

A photograph of an industrial chemical processing facility under a clear blue sky. The scene features a complex network of pipes, metal walkways, and large storage tanks. In the foreground, there are several green shrubs and a paved area with yellow safety curbs. A semi-transparent white banner is overlaid across the middle of the image, containing the project name in black text.

Occidental Chemical Tacoma Project



Hylebos Waterway

Blair Waterway

Commencement Bay

Toxics Cleanup in Commencement Bay

TOXICS CLEANUP

COMMENCEMENT BAY

History of Contamination
Timeline
Maps
Cleanup Projects
Superfund Cleanup
City of Tacoma's Work
Ongoing Sediment
Monitoring
Contacts

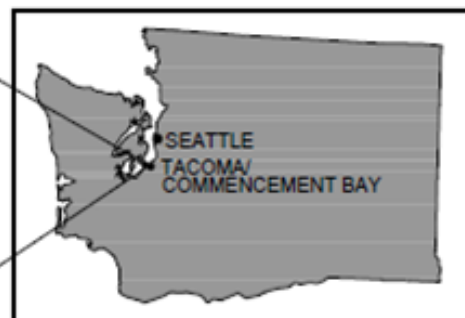
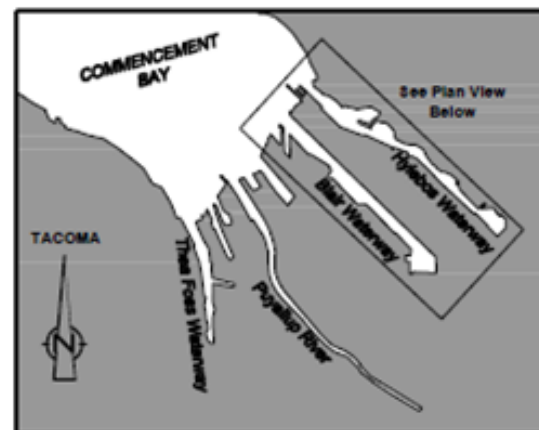
Other Ecology Initiatives

Urban Waters Initiative
Puget Sound Initiative

Cleanup Sites on Commencement Bay

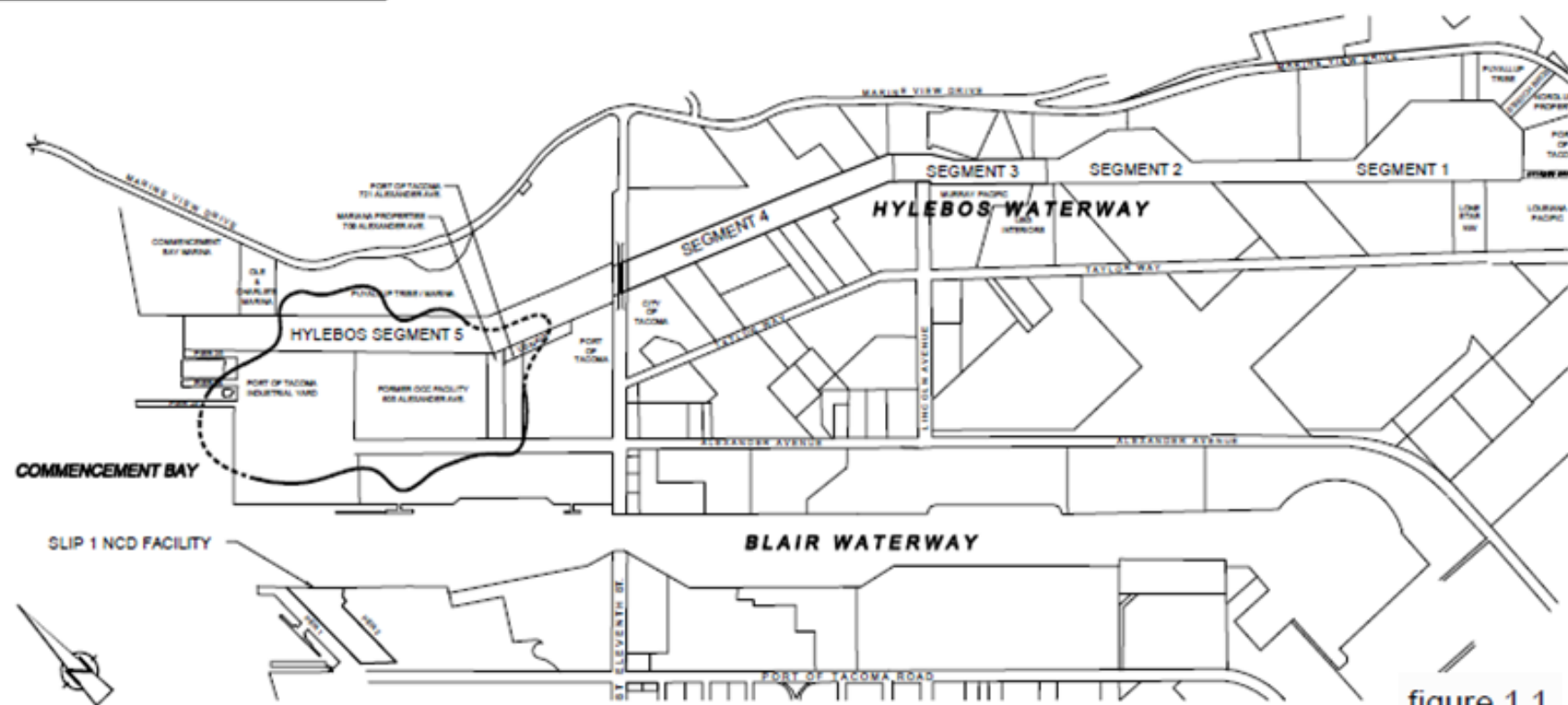
Click on the red stars in the map below to find information about each cleanup site.





LEGEND

— OCCIDENTAL SITE APPROXIMATE
MAXIMUM EXTENT OF
GROUNDWATER PLUME



0 1000 2000ft



SOURCE: ELECTRONIC FILE PROVIDED BY ANCHOR ENVIRONMENTAL LLC, JUNE 01, 2004.

figure 1.1

VICINITY MAP

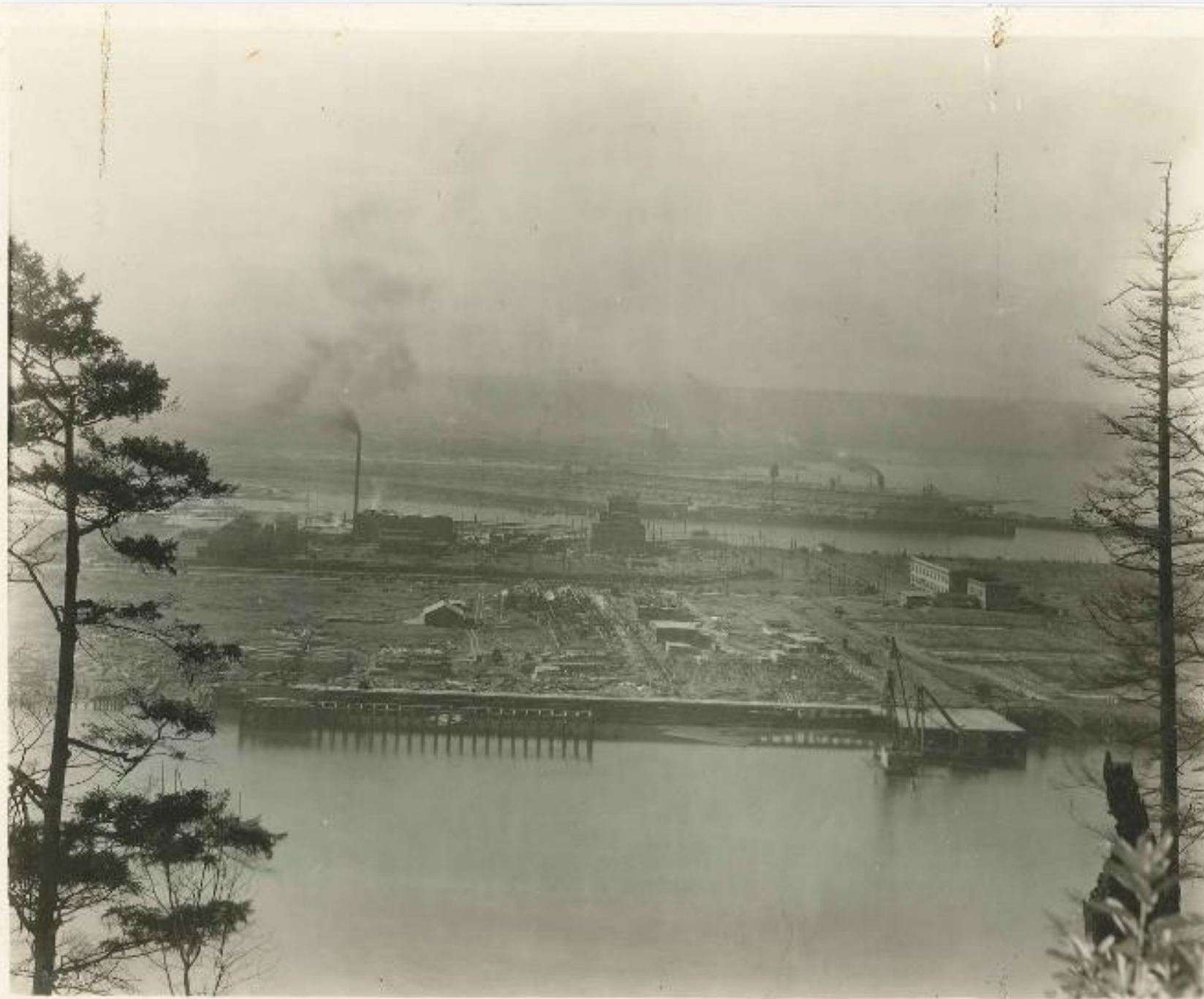
Occidental Chemical Corporation, Tacoma, Washington

Current Land Use

- ▶ Zoned for maritime and heavy industrial use.
- ▶ Restrictive covenants limit to industrial land use.
- ▶ Operating site closed.
 - Decommissioned in 2007.
 - Above-ground structures removed except for groundwater treatment plant.



PORT OF VICTORIA
8-24-1920



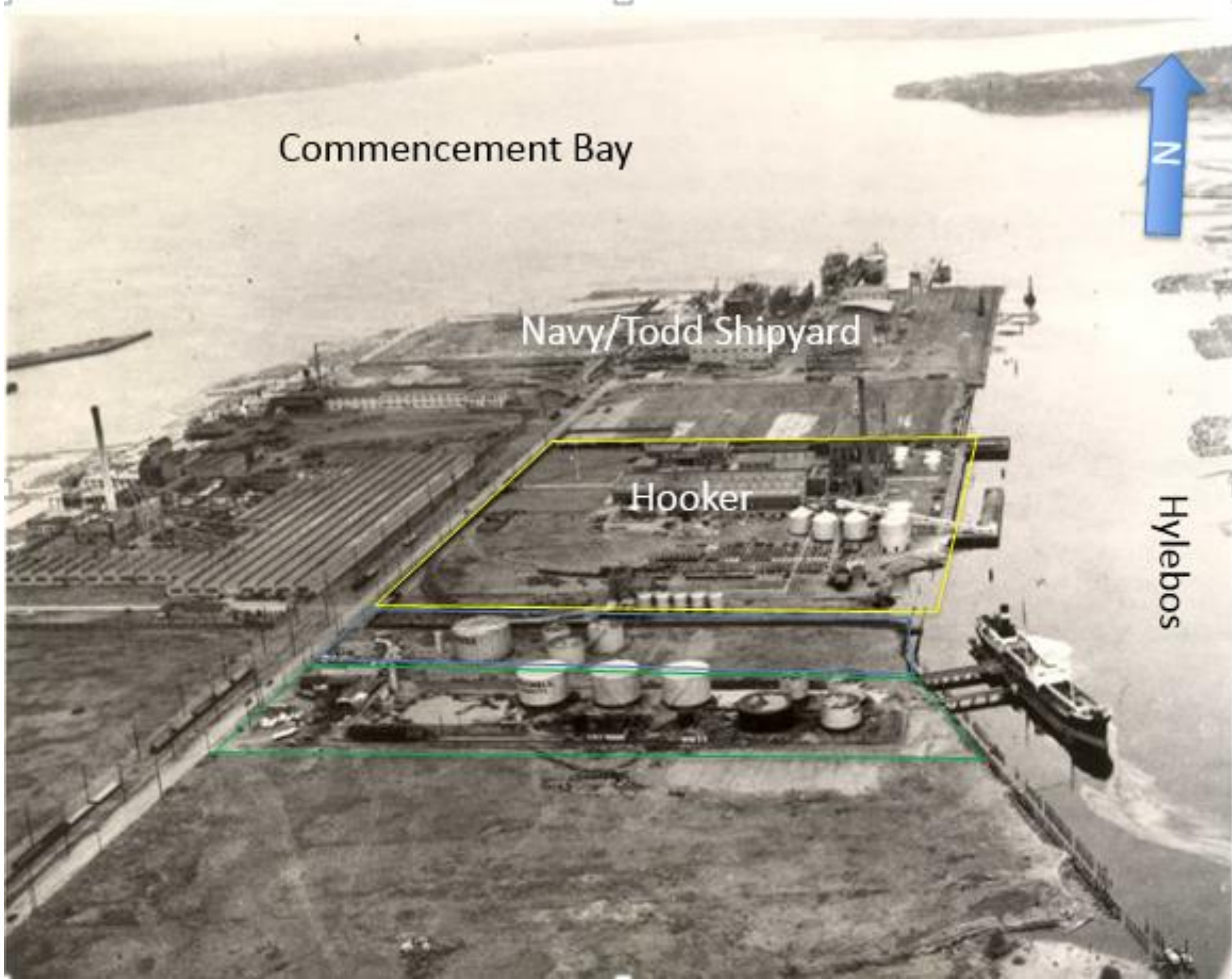
Commencement Bay



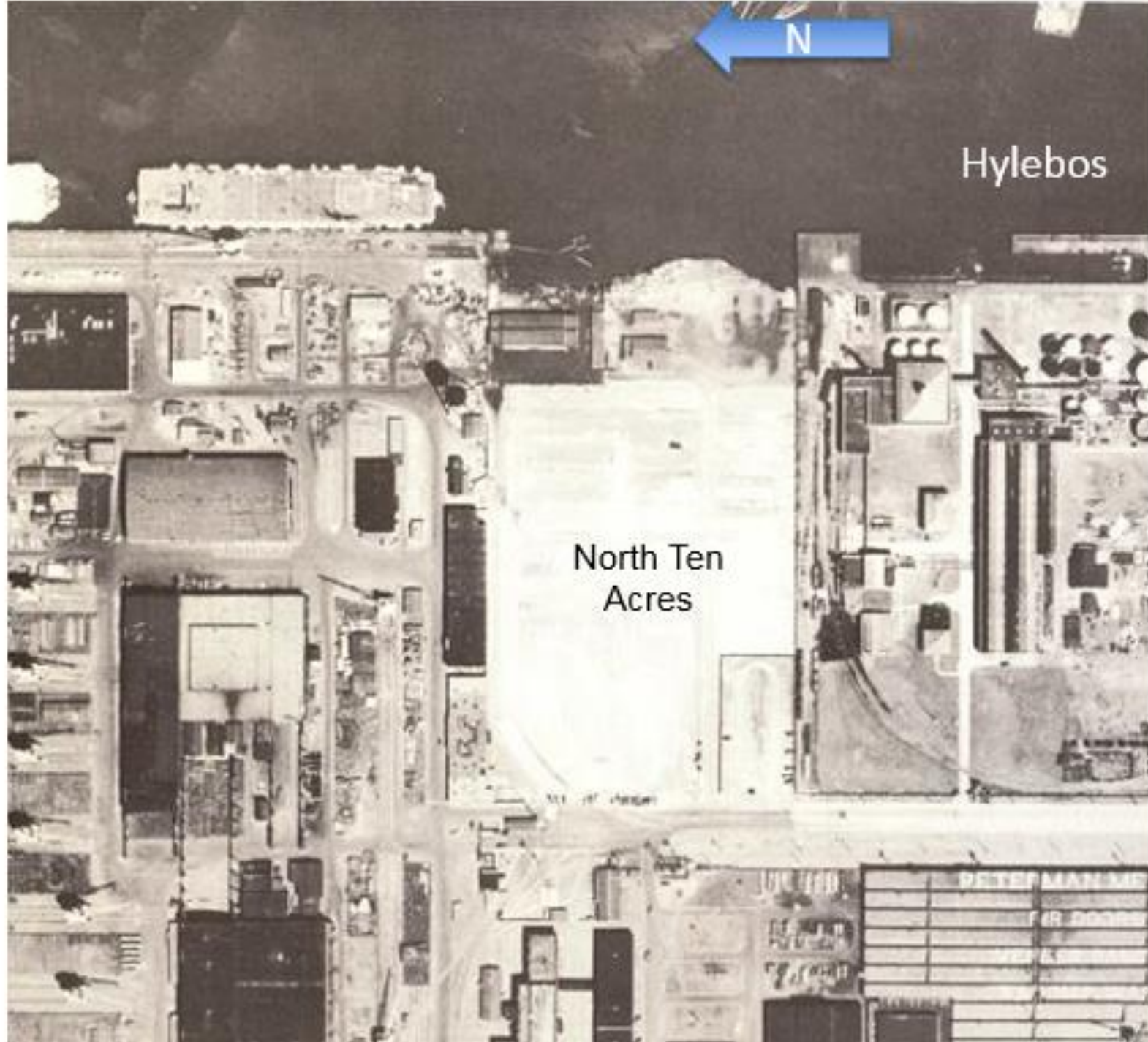
Navy/Todd Shipyard

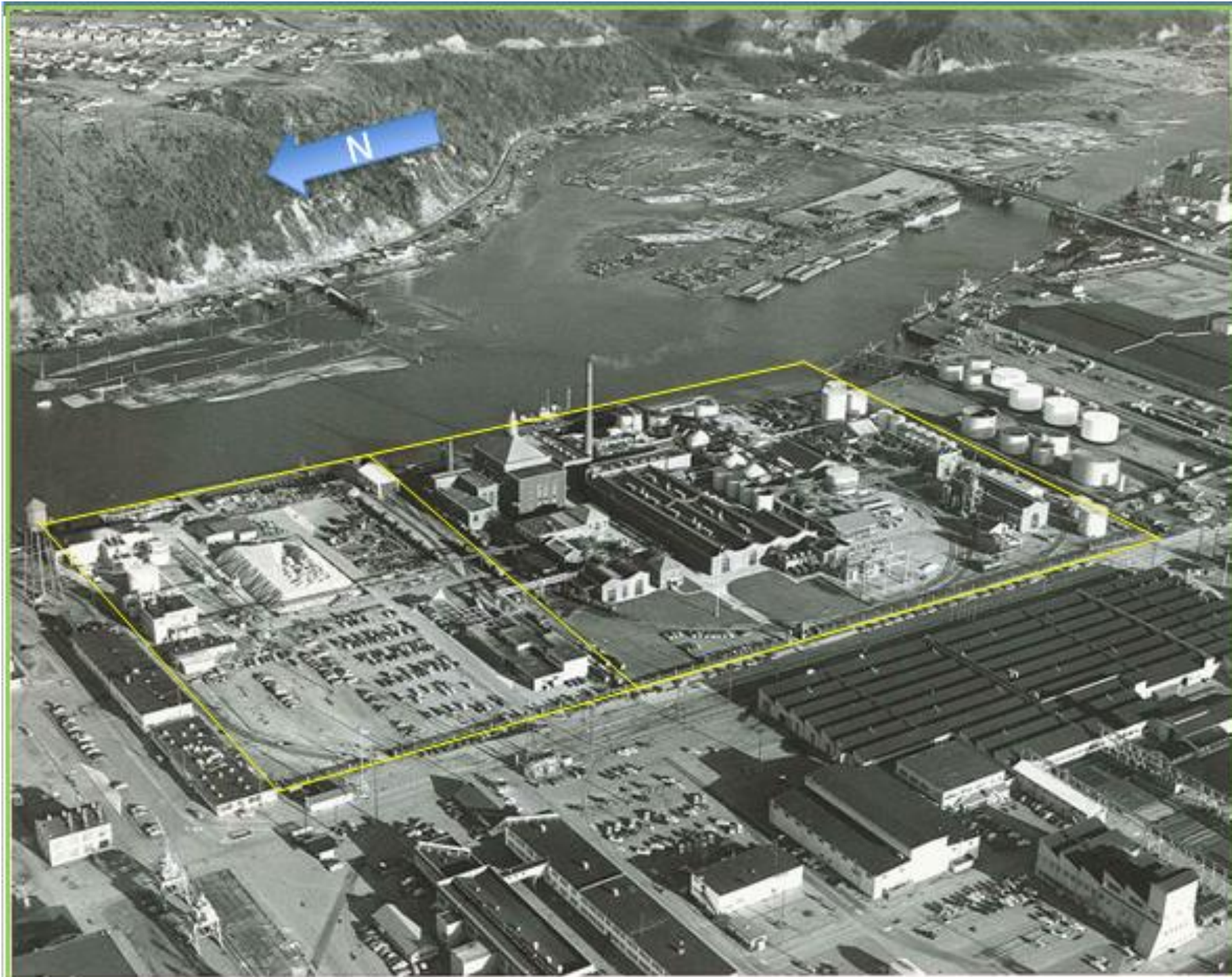
Hooker

Hylebos









Historical Sources of Contamination

Chlorine and Caustic Soda (1929–2002)

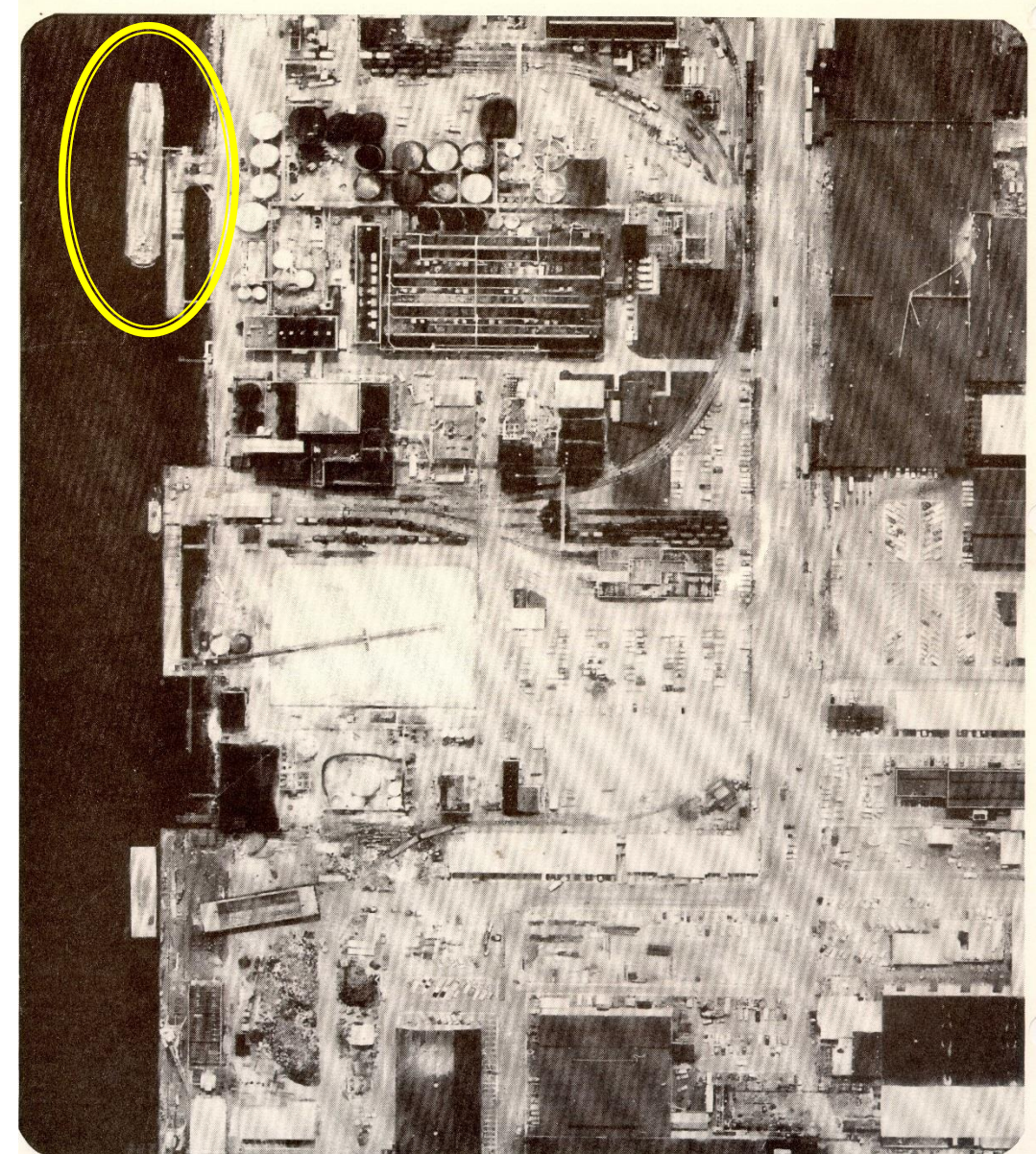
- Salt Pad (early 1960s–2002)
- Cell Houses
- Caustic Storage
- Elevated pH and elevated density



Historical Sources of Contamination

PCE / TCE Process (1947–1973)

- Process Plant
- Lime Sludge Settling Ponds
- Lime Sludge Barge
- Effluent to Hylebos (Area 5106)
- Impacted groundwater, sediments and saturated and unsaturated soils
- Primary VOCs
- Groundwater plume extends under Hylebos Waterway





Occidental Site Post Demolition from Treatment Plant

MAR 25 2008

Historical operations as sources of contamination

- First year direct discharge
- Settling ponds
- Barges



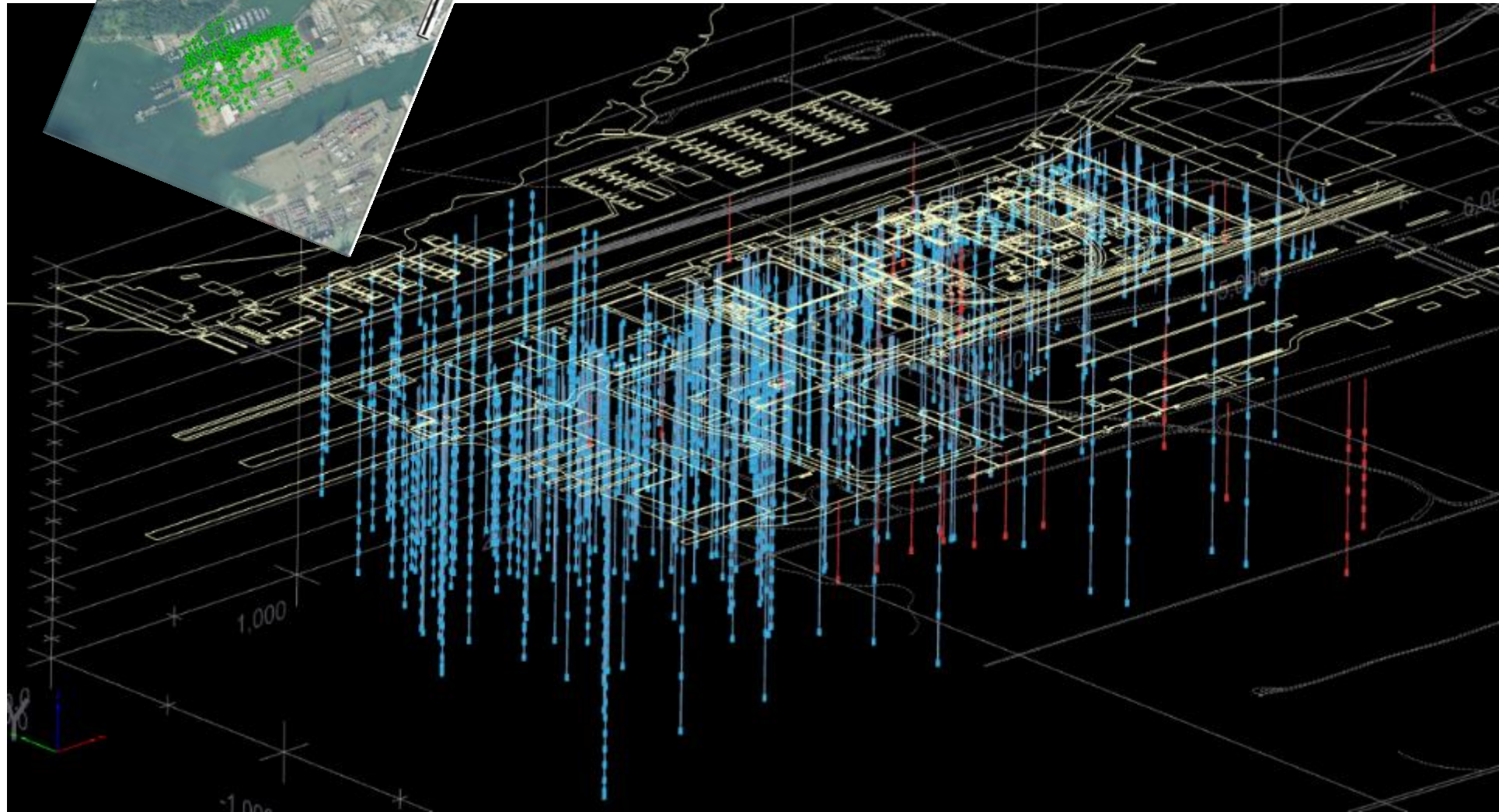
Early source control measures

- ▶ “Closure” of waste management units
 - Surface impoundments emptied and excavated.
 - Dredged discharge/barge area along shore.
- ▶ 1996 EPA and Occidental both concluded the groundwater plume needed to be contained
 - Shallow pumping/injection groundwater well system .
 - Removed approximately 150,000 pounds of solvent.
 - *This system did not contain the plume.*

Solvent Loss Estimates



- ▶ 457 million pounds of solvent were produced.
- ▶ 1 million pounds lost to subsurface.





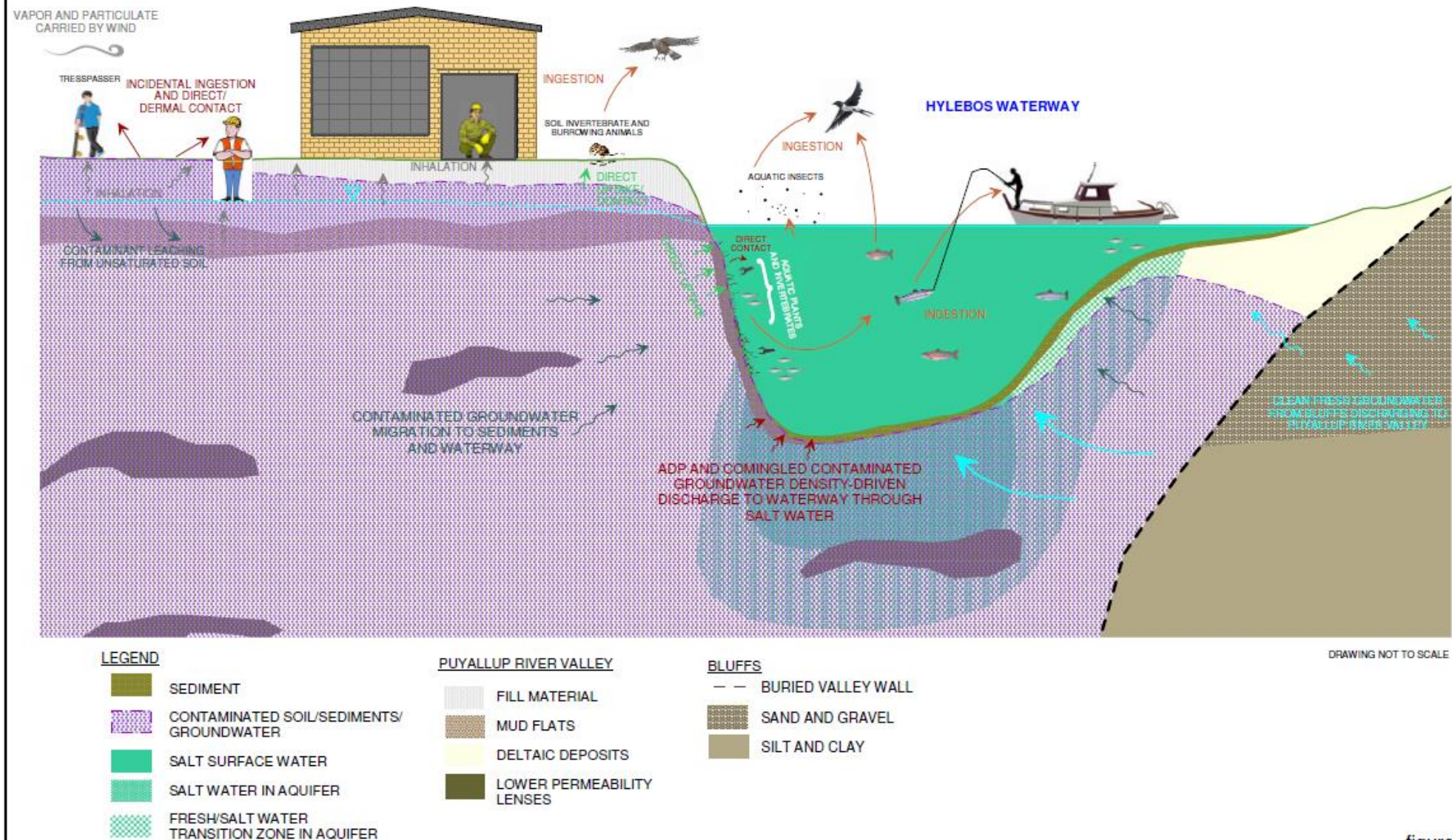


figure 6.1





SCHEMATIC OF EXPOSURE PATHWAYS AND RECEPTORS
Occidental Chemical Corporation, Tacoma, Washington



Sediment/Porewater Sampling 2016



LEGEND

-  Porewater Target Location
-  Sample Collection Successful
-  Unsuccessful Sample Attempt
-  All result intervals are non-detect for cVOCs with a MRL of 0.5 µg/L

NOTES:

Sample boxes represent the depth intervals where a sample was attempted. The top box represents the 10cm depth, then next box down represents the 30cm depth and the final box the 90cm depth.



Feasibility Study Report

- ▶ Out for public comment through March 13
- ▶ Public Hearing March 8
- ▶ Contains the required range of technologies
- ▶ Seven alternatives with 4 enhanced scenarios

Additional Draft Documents for Review

- ▶ Vapor Intrusion Investigation Reports
- ▶ Sediment/Porewater Report
- ▶ pH Study by the University of Washington
- ▶ Agreed Order under the Model Toxics Control Act

2015–2016

Remedial
Investigation



Early 2017

Feasibility
Study



Fall 2017

Cleanup
Action Plan



2018–...

Cleanup
Implemented



Continued
Monitoring

