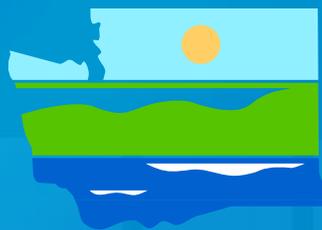


Tacoma Smelter Plume Yard Program Design

April 3, 2013

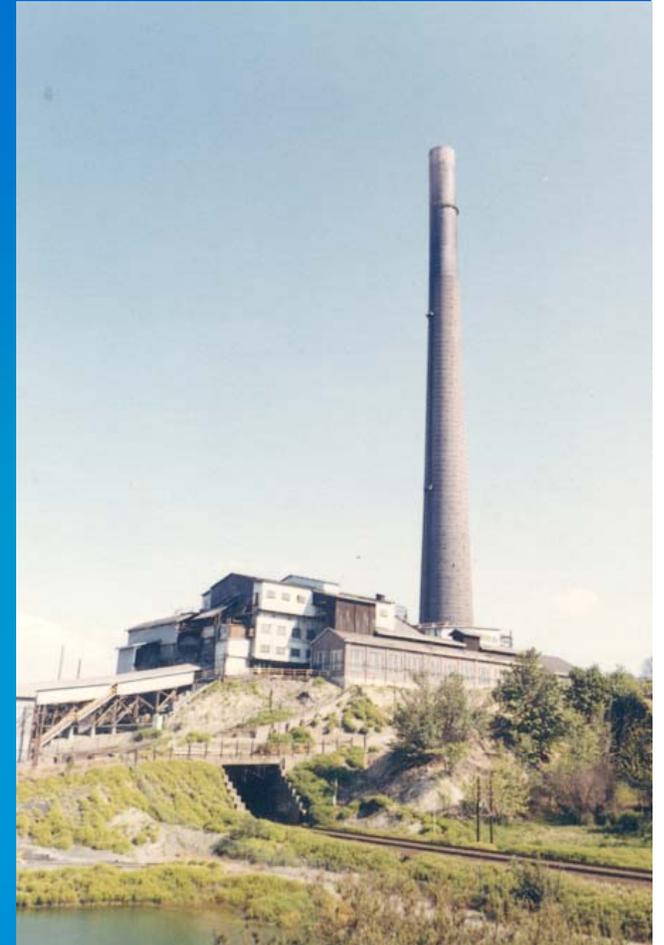
McMurray Middle School



DEPARTMENT OF
ECOLOGY
State of Washington

Topics

- Asarco Background
- Yard Program Design
 - Service area
 - Access and sampling
 - Cleanup and restoration
 - Schedule and sequence
- Vashon-Maury Island Map Sampling Study



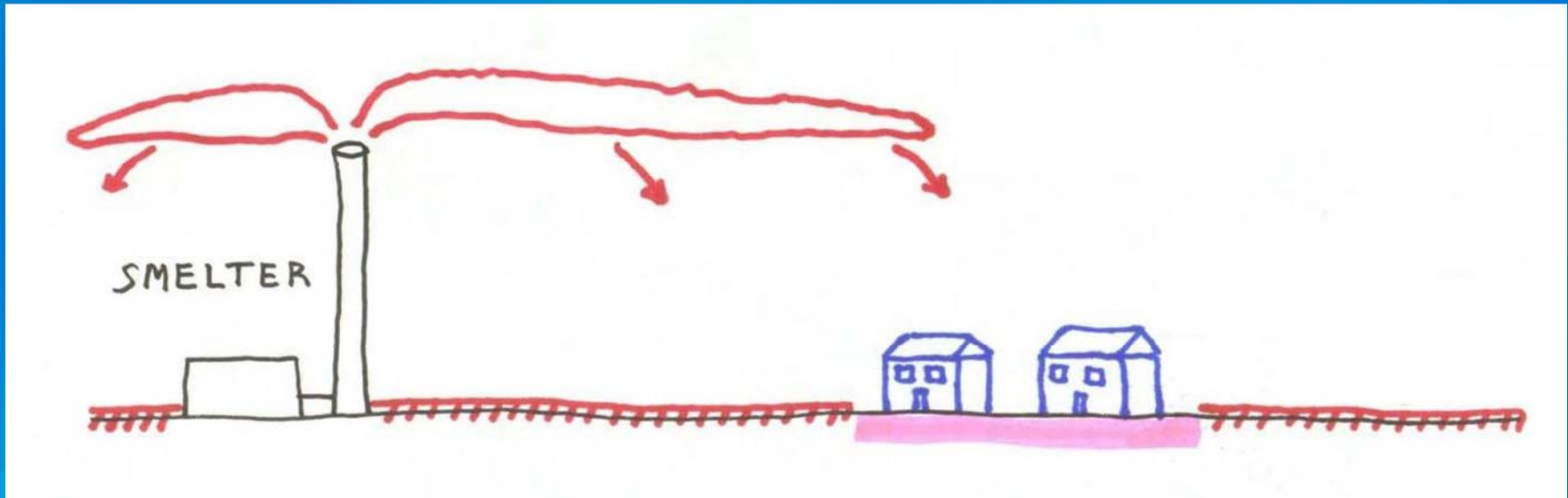
Asarco Smelter History

- **1890-1986:** Smelted lead, copper, and high arsenic ores
- **1983:** Became a Superfund site
- **1993:** EPA yard cleanup began in Ruston and north Tacoma



Tacoma Smelter Plume

- Arsenic, lead, other heavy metals
- Settled on surface soils
- Amount of contamination found varies



Asarco Settlement-Supported Work

Action	Where	Target
Continue outreach and education	Whole plume	Children, parents, teachers, gardeners, workers
Continue the Soil Safety Program	Arsenic >20 ppm	Children
Technical assistance	Whole plume	Local governments, developers, residents outside Yard Program service area
Yard cleanup program	Arsenic >100 ppm	Residents

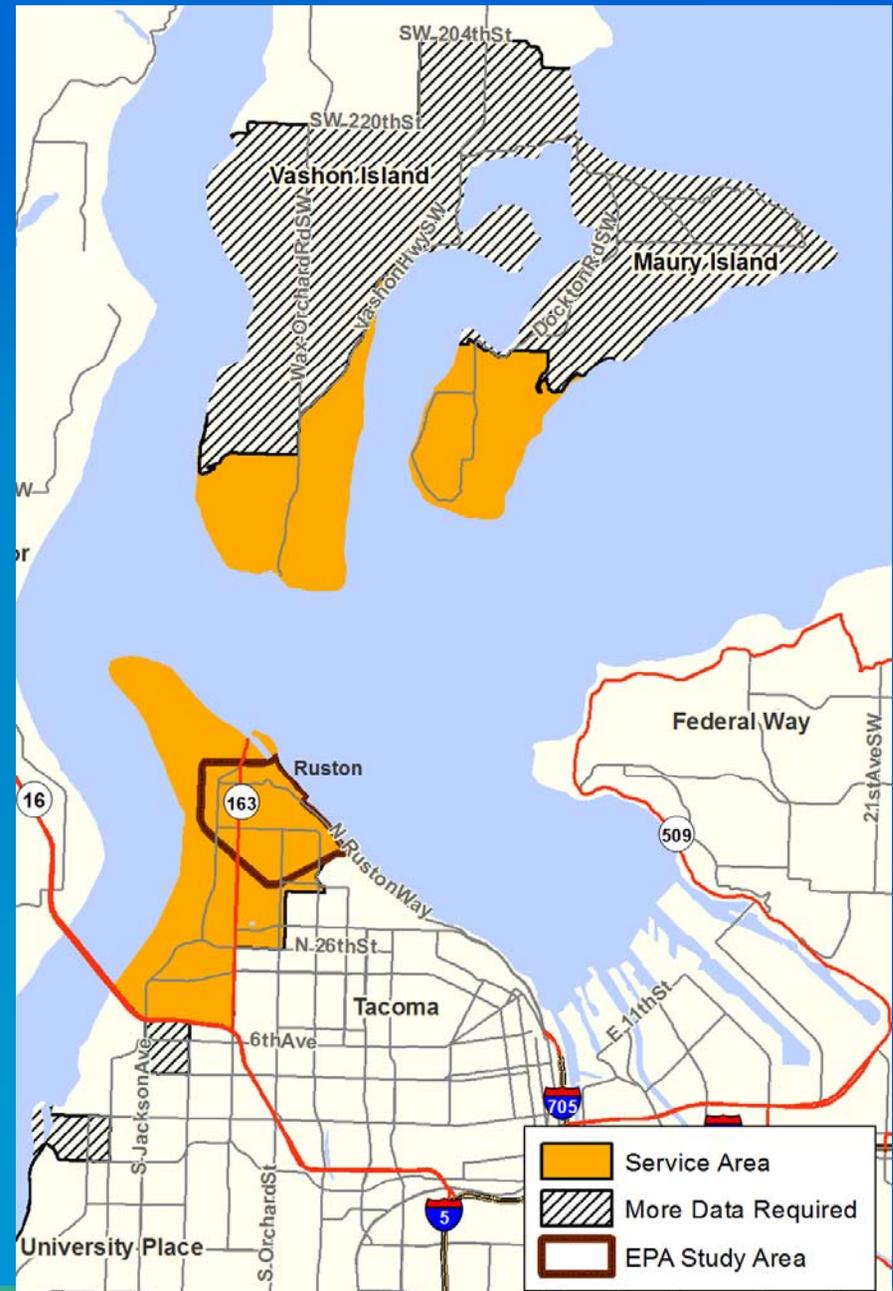
Yard Program Overview

- Existing residential
- State-led
- Voluntary

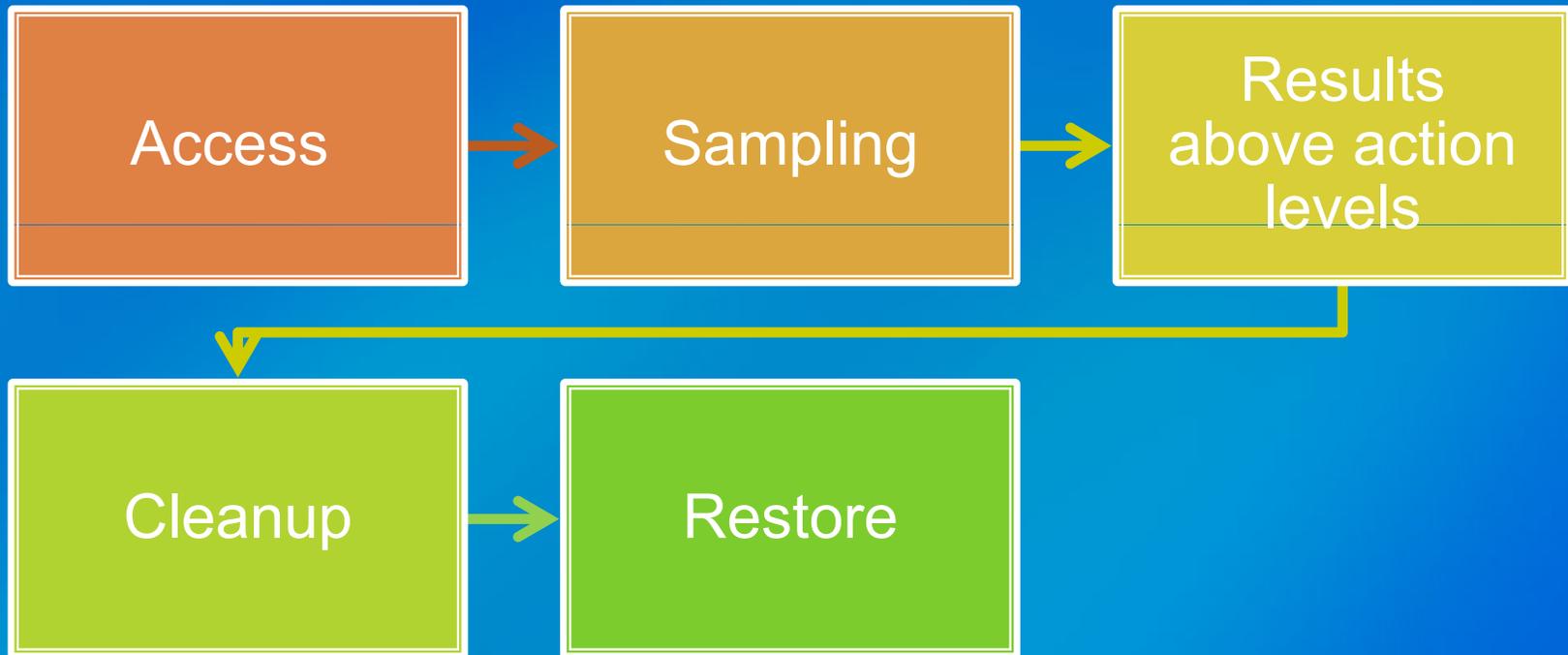
Action Levels

Average arsenic = 100 ppm

Average lead = 500 ppm



Yard Program Overview



Sampling Access

- Three opportunities
 1. Letter in the mail
 2. Knock on the door with door hanger
 3. Second knock on the door
- Homeowner can decline
 - “Out of the program” letter



Sampling

- Schedule appointment
- Determine property size
- Lay out units

Small Lot < 0.25 acres



Large Lot > 0.25 acres

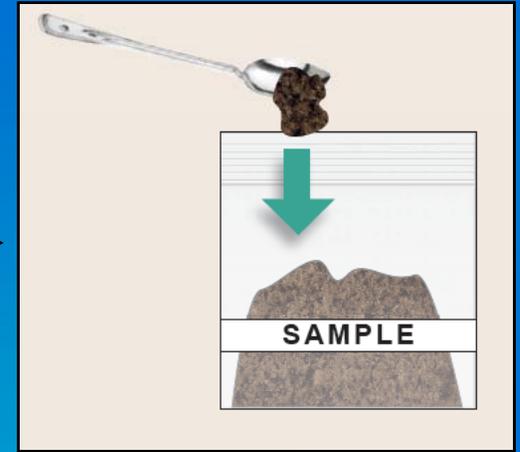
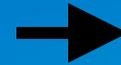
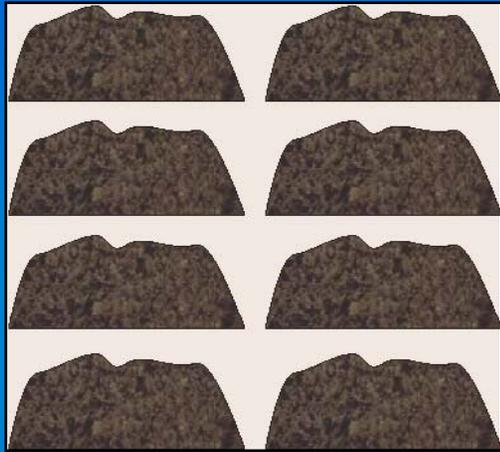


Sampling

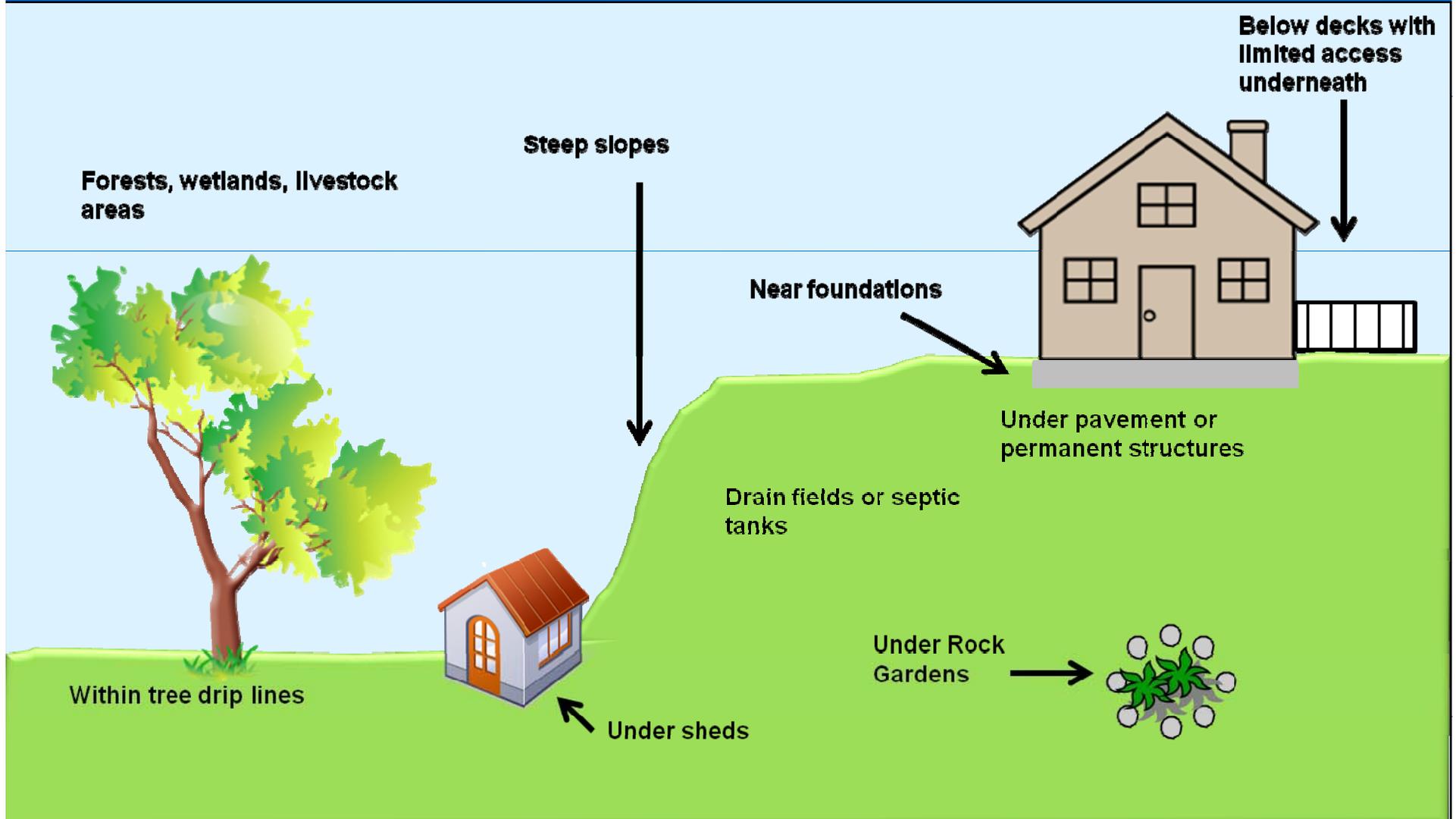
- Take 8 subsamples/unit



Sampling



Areas Excluded from Sampling and Cleanup



Educational Samples

- Areas of concern for home owners
- Excluded from Cleanup
 - Forested areas
 - In permanent landscaped areas
- No more than two for a property

Qualifying for Cleanup:

- Any units with arsenic ≥ 90 ppm or
- Lead ≥ 500 ppm.

Only unit 1
qualifies for
cleanup



Unit 1

As = 210 ppm

Pb = 400 ppm

Unit 2

As = 20 ppm

Pb = 400 ppm

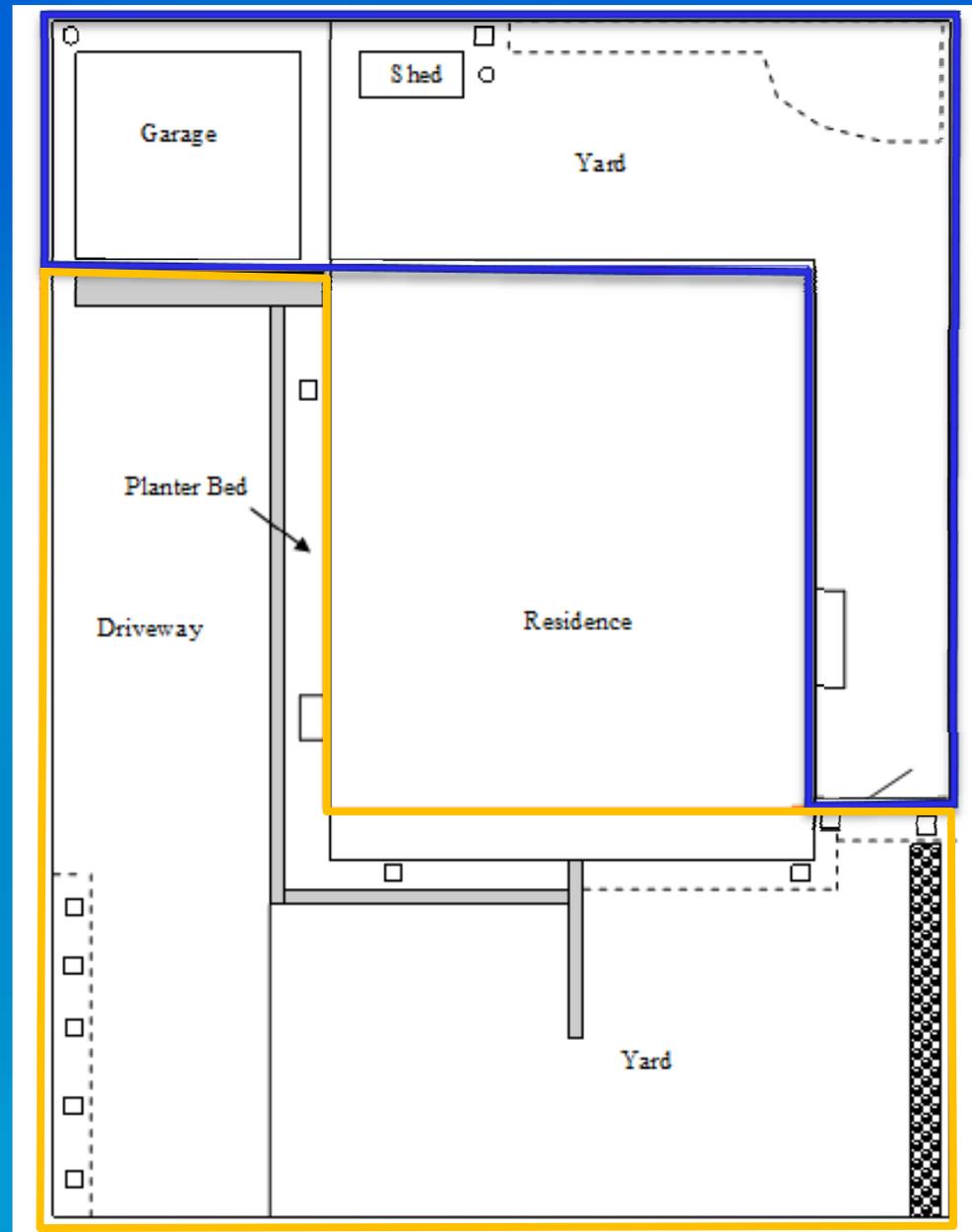
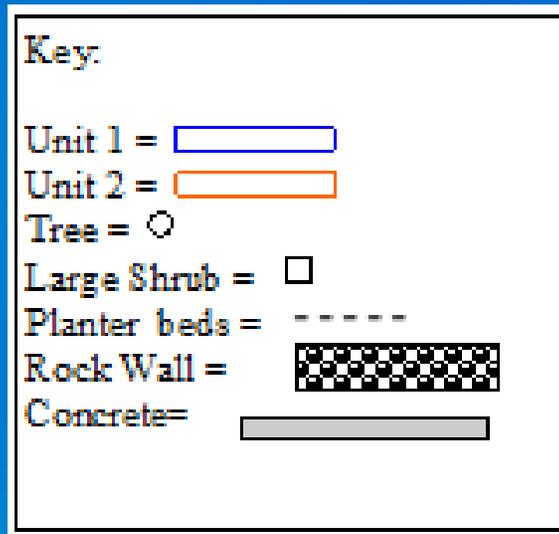
Sampling Results Letters

- Letter with results and outreach materials
 - **Above 90 ppm** → qualifies for cleanup
 - Phone call to schedule home visit
 - **20-89 ppm** → recommend reducing contact with soils
 - **Under 20 ppm** → below state cleanup level

If You Qualify for Cleanup...



Cleanup Plan



Cleanup includes...

- Remove the top 12 inches



Cleanup includes...

Take samples and review results

If ≥ 200 ppm – dig 6 more inches

If ≥ 100 ppm – lay geotextile fabric



Cleanup includes...

- Restore landscaping



Yard Restoration Options

1. Restore to existing
2. Replace some or all lawn with mulch and small plants



Homeowners must water and maintain landscaping



Arsenic in Soil Database



Arsenic in Soil (AREIS)

Find Property



Project Information

Arsenic and lead in the soil

The mining company Asarco once operated two copper smelters in Washington State; in Everett and Tacoma. Emissions of arsenic and lead contaminated soils for miles around the former stacks.

[Information about arsenic and lead](#)

The [Tacoma Smelter Plume](#) covers 1,000 square miles of King, Pierce, and Thurston counties. The [Everett Smelter](#) contaminated northeast Everett. Ecology and [EPA](#) have been cleaning up yards and play areas in both plumes since 1993.

[Healthy Actions to reduce contact with soil](#)

Search here for soil sampling results and cleanup records!

Right now, the database only has records for 2,000 properties in Ruston and north Tacoma.

Contact
[Nida Taylor](#)
360-407-6248

1. Enter your address or parcel number and click "search."
2. You will see a map of the area.
3. The property you searched for should be in the center of the screen. Click on the dot, check the address and see what records are available.

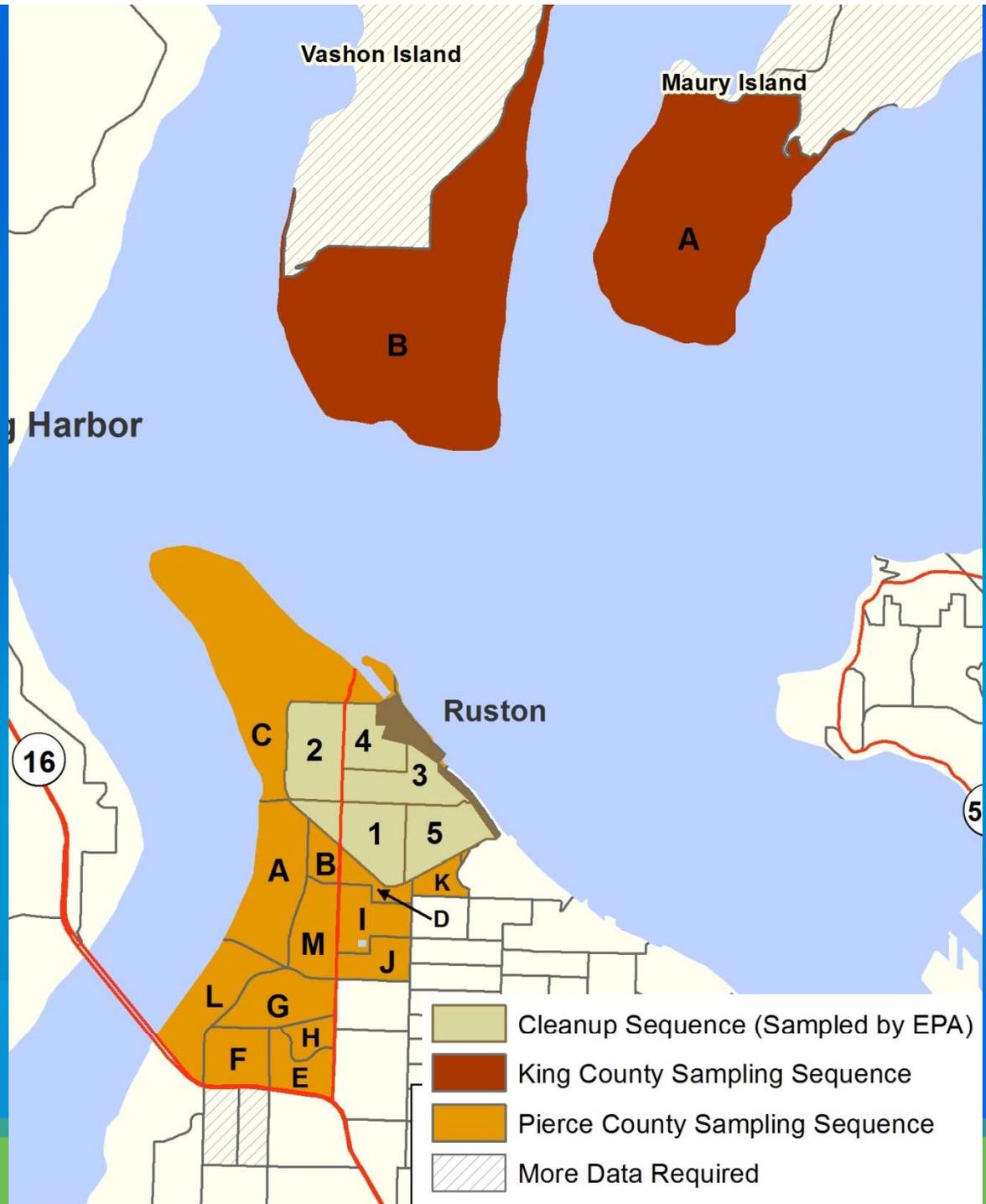
I can't find my property/I live outside of north Tacoma

Within the next year, we plan to add records for the Everett smelter cleanup and more areas of the Tacoma Smelter Plume.

Search for a Property

(do not include the city or state)

- OR -



Cleanup and Sampling Schedule

2013

- Cleanup: start 15 homes in EPA Study Area
- Start sending letters to Vashon-Maury Island

2014

- Cleanup: 50+ homes inside study area
- Sampling: Vashon-Maury Island and Tacoma (outside EPA Study Area)

2015 - 2021

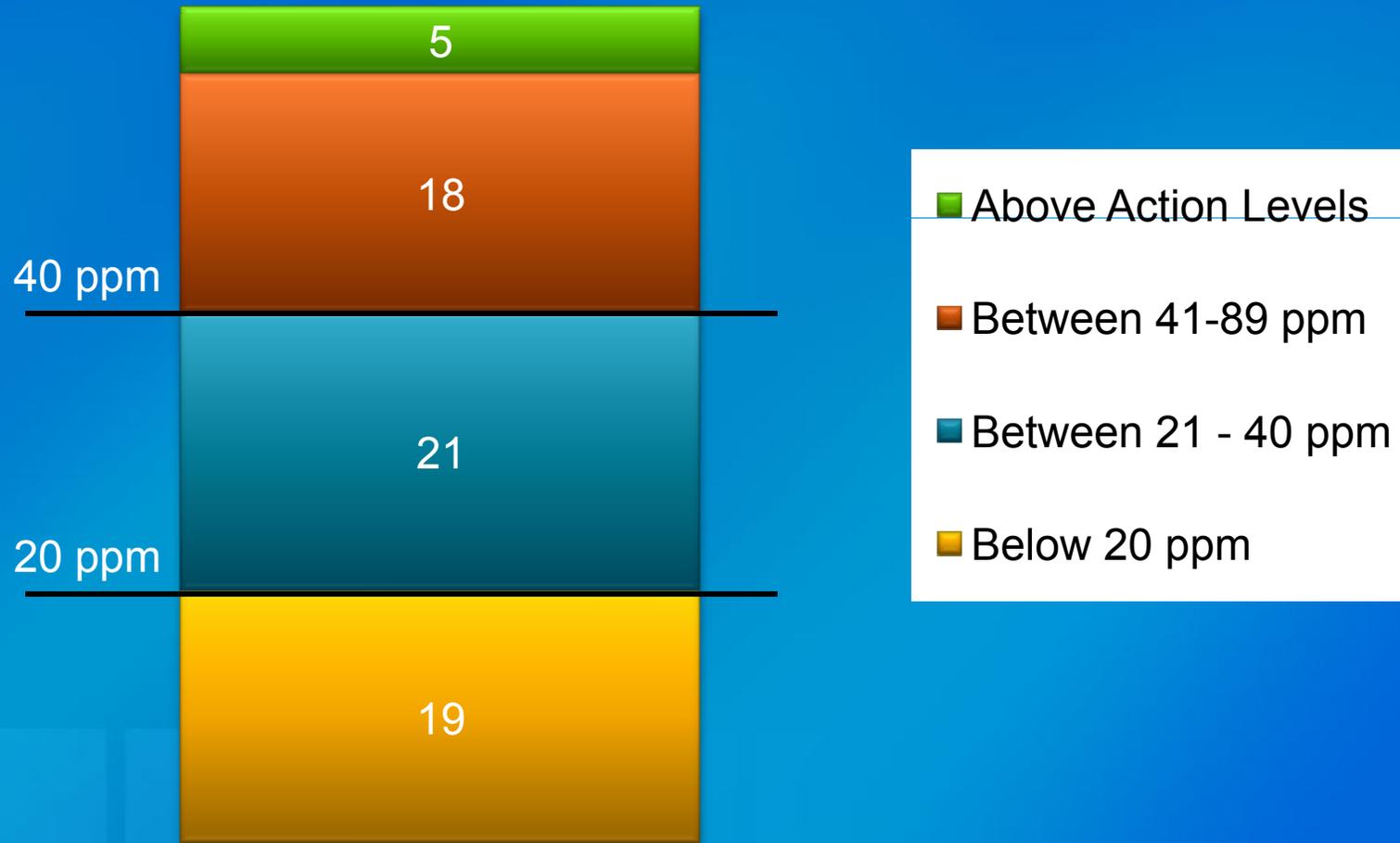
- Continue Cleanup of EPA Study Area
- Continue Sampling
- Begin Cleanup in Tacoma and Vashon Island

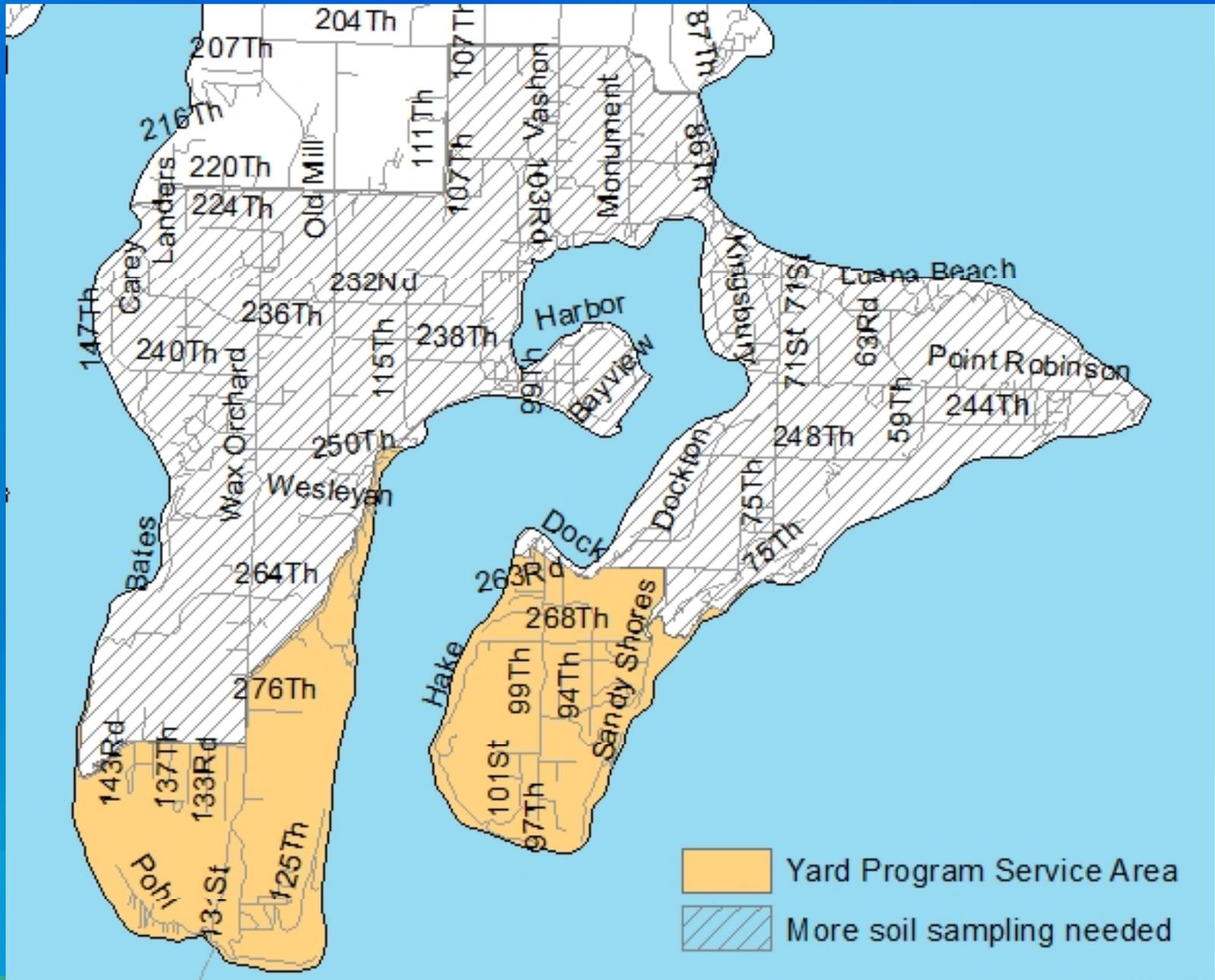
Former High Zone Map

- Based on data available
- Areas included:
 - 5% developed properties > 100 ppm
 - 30% forested > 100 ppm



Results from Map Sampling Study





- Yard Program Service Area
- More soil sampling needed

Public Comment Period

- Submit comments by April 29, 2013
- We need input on:
 - The program design.
 - Sample materials for homeowners.
 - How to encourage participation.

Comments or Questions?

Contact

Amy Hargrove, Remediation Manager

Email: Amy.Hargrove@ecy.wa.gov

Phone: (360) 407-6262

Website: ecy.wa.gov/toxics/tacoma-smelter.html

