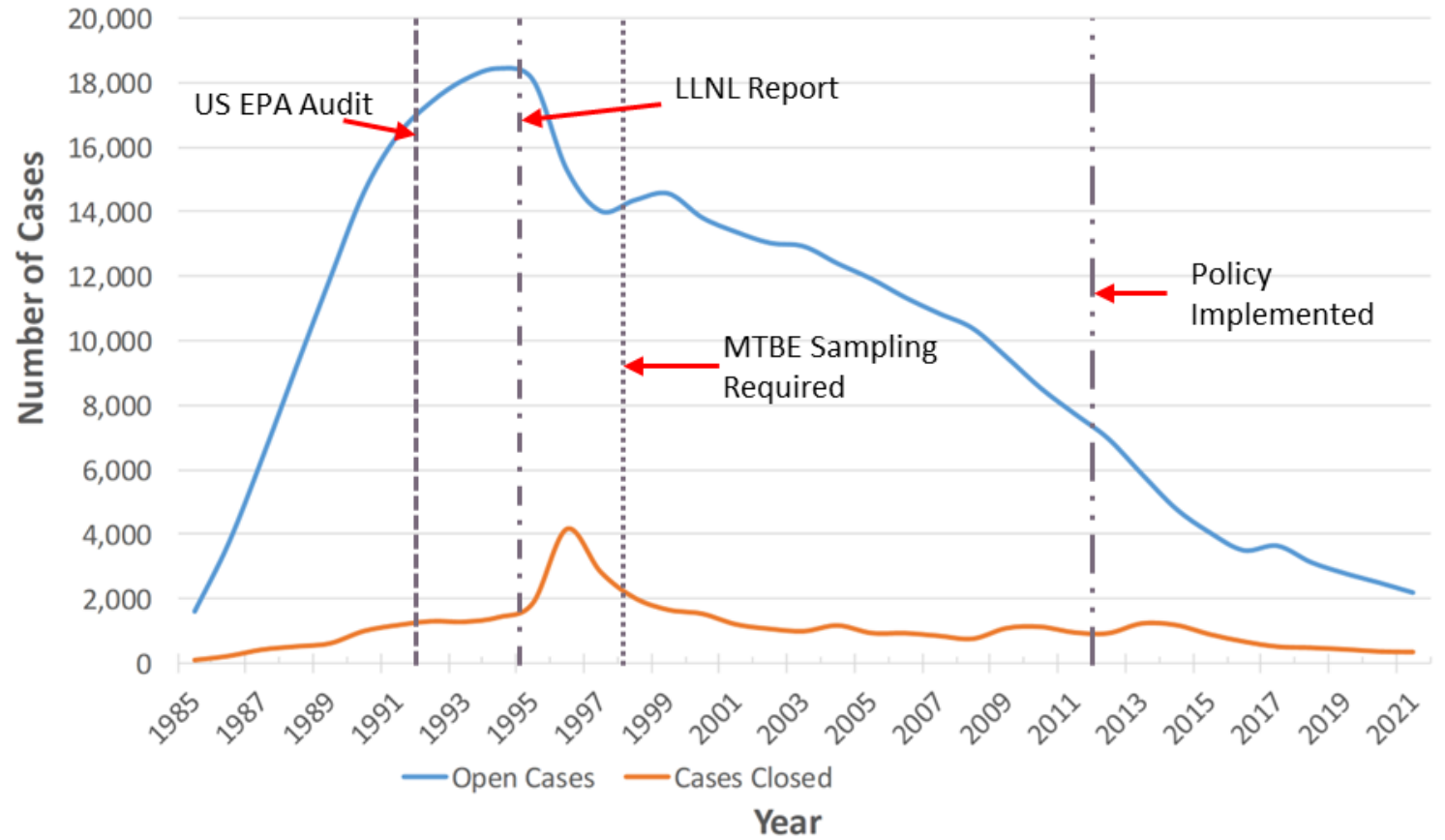


Policy History



Cleanup Background


UST Cleanup Program Caseload History (1985-2021)



Why Low-Threat Closure?

- Cleanup Fund budgetary issues
- Diminishing returns after initial remediation
- Balance between resources and human health protection





Consistent statewide
closure criteria

Clear direction to responsible
parties, consultants, regulatory
agencies

Increase cleanup process
efficiencies

Policy Goals



Nuts and Bolts



Policy Structure

- **Preamble**
 - Provides Background
 - Discusses Applicability
- **Criteria for Low-Threat Case Closure**
 - General Criteria
 - Media-Specific Criteria
- **Closure Requirements**
 - Public Notification
 - Well Destruction
- **Technical Justifications**
 - Supports criteria

Policy Specifics

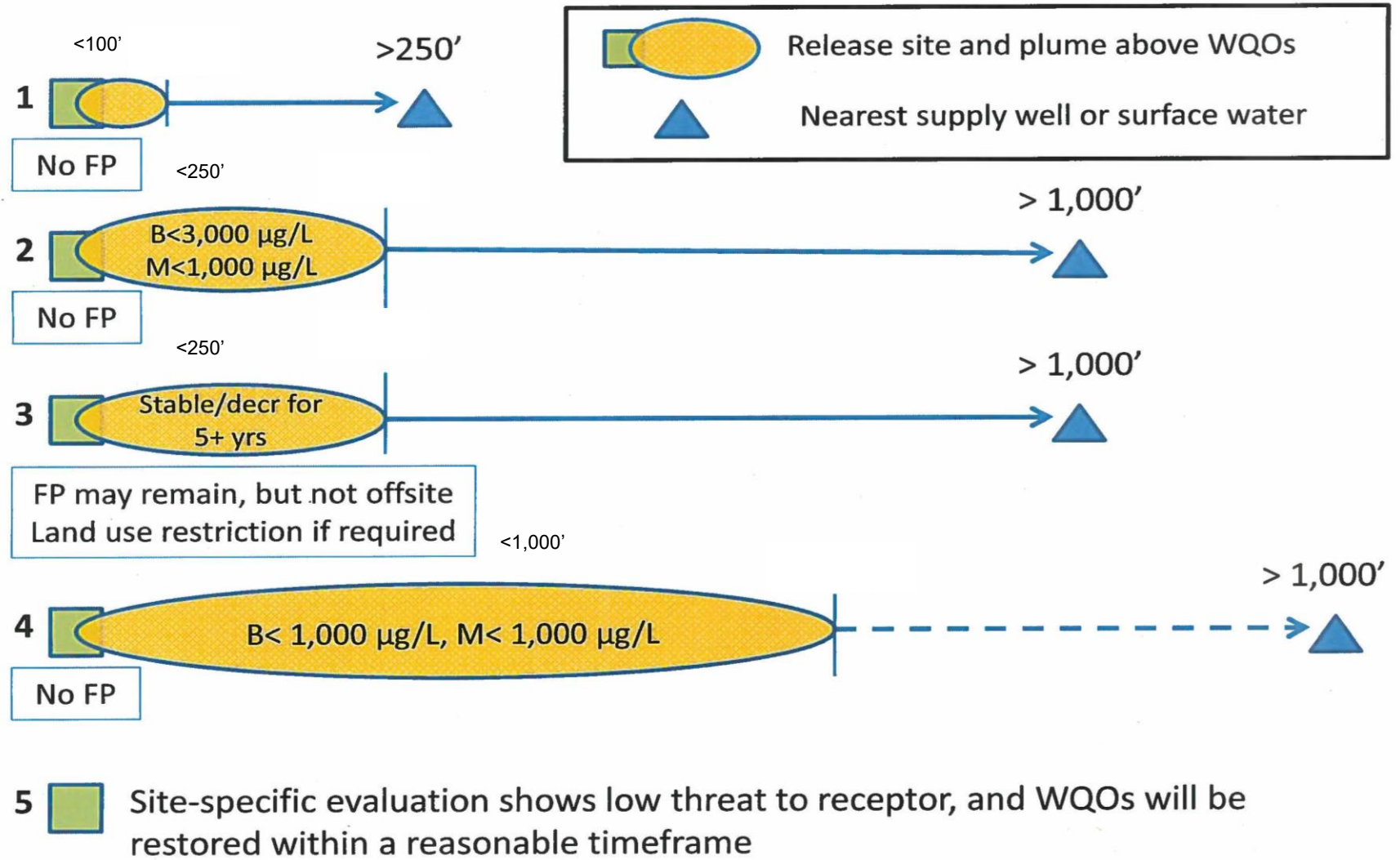
General Criteria

- Within public water system
- Petroleum only
- Release stopped
- Free product removed “to the maximum extent practicable”
- Conceptual site model developed
- Secondary source removed “to the extent practicable”
- Tested for MTBE
- Nuisance does not exist

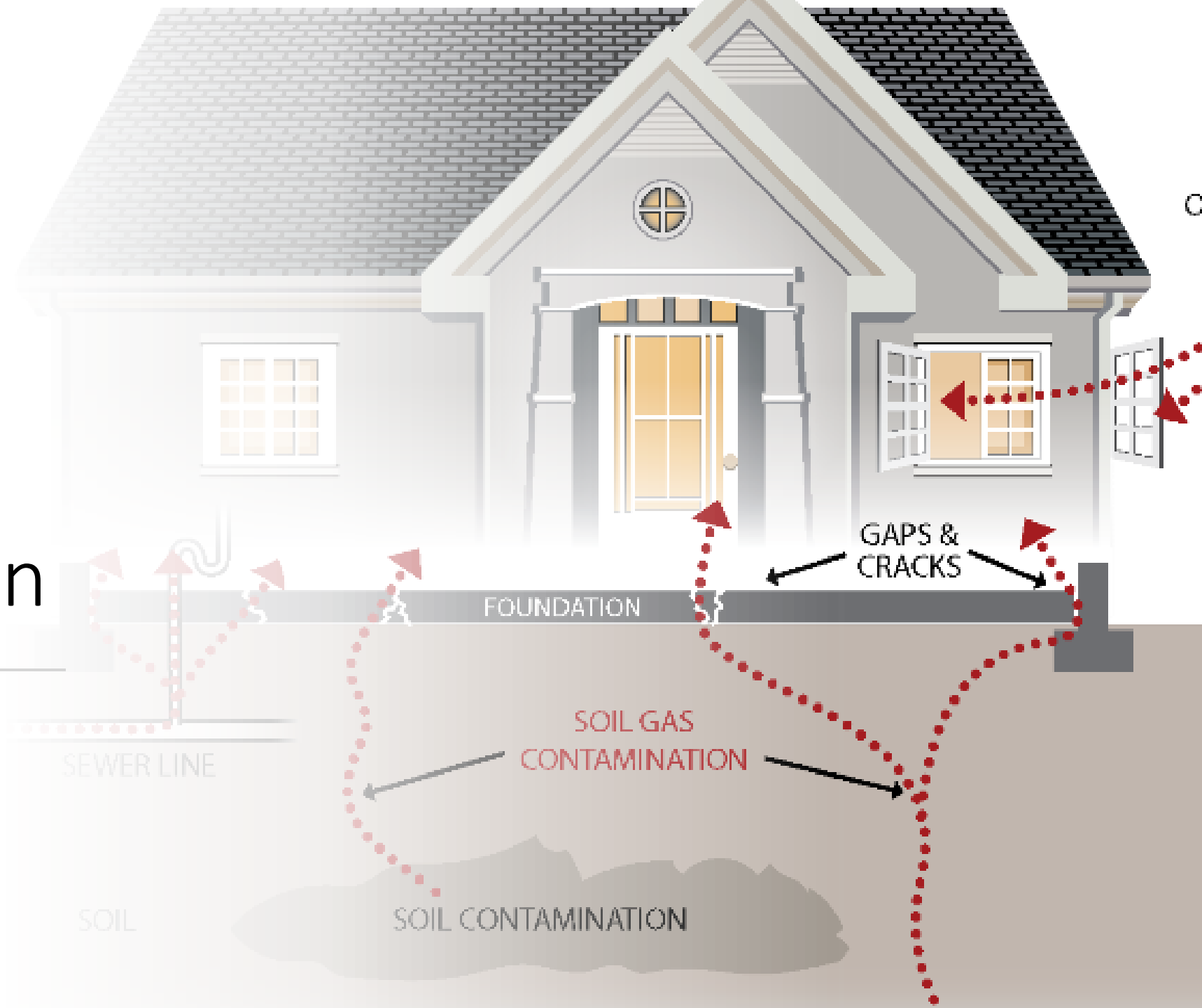
Media-Specific Criteria

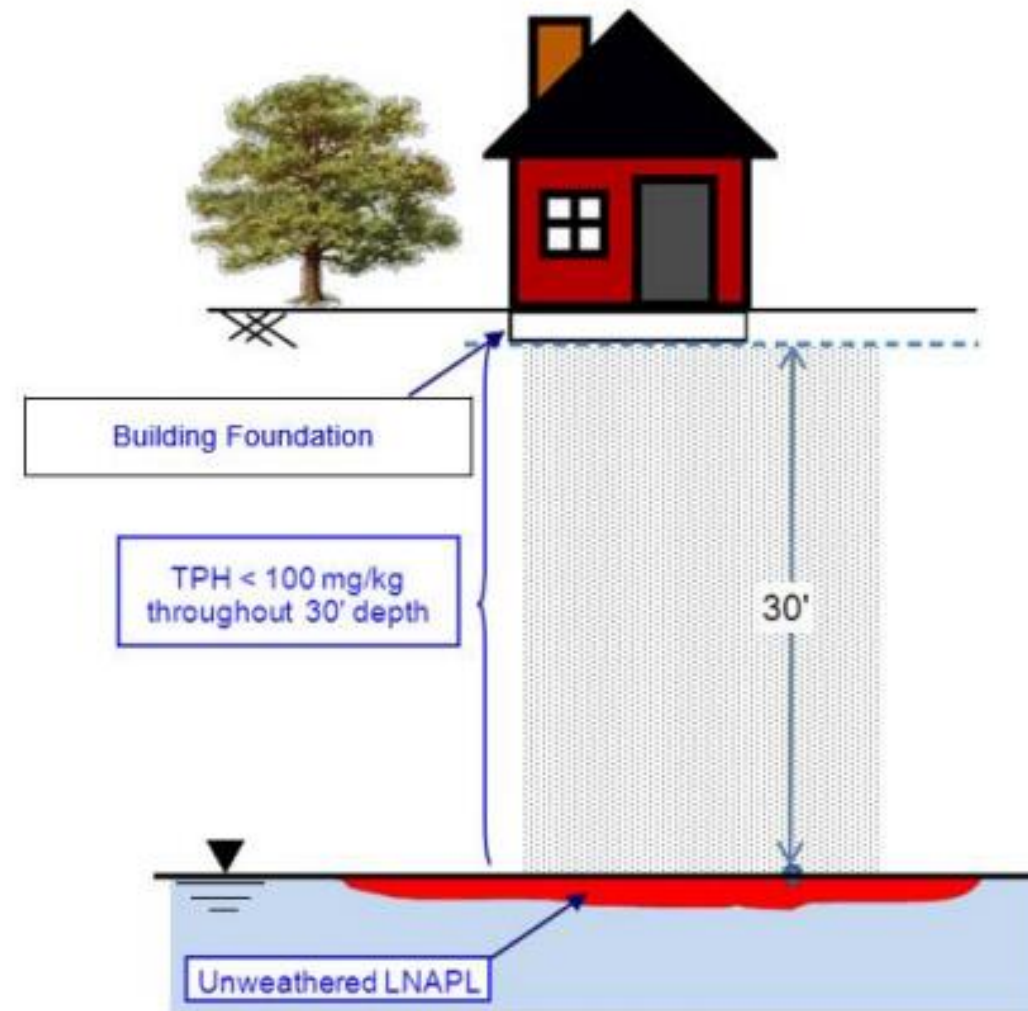
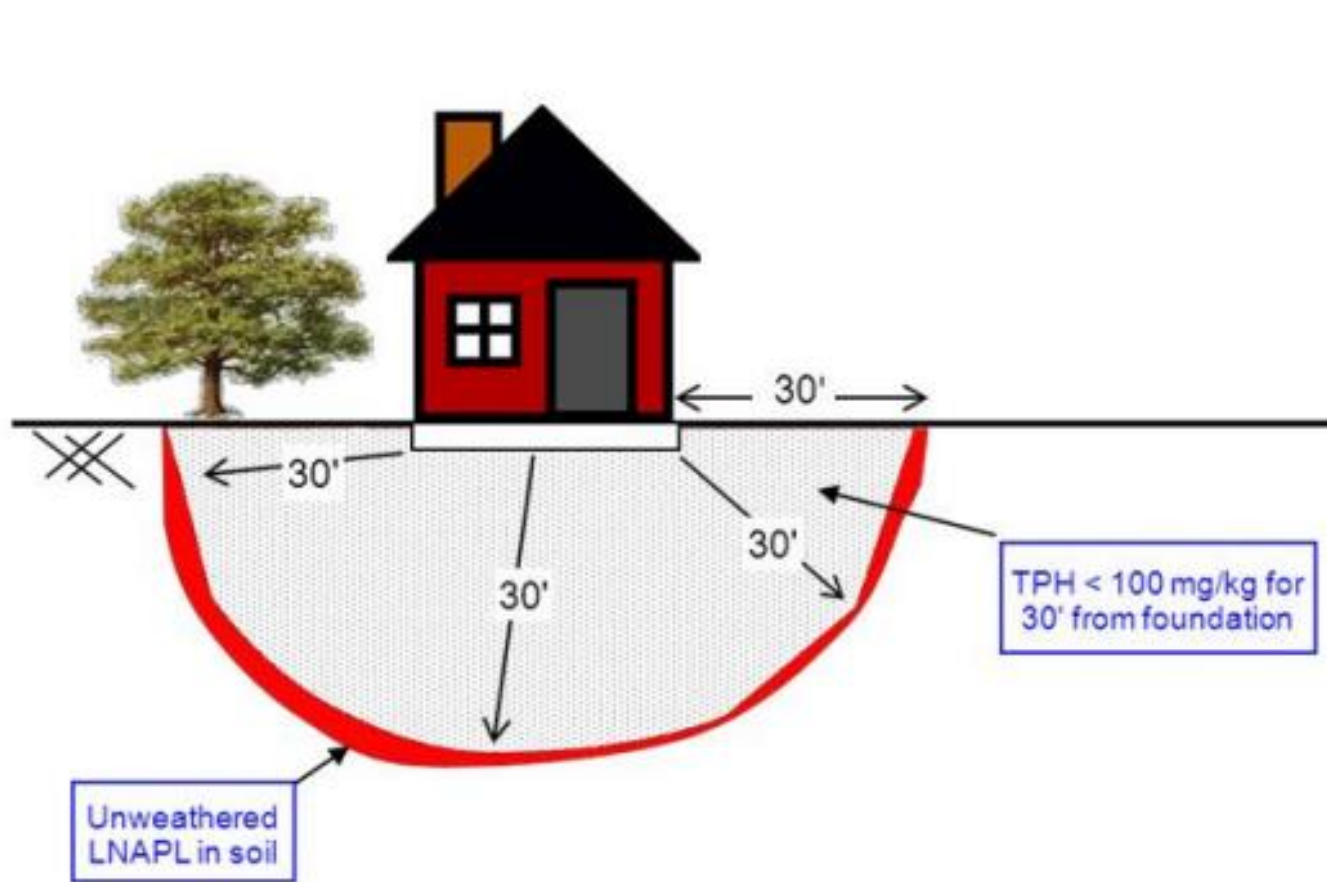
- Groundwater
- Vapor Intrusion
- Soil

Ground water



Vapor Intrusion





Vapor Intrusion Scenarios 1 and 2

Vapor Intrusion Scenario 3

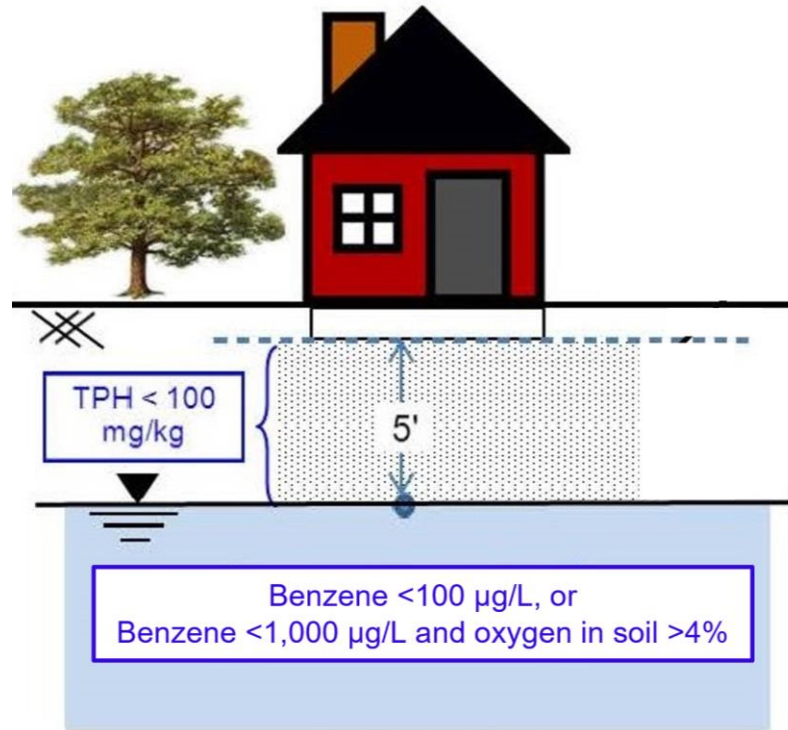


Figure A

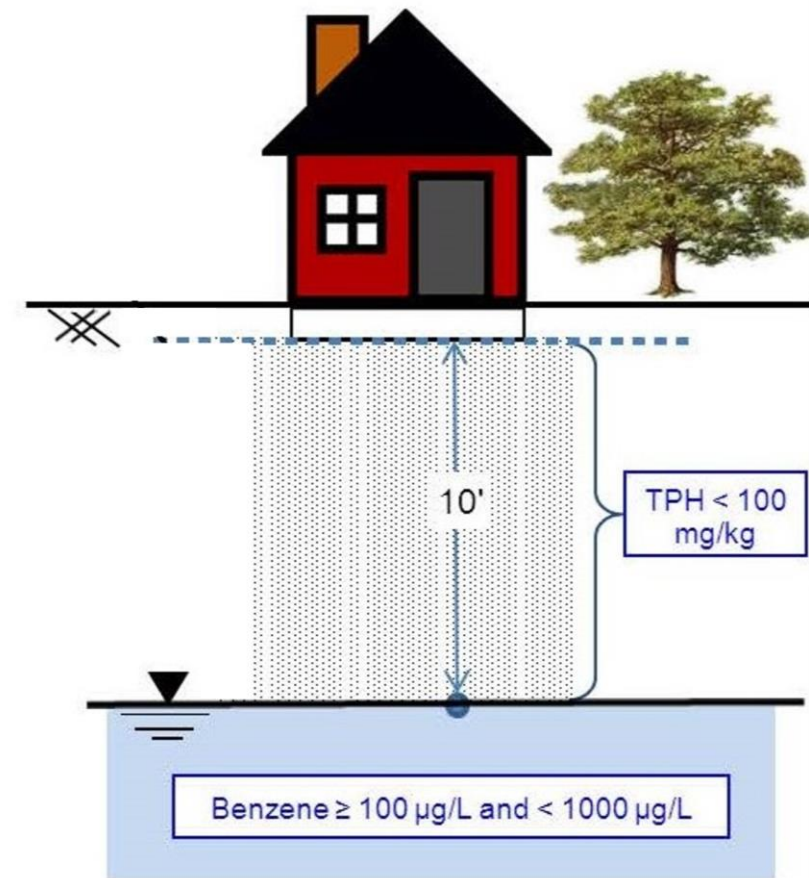
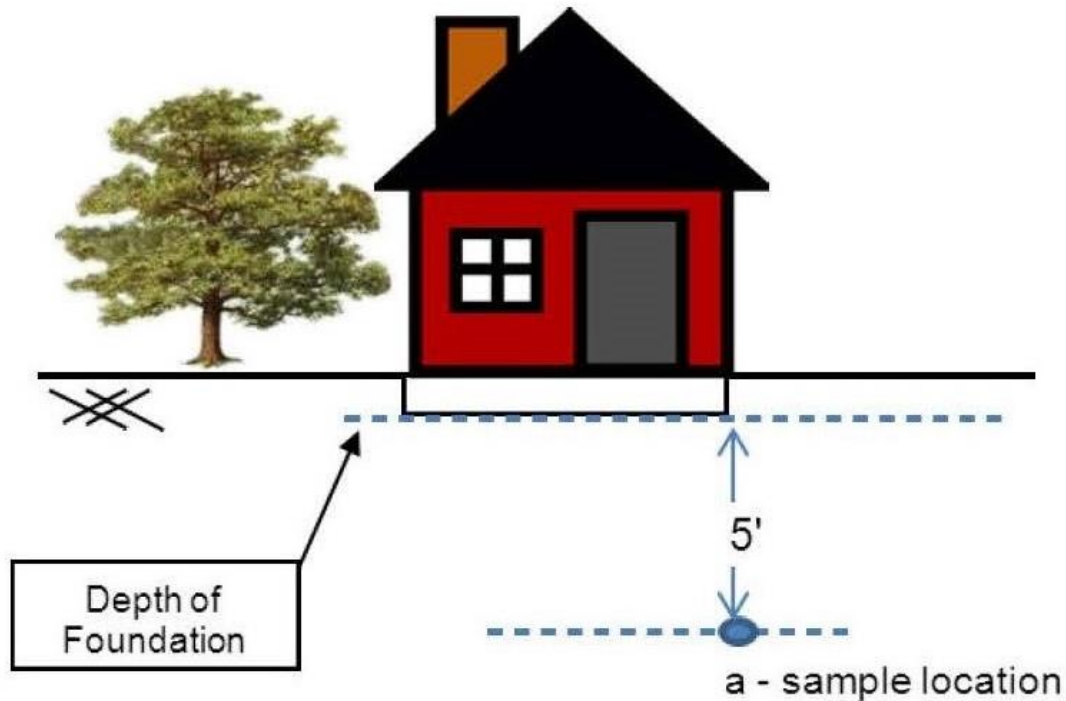


Figure B

Vapor Intrusion Scenarios 4



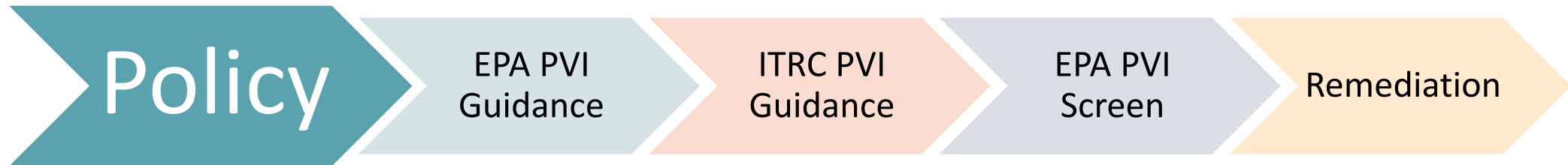
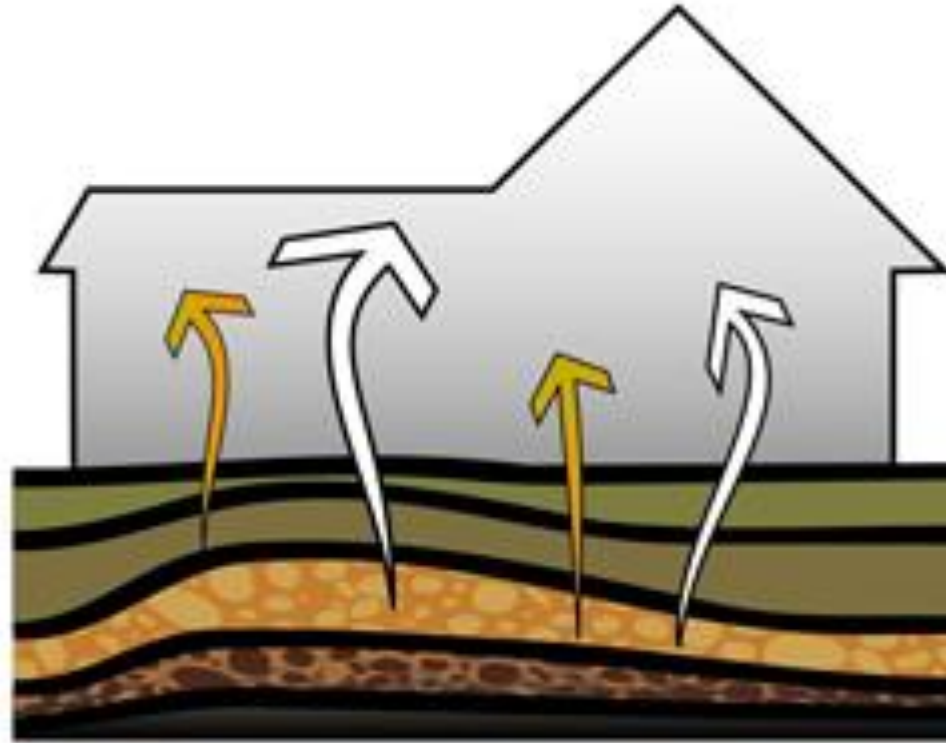
**Soil Vapor Criteria ($\mu\text{g}/\text{m}^3$)
(no bioattenuation zone)**

| | Residential | Commercial |
|--------------|-------------|------------|
| Benzene | 85 | 280 |
| Ethylbenzene | 1,100 | 3,600 |
| Naphthalene | 93 | 310 |

**Soil Vapor Criteria ($\mu\text{g}/\text{m}^3$)
(bioattenuation zone confirmed)**

| | Residential | Commercial |
|--------------|-------------|------------|
| Benzene | 85,000 | 280,000 |
| Ethylbenzene | 1,100,000 | 3,600,000 |
| Naphthalene | 93,000 | 310,000 |

Petroleum Vapor Intrusion



| Chemical | Residential | | Commercial/ Industrial | | Utility Worker |
|------------------|--------------------------|---|--------------------------|---|---------------------------|
| | 0 to 5 feet bgs mg/kg | Volatilization to outdoor air (5 to 10 feet bgs) mg/kg | 0 to 5 feet bgs mg/kg | Volatilization to outdoor air (5 to 10 feet bgs) mg/kg | 0 to 10 feet bgs mg/kg |
| Benzene | 1.9 | 2.8 | 8.2 | 12 | 14 |
| Ethylbenzene | 21 | 32 | 89 | 134 | 314 |
| Naphthalene | 9.7 | 9.7 | 45 | 45 | 219 |
| PAH ¹ | 0.063 | NA | 0.68 | NA | 4.5 |

Notes:

1. Based on the seven carcinogenic poly-aromatic hydrocarbons (PAHs) as benzo(a)pyrene toxicity equivalent [BaPe]. Sampling and analysis for PAH is only necessary where soil as affected by either waste oil or Bunker C fuel.
2. The area of impacted soil where a particular exposure occurs is 25 by 25 meters (approximately 82 by 82 feet) or less.
3. NA = not applicable
4. mg/kg = milligrams per kilogram

Soil





LNAPL (Free Product)

- Free product = mobile or migrating LNAPL
- Sites may be closed with free product if:
 - It has been removed to maximum extent practicable
 - It Doesn't extend off site.
 - It is Stable/Decreasing for 5 years
 - There are no supply wells within 1000'
 - With a deed restriction (if required)



Obstacles and Challenges



Subjective Words and Phrases

- Secondary source
- Extent practicable
- Unique attributes
- Risk assessment
- Stable
- Residual contamination
- Reasonable timeframe
- Nuisance
- CSM



Letting Go

- Perception of risk
- Non technical road blocks
- Community perception
- Water District objection





Response and Results



Stakeholder Response

Initial Response

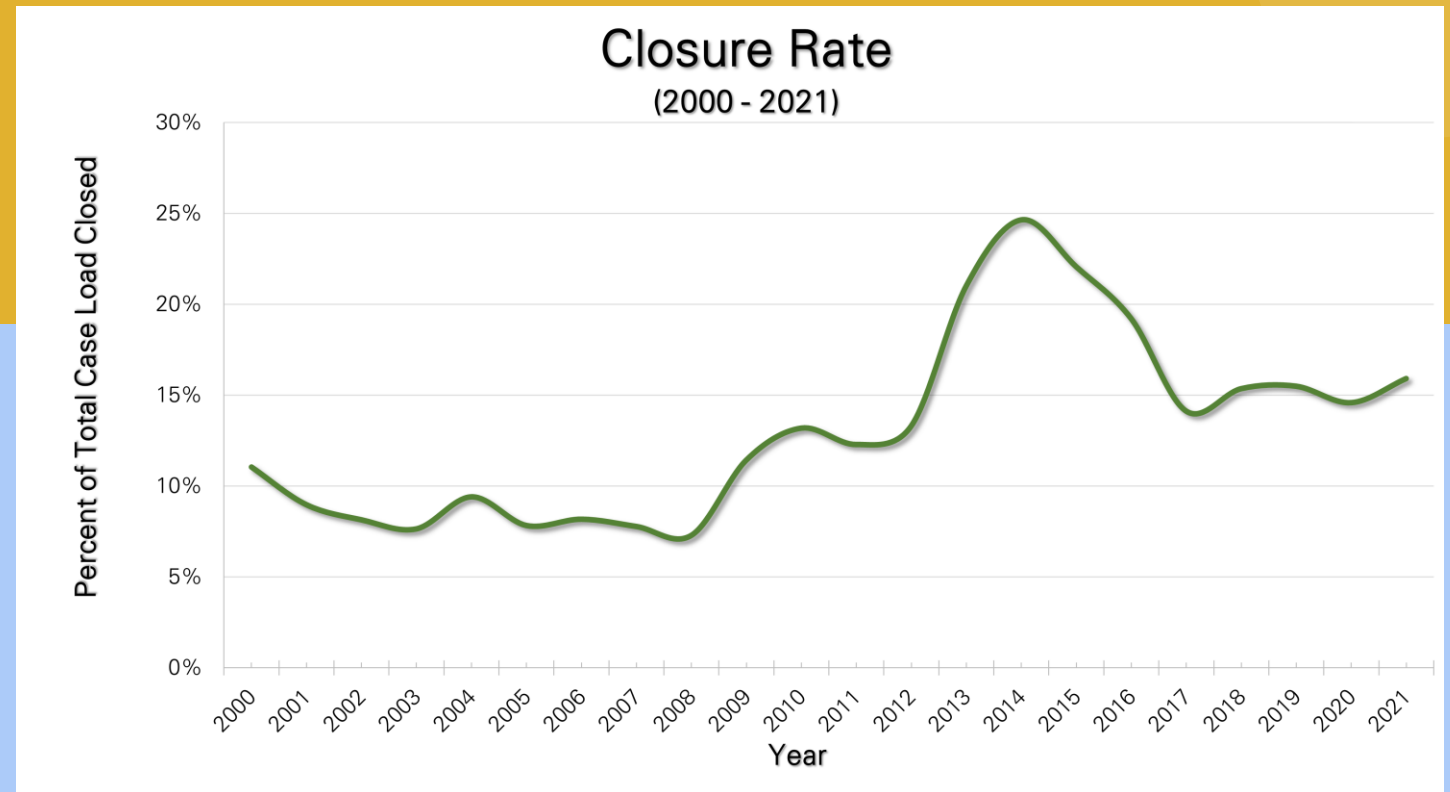
- 360 written and verbal comments
- Initial response mixed
- Foundational science questioned
- Hesitation to implement Policy


Current Response

- General acceptance of Policy
- Overall response is positive
- Science has been tested and accepted
- Widespread implementation by regulatory agencies

Results

- Over 7,000 cases closed since 2012
- Average case closure rate increased by 8%
- Less than 1,900 open cases
- Goal of less than 1,000 by 2025



A 3D maze with a person standing at the entrance, looking confused with their hands on their head. A large blue speech bubble is positioned above the person, containing the text "Where do we go from here?". The background features a dark sky with several white and grey clouds.

Where do we go from here?



Stalled Case Initiative

- 386 cases assisted since 2018
- 147 cases closed
- 239 open cases
- 121 cases have received necessary funding
- 125 enforceable directives
- 56 cases within some stage of enforcement

Questions?



**More information at the State
Water Board UST Program website:**

[https://www.waterboards.ca.gov/water_issues/
programs/ust/lt_cls_plcy.html](https://www.waterboards.ca.gov/water_issues/programs/ust/lt_cls_plcy.html)



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