

# Contaminated Soil: An Overview

Community Dialogue on the  
Management of Contaminated Soil  
Los Angeles  
October 28, 2017



Department of  
Toxic Substances  
Control

Co-hosts: Del Amo Action  
Committee & The People's  
Senate



# What is the DTSC?

- ▶ **Mission:** To protect California's people and environment from harmful effects of toxic substances by:
  - restoring contaminated resources (*site cleanup*),
  - enforcing hazardous waste laws,
  - reducing hazardous waste generation,
  - and encouraging the manufacture of chemically safer products.

# DTSC's Cleanup Program



- ▶ Cleanup Program oversees the cleanup and restoration of contaminated sites.
  - Includes soil, soil vapor, and groundwater contamination.
- ▶ DTSC regulates “responsible parties” who are liable for site contamination and cleanup.

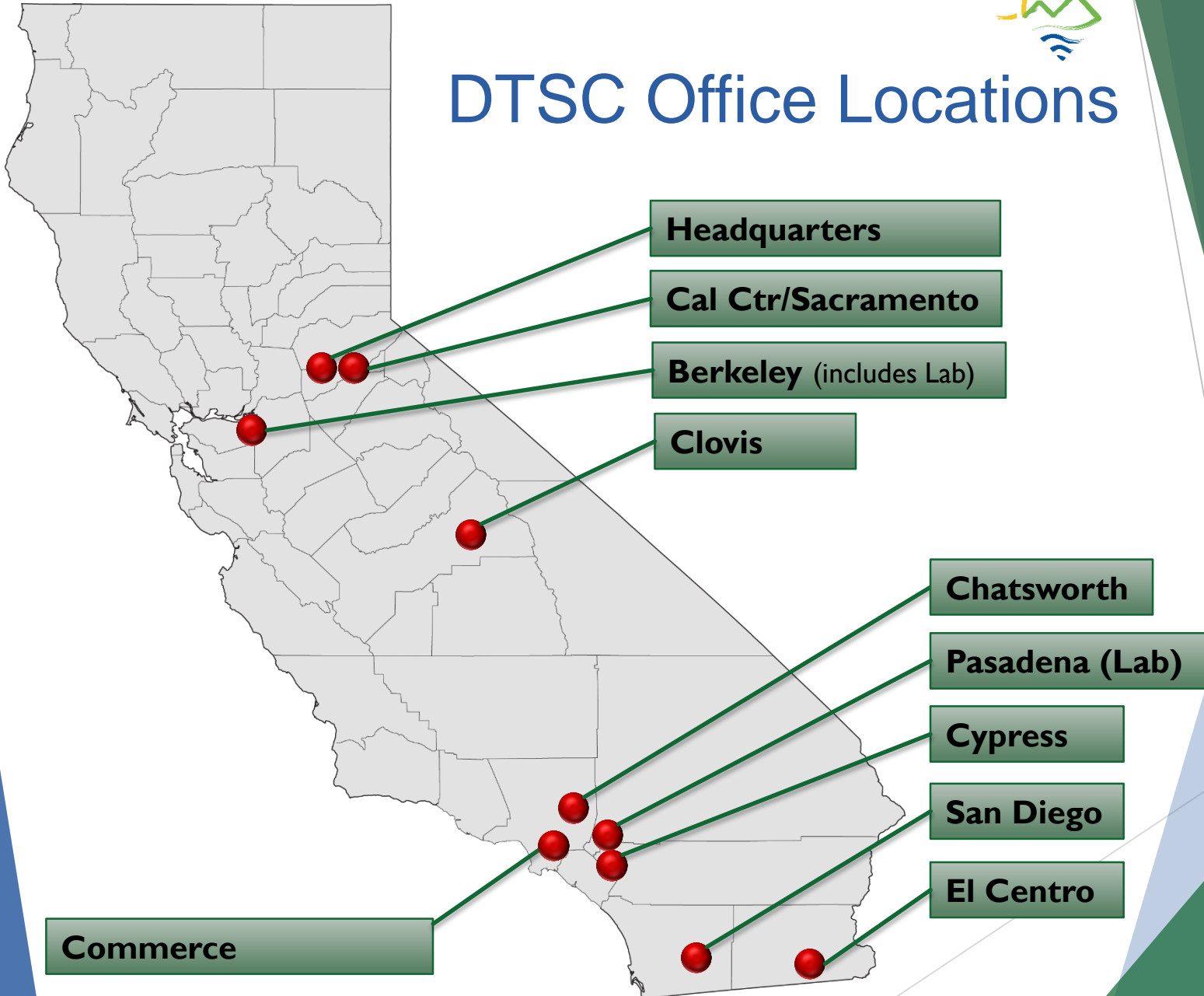
# DTSC's Cleanup Program (cont'd)



- ▶ Different kinds of site cleanups overseen by DTSC
  - Voluntary cleanups
  - Brownfields
  - Corrective action
  - Federal or State Superfund
  - Federal facilities / military cleanups
  - Schools



# DTSC Office Locations



# Examples of Federal, State, and Local Agencies that Oversee Cleanups



CALIFORNIA

## Water Boards

STATE WATER RESOURCES CONTROL BOARD  
REGIONAL WATER QUALITY CONTROL BOARDS





# How Does the Public Learn More?

[envirostor.dtsc.ca.gov](http://envirostor.dtsc.ca.gov)

**ENVIROSTOR**

Sites and Facilities

Cleanup Sites

- Federal Superfund
- State Response
- Voluntary Cleanup
- School Cleanup
- Evaluation
- School Investigation
- Military Evaluation
- Tiered Permit
- Corrective Action

STATUS

All Statuses

Permitted Sites

- Operating

10000 S Western Ave, Los Angeles, CA 90047

Map data ©201

1334 SITES LISTED

PROJECT NAME	STATUS	PROJECT TYPE	A
1117 SOUTH LONG BEACH BOULEVARD	INACTIVE - NEEDS EVALUATION	EVALUATION	1
12210 1/2 NEBRASKA AVENUE PROPERTY	REFER: RWQCB	VOLUNTARY CLEANUP	1
1330 EAST FRANKLIN AVENUE	ACTIVE	VOLUNTARY CLEANUP	1
1609-11 RIPLEY LANE	REFER: 1248 LOCAL AGENCY	EVALUATION	1
16100 SOUTH SANTA FE AVENUE	INACTIVE - NEEDS EVALUATION	VOLUNTARY CLEANUP	1

# What is Contaminated Soil?

## **Universe of Contaminated Soil**

Soil containing chemical compounds potentially harmful to human health or the environment; contamination from sources that are not naturally occurring (i.e. man-made).

## **Hazardous Waste**

A waste with properties that exceed regulatory standards, and which is potentially dangerous and/or harmful to human health or the environment.

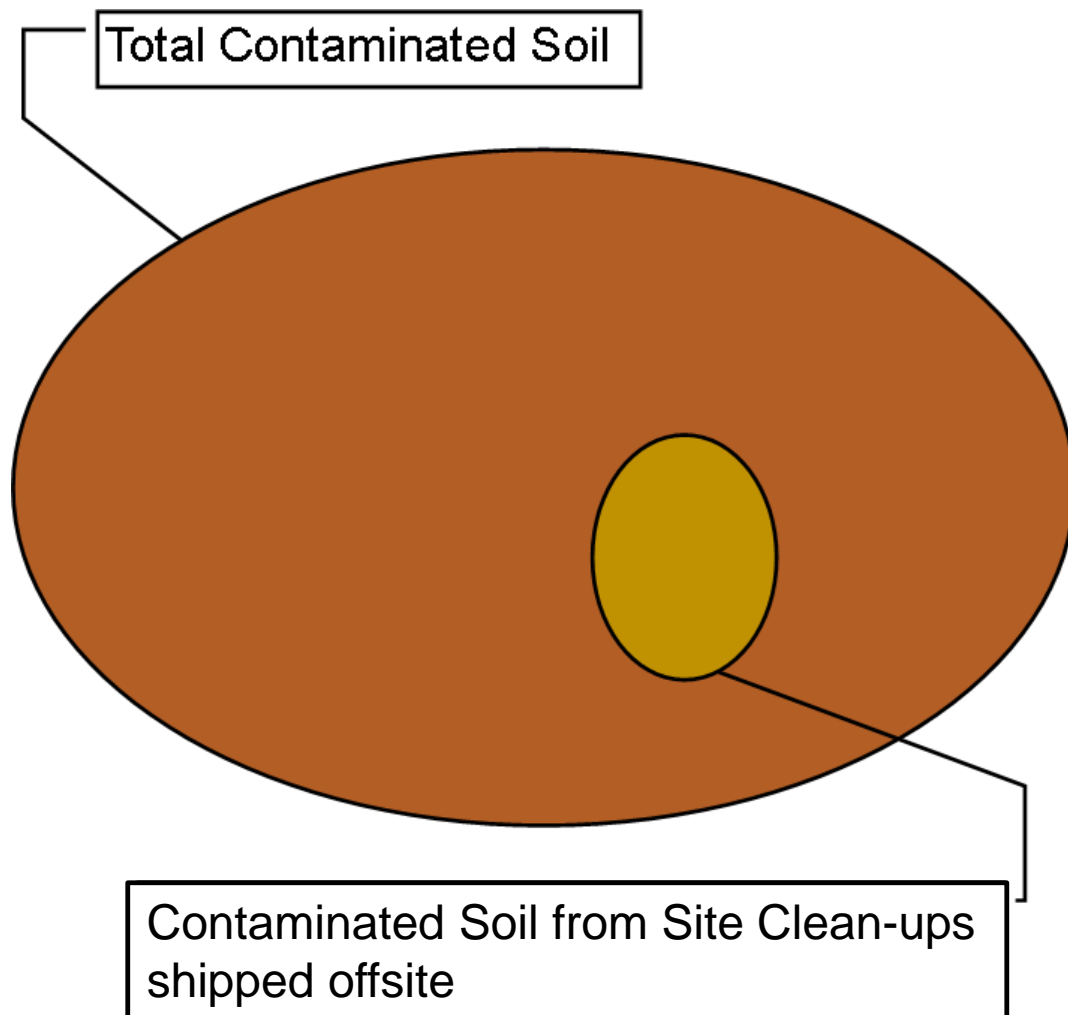
## **Contaminated Soil from site cleanups**

Contaminated soil in the ground is not considered a waste. However, once it is excavated and stored, treated, or transported for disposal, contaminated soil may be regulated as a hazardous waste.

Contaminated soil shipped off site must be manifested (tracked) in accordance with applicable environmental regulations.



# How Much Contaminated Soil?



NOT TO  
SCALE

\*The total quantity of contaminated soil on all contaminated sites is not a quantity that is calculated or reported to DTSC.

# How Much Contaminated Soil is Generated from Site Cleanups?



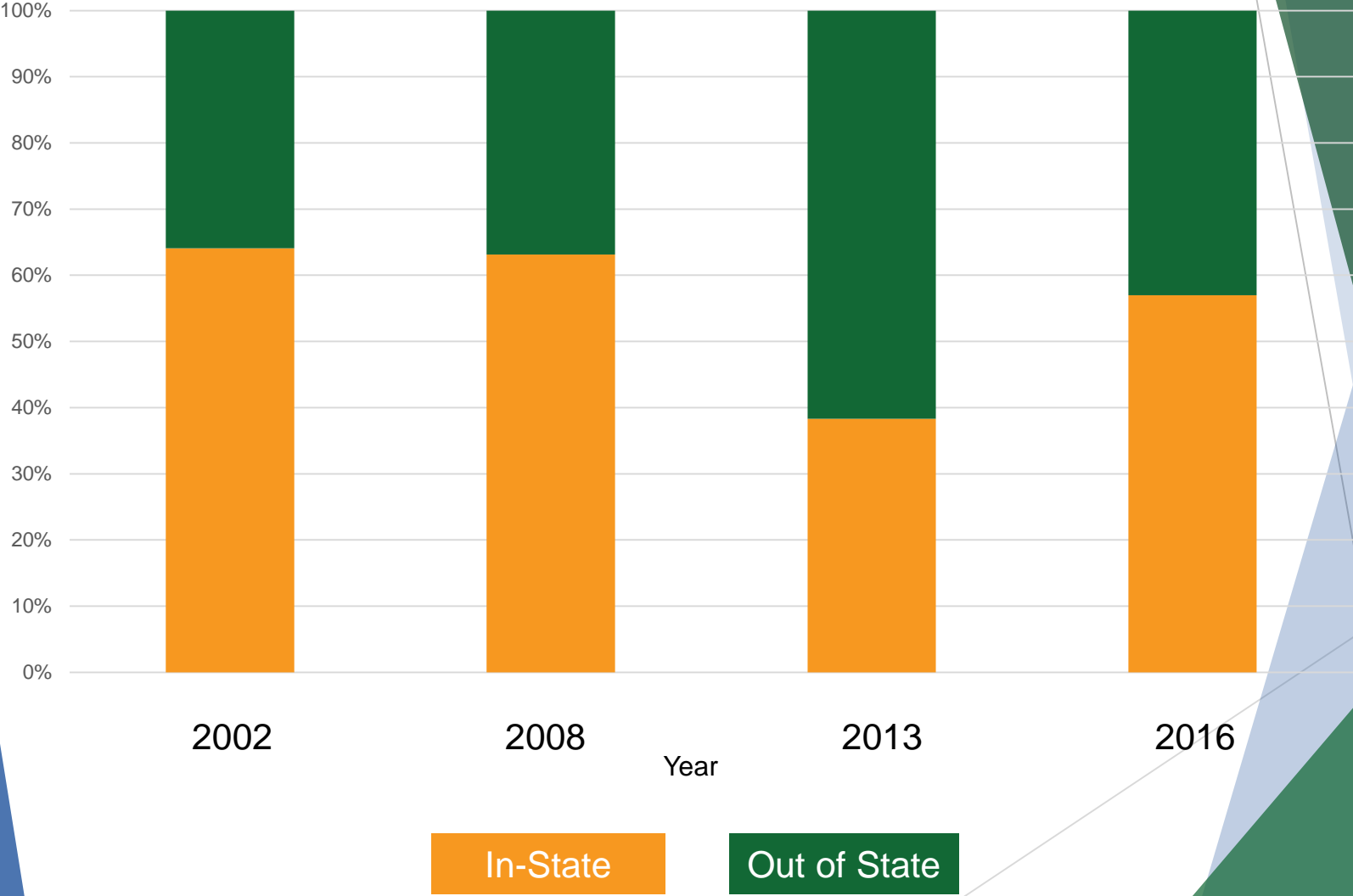
**Contaminated Soil generated from Site Cleanup in CA (tons)**



# Where is the Soil Going?



Disposal In-State Versus Out of State (% of total)



# Common Categories of Soil Contaminants



## ▶ Inorganics

- Lead, chromium, arsenic, mercury, other metals
- Smelting, battery recycling, leaded gasoline, lead-based paint, plating shops, various manufacturing processes.

## ▶ Semi-volatile organics

- Polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), dioxins / furans, pesticides
- Capacitors, transformers, manufactured gas plants, burn pits, agricultural processes.

# Common Categories of Soil Contaminants (cont'd)



## ▶ Volatile organic compounds

- Solvents, benzene
- Dry cleaners, metal cleaning, degreasing, chemical & plastics manufacturing.

## ▶ Fuels

- Gasoline, diesel, jet fuels, waste oils,
- Underground storage tanks, refineries, oil water separators.

# Options for Soil Cleanup



## ▶ Immobilization

- Solidification and stabilization
- Containment (landfill, capping)

## ▶ Extraction

- Soil vapor extraction
- Thermal desorption
- Soil flushing / washing

## ▶ Destruction or alteration

- Thermal (incineration)
- Biological (bioremediation)
- Chemical (in situ chemical oxidation)