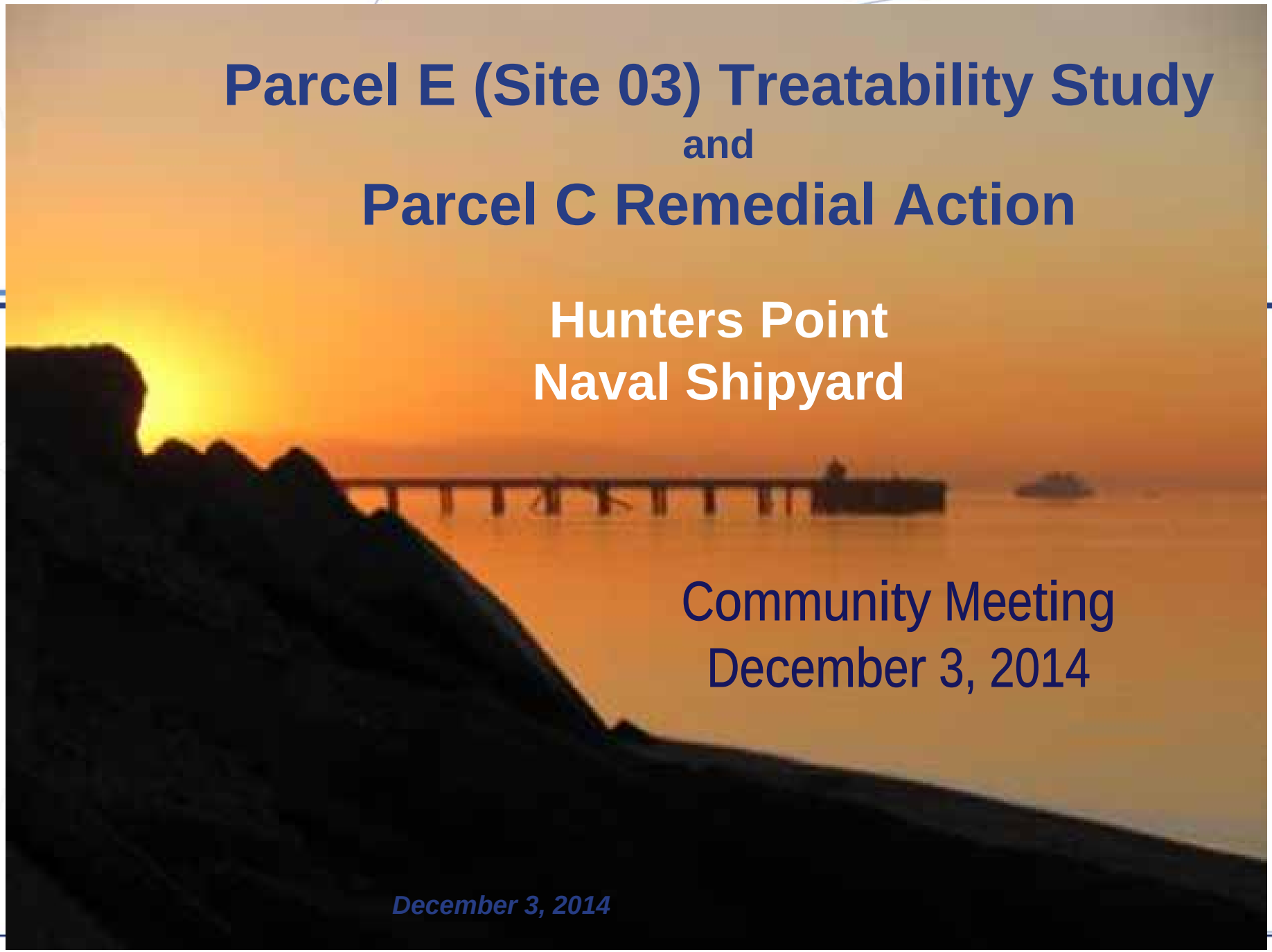


Parcel E (Site 03) Treatability Study
and
Parcel C Remedial Action

Hunters Point
Naval Shipyard

Community Meeting
December 3, 2014

NAVFAC
Naval Facilities Engineering Command
ACTIVITY NAME

Parcel E, Site 03 Treatability Studies

Danielle Janda

December 3, 2014

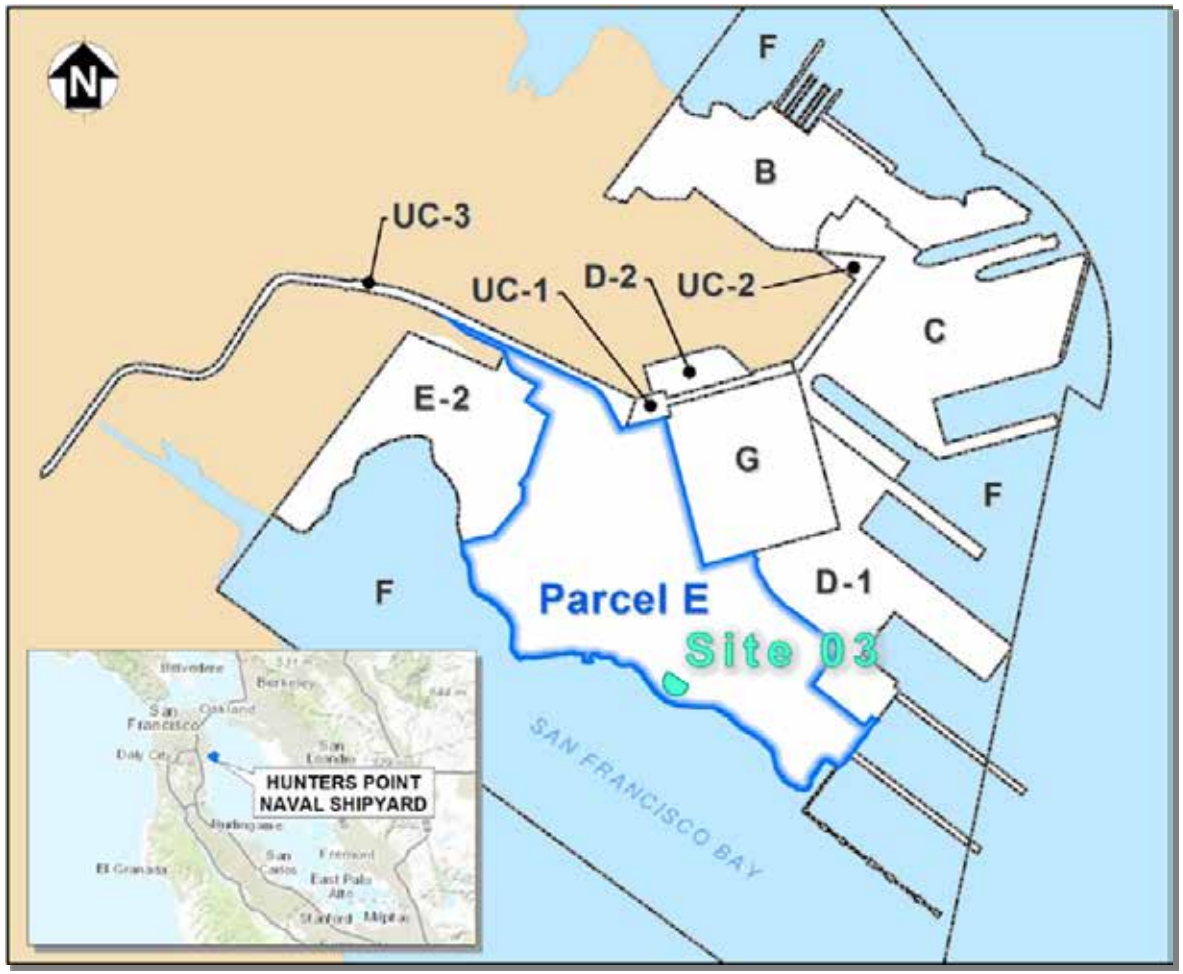
What are we going to talk about?

- **Location of the Site 03**
- **History of Site 03**
- **Overview of the Cleanup Process**
- **Treatment Technologies**
- **Thermal Remediation Treatability Study**
- **Solidification/Stabilization Treatability Study**
- **Conclusions and Next steps**

Location of Site 03

Location of Site 03

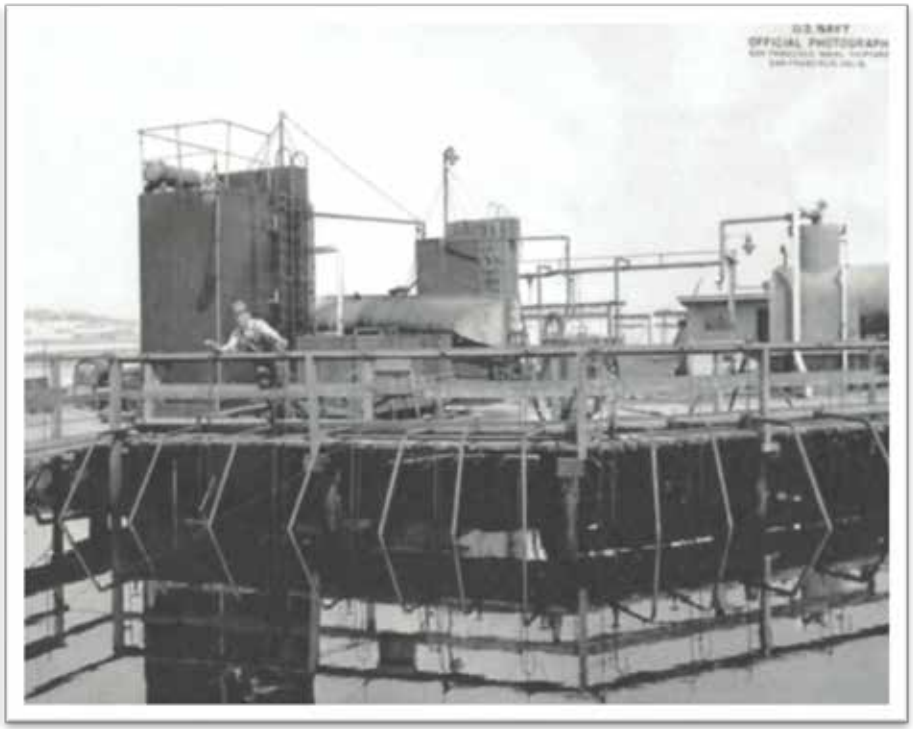
- Site 03 is part of Parcel E
- Located in the southwest part of Hunters Point Naval Shipyard
- Includes about 1 acre
- 30 feet from the SF Bay



History of Site 03

History of the Site 03

- **Operation of Oil Reclamation Ponds from 1944 to 1974**
- **Two unlined ponds with a combined capacity of 440,000 gallons**
- **Filled in with soil after the recycling operations ended**

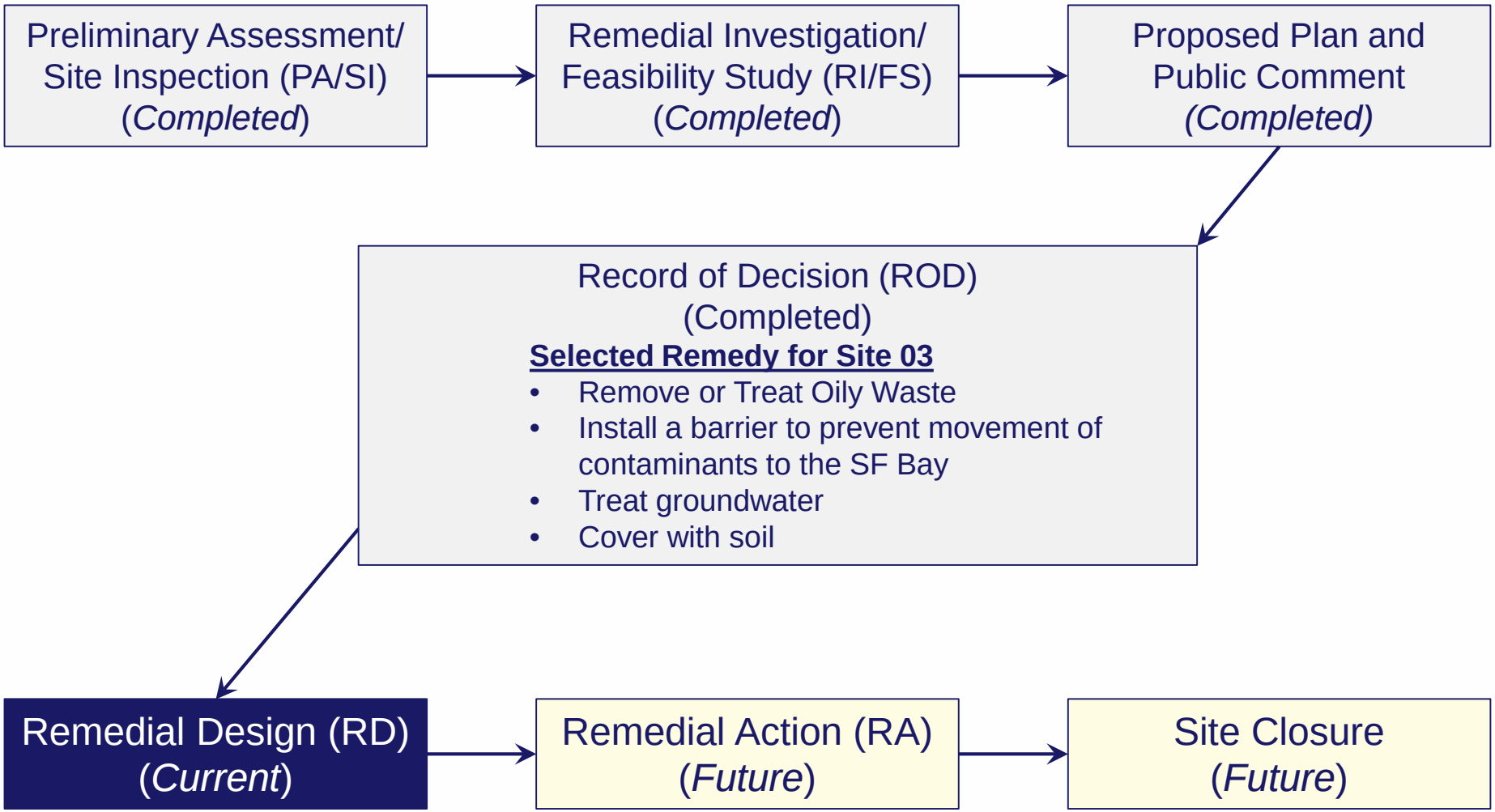


Oil Contamination at Site 03

- **Oil leaked from the ponds, contaminating soil and groundwater**

Overview of the Cleanup Process

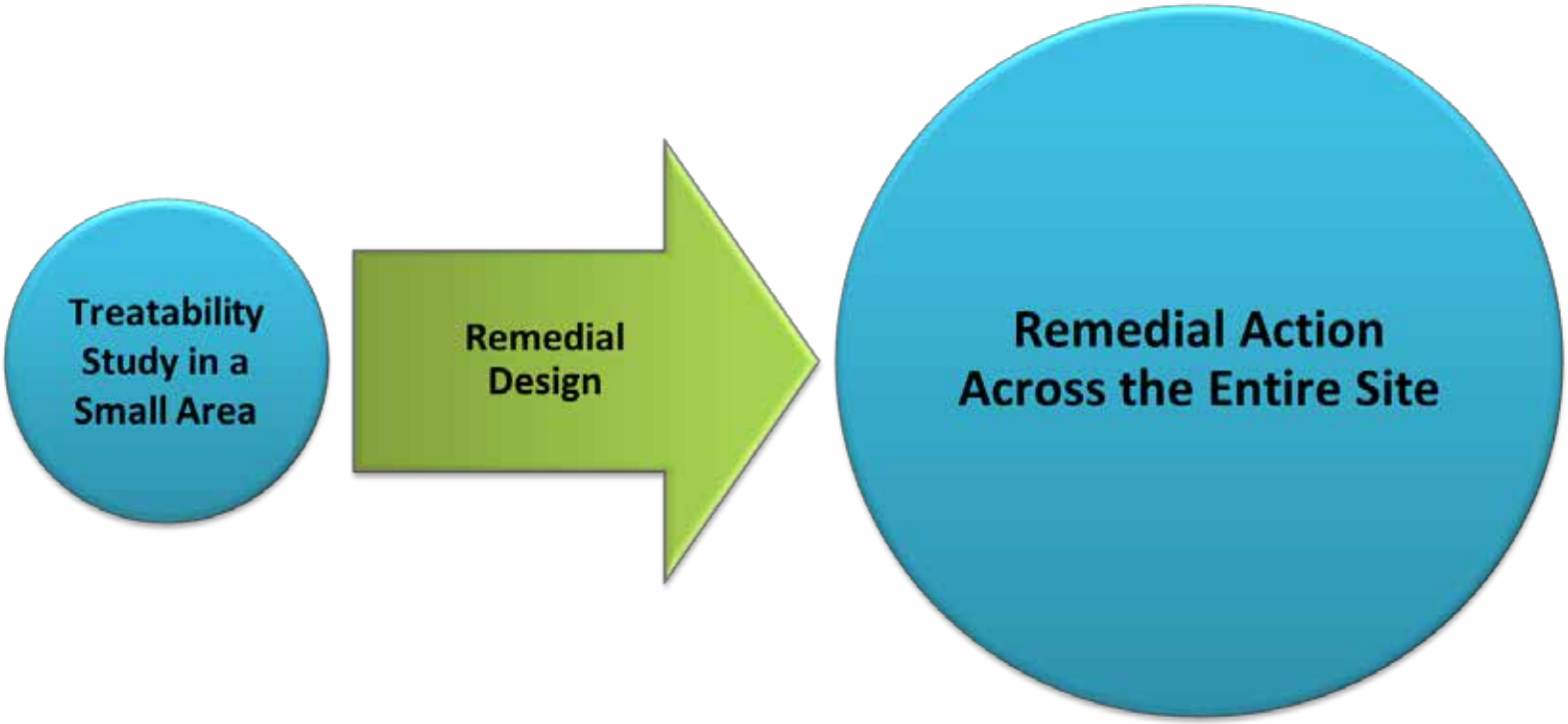
Overview of the Cleanup Process



What is a Treatability Study?

Treatability Studies are small and answer key questions before a full-scale remediation, such as:

- **Does the technology work at this site?**
- **What are the ideal conditions of the technology?**



Treatment Technologies

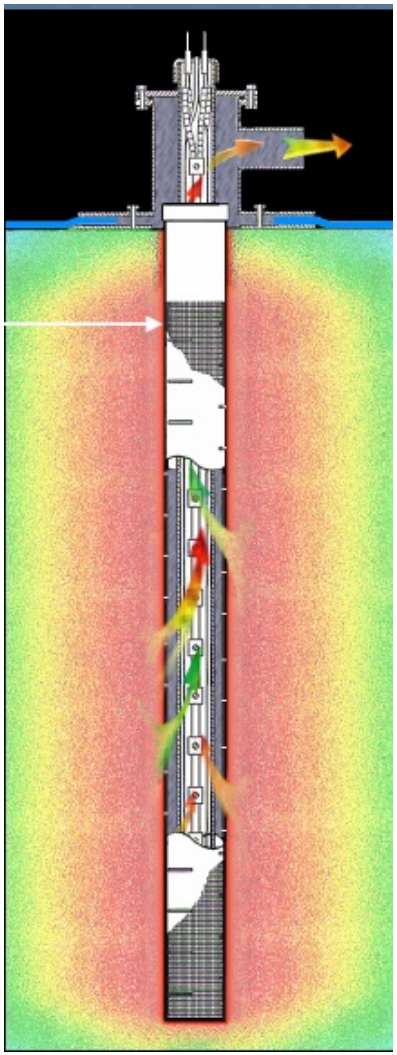
How is the Navy removing or treating oily waste?

Two strategies for removing or treating oily waste:

1. **Pump oil out → Thermal Remediation Treatability Study**

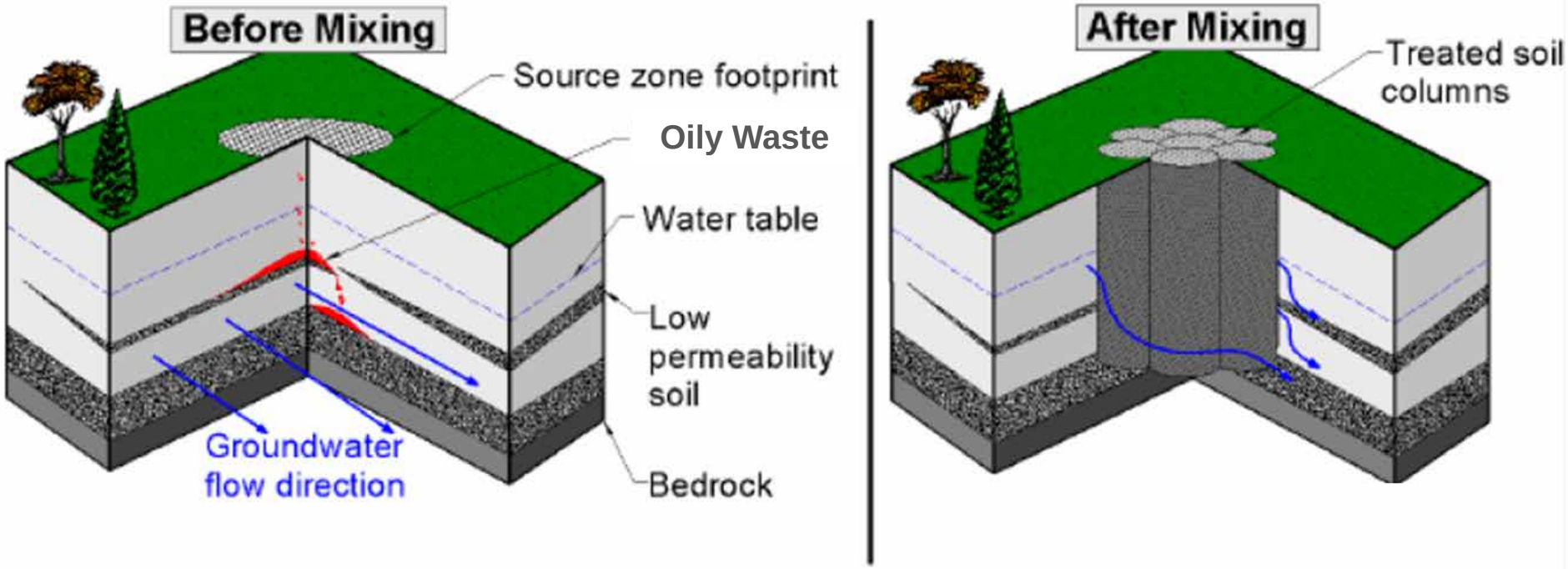
2. **Trap oil in place → Stabilization/Solidification Treatability Study**

Thermal Remediation

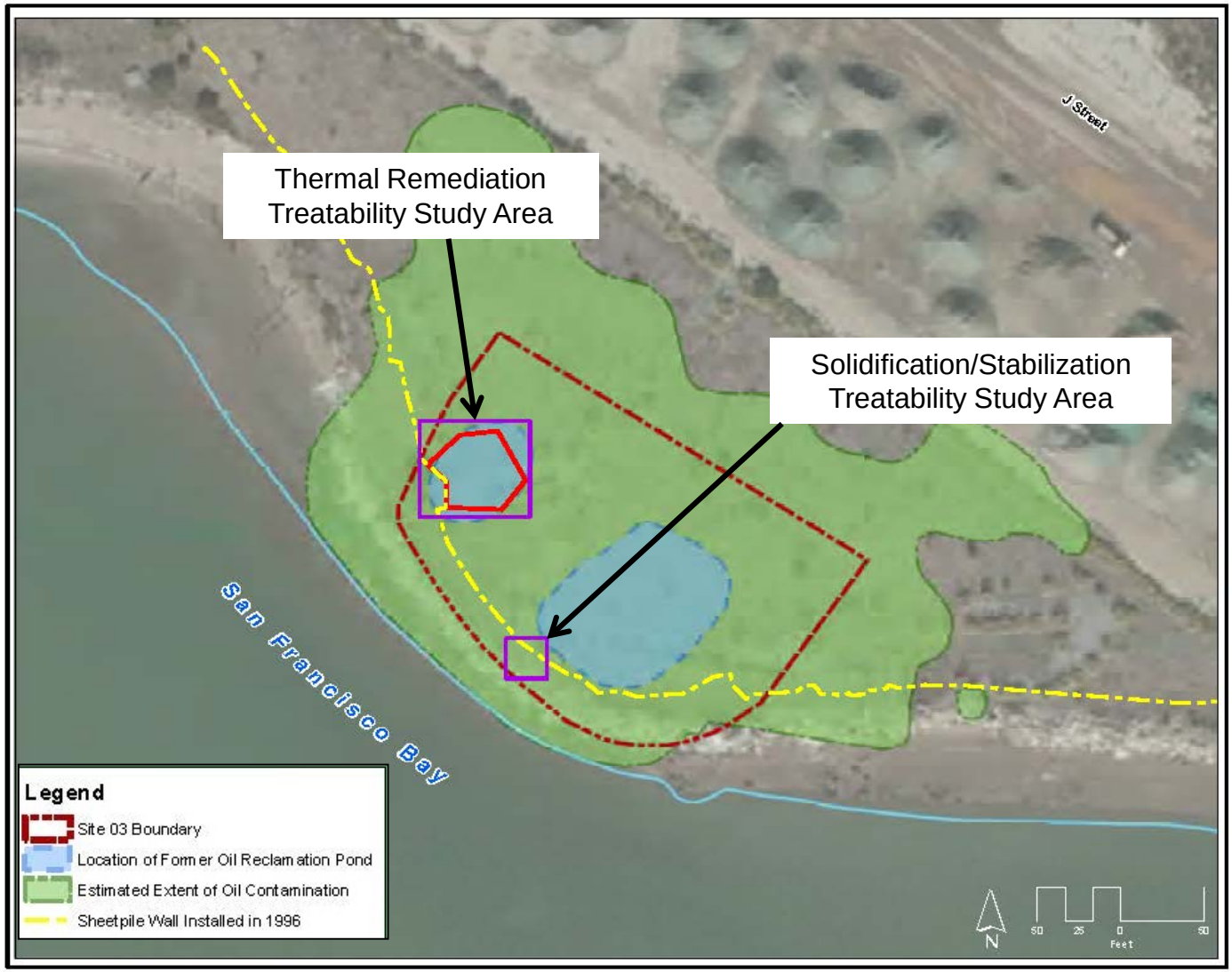


- **Oily Waste is too thick to remove at normal temperatures**
- **Heating to 100^{o}C makes the oily waste more fluid**
- **Contamination is collected and treated above ground**

Solidification/Stabilization



Site 03 Treatability Study Locations



Thermal Remediation Treatability Study

Thermal Remediation Treatability Study

- **46 Heater Wells**
- **14 Groundwater Extraction Wells**
- **46 Vapor Extraction Wells**
- **7 Groundwater Injection Wells**
- **10 Temperature/Pressure Monitoring Points**

Thermal Remediation Treatability Study

Groundwater and vapor was collected and treated above ground

Thermal Remediation Treatability Study

- **Operations lasted 5 months**
- **Recirculated more than 800,000 gallons of groundwater**
- **Collected 2,400 gallons of oily waste**

Solidification/Stabilization Treatability Study

Solidification/Stabilization Treatability Study

- **Mixed mud, bentonite and cement to trap oil in place**
- **Installed 5 columns, each 3 feet in diameter**

Solidification/Stabilization Treatability Study

- **Completely mixed contaminated soil with a cement mixture**
- **Columns extend to 44 feet below ground surface**

Conclusions and Next Steps

Preliminary Conclusions

- **Thermal Remediation is effective for removing oily waste**
- **Oily waste can be trapped in well mixed columns**
- **Sample analysis and testing is currently underway**

Ongoing Work

We are currently evaluating data to ensure remaining contaminants are not leaking into the Bay

- Analyzing soil and groundwater samples for remaining contaminants
- Testing the concrete columns to ensure contamination remains “trapped”

Next Steps

- **Winter 2015**
  - Submit the Draft Pilot Study Completion Report
- **Spring 2015**
  - Collect data to refine the contaminant boundaries
- **Fall 2015**
  - Parcel E Remedial Design