

Department of Toxic Substances Control

Quarterly Public Meeting

April 17, 2015 9:00am – Noon

Coastal Hearing Room, Cal/EPA Headquarters



Department of Toxic Substances Control



Cal/EPA

Welcome



Department of Toxic Substances Control



Cal/EPA

Today's Agenda

- Cleanup Program Overview
- Protecting Groundwater
- Returning Land to Productive Use
- Updates on Key Cleanup Sites

To Comment

- In the auditorium:
 - Fill in Comment Card
- On-line:
 - DTSCPublicMeeting@dtsc.ca.gov
- Via Twitter:
 - Use #ASKDTSC

Cleanup Program Overview

Ray Leclerc

Brownfields and Environmental Restoration Program

Dot Lofstrom

Brownfields and Environmental Restoration Program



Department of Toxic Substances Control



Cal/EPA

By the Numbers – Cleanup

Commerce



In 18 months: 46,000 temporary, 72,000 permanent jobs

Military



In 6 years: 12,892 military acres transferred for reuse

Schools

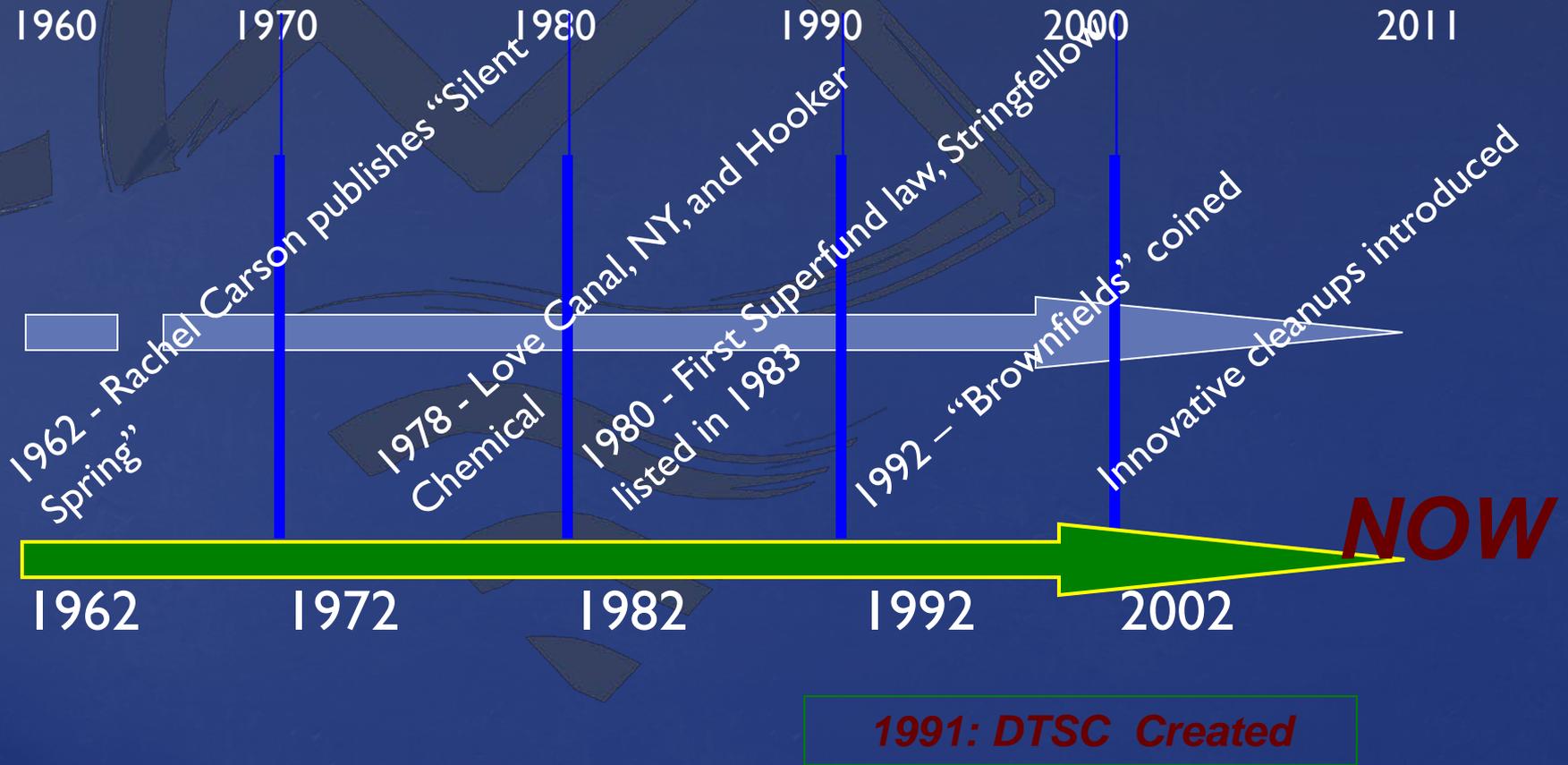


In 10 years: 21,000 classrooms for 500,000 students

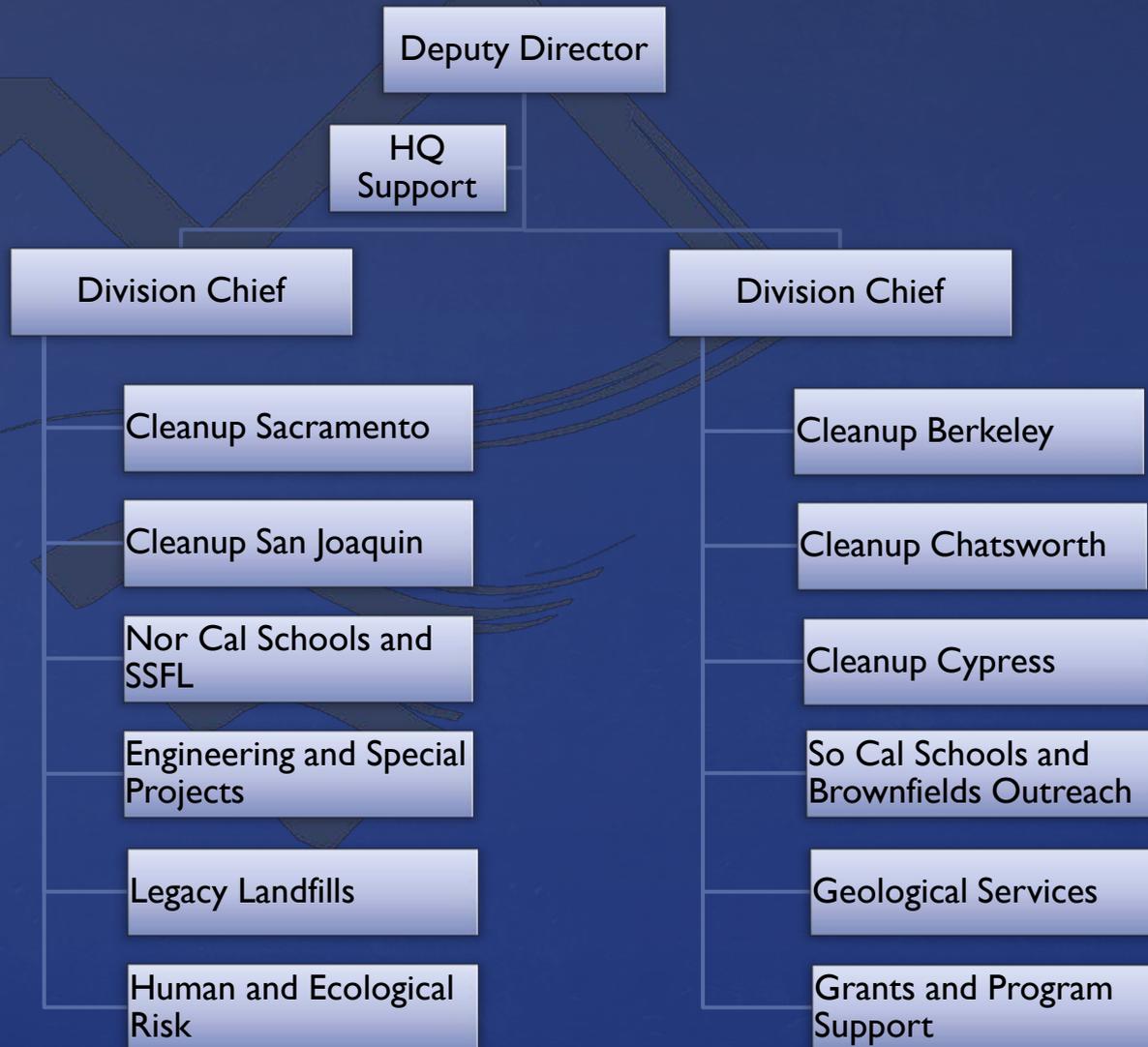
Current Numbers

- 1,389 cleanups with active oversight
 - 259 sites with ongoing monitoring
 - 199 cleanups at permitted and formerly permitted facilities
 - 3 “legacy” landfills
- 578 deed restrictions allow reuse

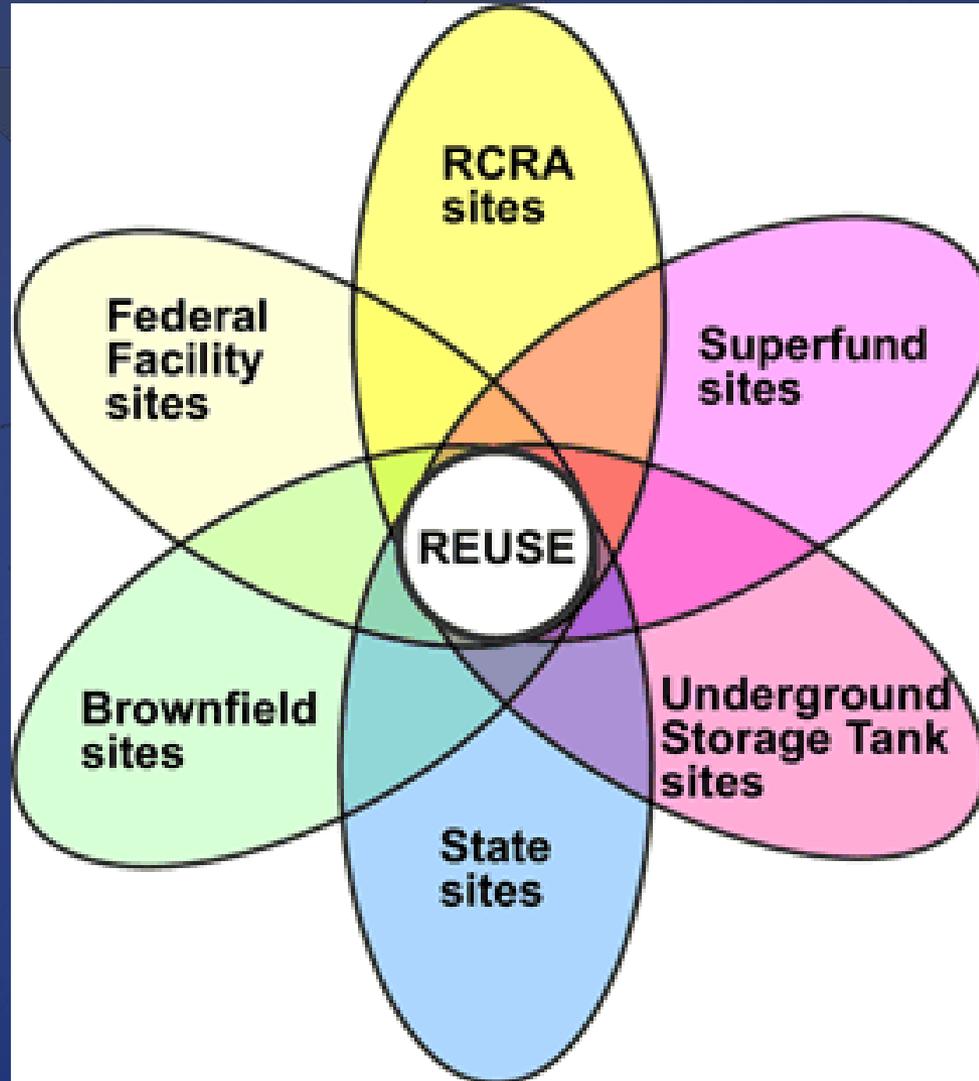
How We Got Here



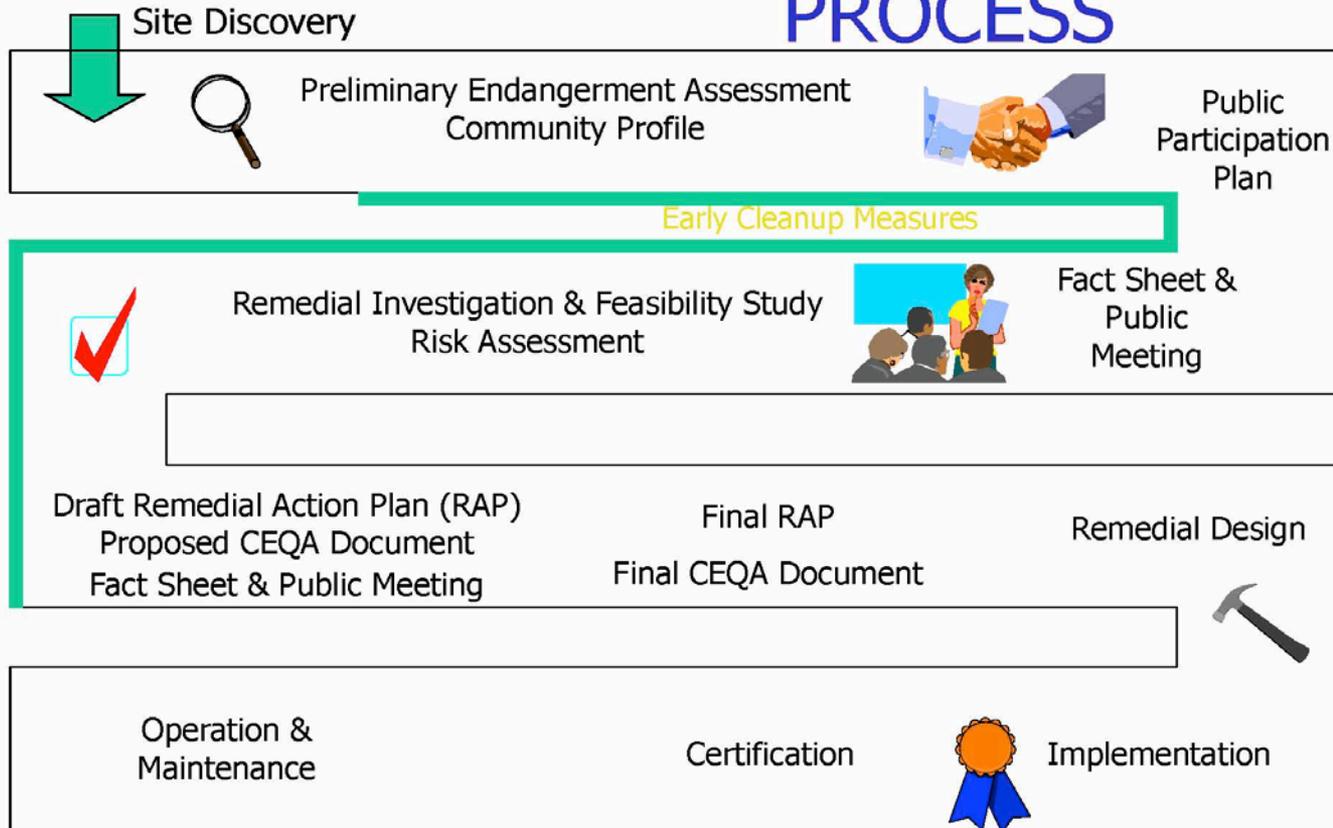
Cleanup Operations Organization



We Clean Up Sites Using Many Programs



SITE MITIGATION PROCESS



People Make It Work

Geologist
Engineer

Toxicologist

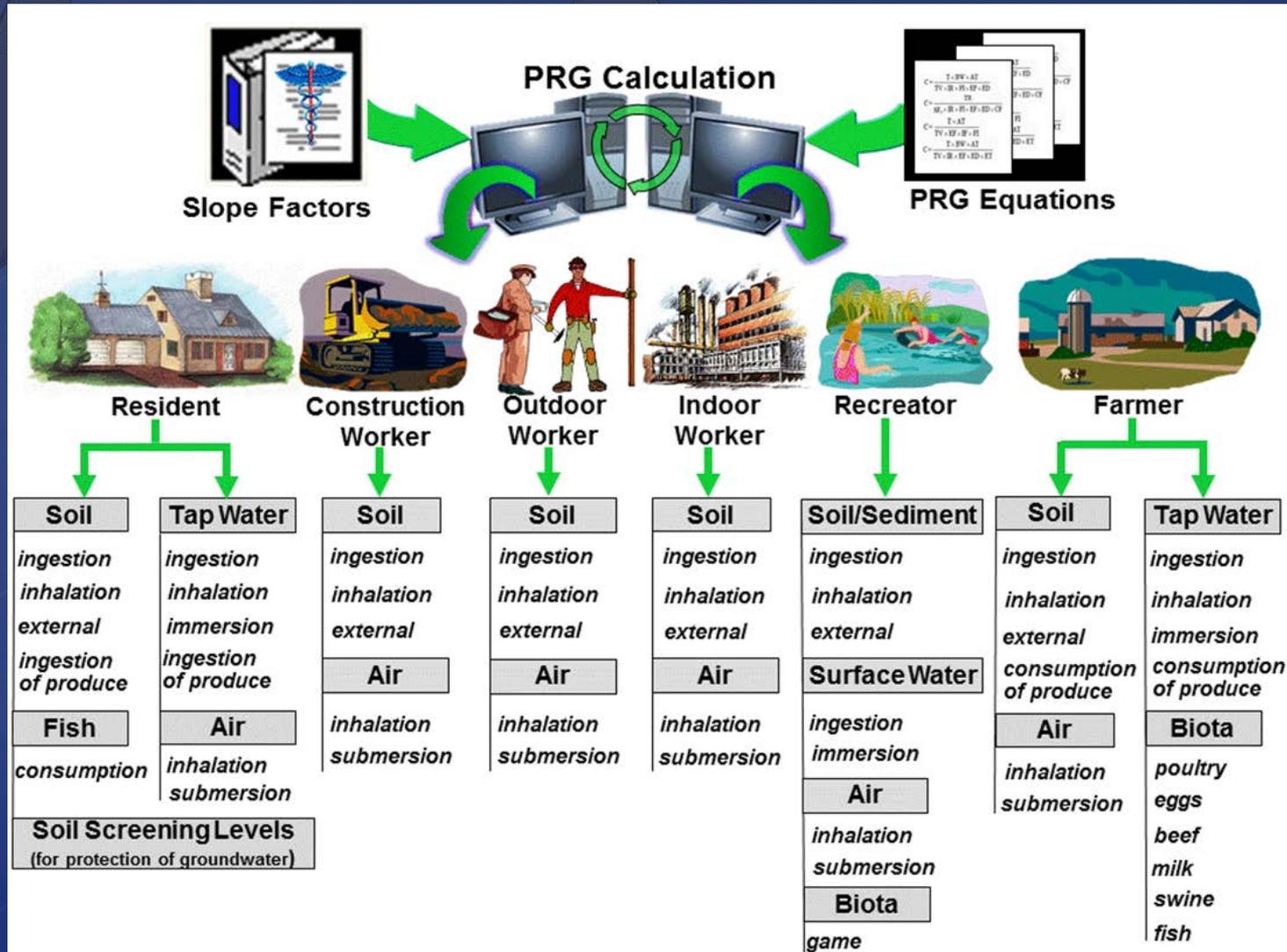
Project
Manager

Public
Participation

Fiscal and
Contracting

Attorney/CEQA

Assessing Risk



CERCLA Requirements for making an Environmental Decision

As part of making a waste disposal decision, the responsible party must conduct a feasibility study, evaluating potential alternatives using criteria defined by a federal law called the Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA.



The CERCLA criteria are divided into three categories:

1. Threshold Criteria
2. Balancing Criteria
3. Modifying Criteria

THRESHOLD CRITERIA

- Protect people and the environment
- Meet state and federal laws

BALANCING CRITERIA

- Can it be implemented?
- Is it effective in the short term?
- Is it effective in the long term?
- Does it reduce potential risks?
- What is the cost?

MODIFYING CRITERIA

- State acceptance
- Community acceptance

Long Term Stewardship



Operation and Maintenance

- Less than 10 years
 - In-situ soil cleanup
- Many decades
 - Groundwater cleanup
- In perpetuity
 - Mine drainage
 - Cover systems for waste material left in place

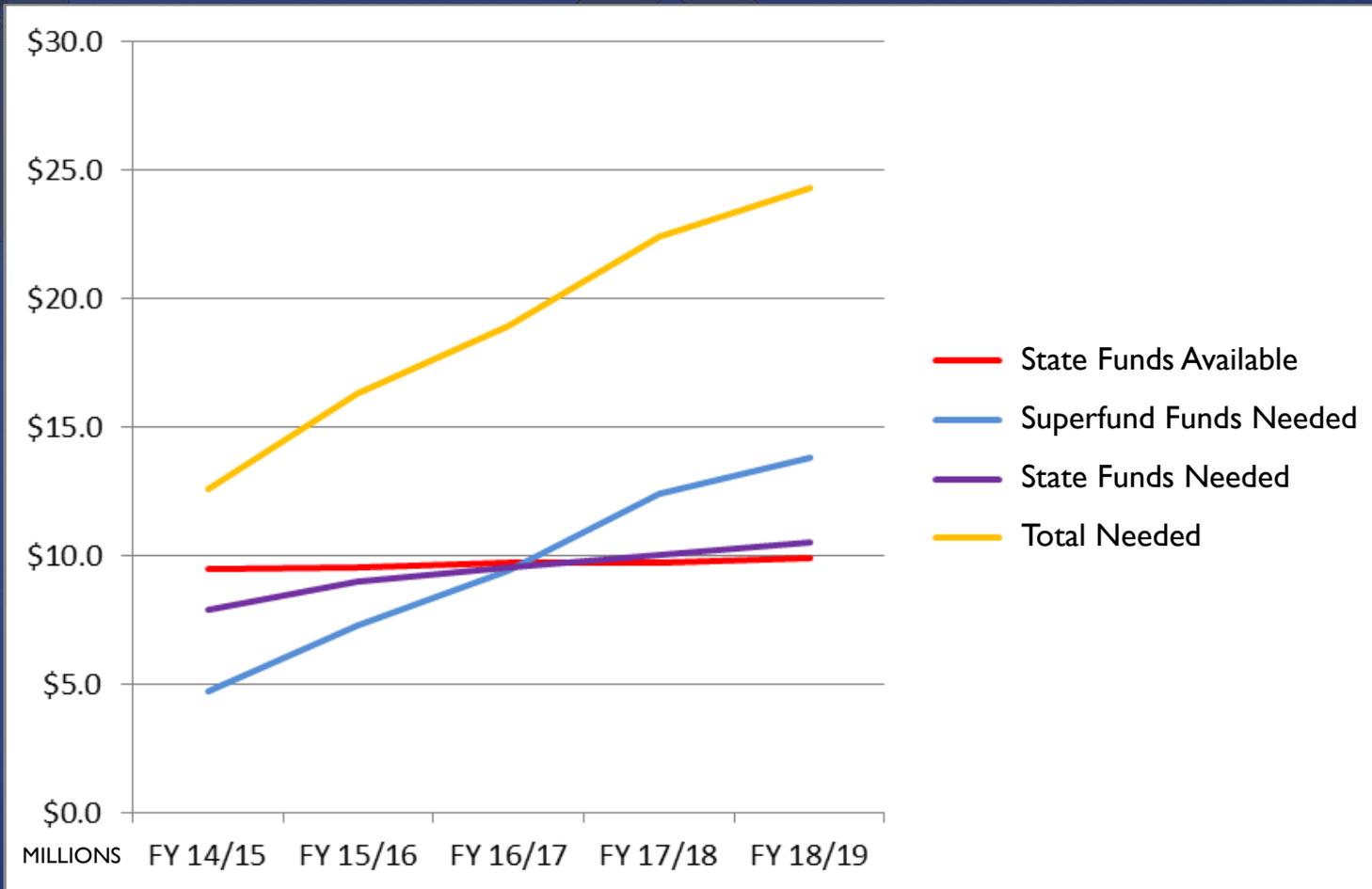
Land Use Restrictions



Financial Aspects of Cleanup

- Vast majority of sites are cleaned up by responsible parties; DTSC role is to ensure safe and timely cleanup
- Federal Superfund and California State Response Account can be used for Orphan sites

State Response Account Projections



Improvements to Financial Assurance

- What is financial assurance
- Ensure all sites that need financial assurance have the right amount
 - 40% complete by December 2014
 - 95% complete by June 2015

Fixing the Foundation

Enforcement in Cleanup

- We are actively cleaning up 150 sites under our enforcement authorities
- We monitor progress
 - Recalcitrant sites are Priority One
 - Finding of noncompliance leading to possible sanctions
 - Watch list
 - Ensuring swift enforcement action can occur as needed at sites where progress is sub-par

Fixing the Foundation

Environmental Justice in the Cleanup Program



Cost Recovery

- Nearly \$2 billion dollars spent on cleanups
- About 10 percent of costs unaccounted for since 1987
- Significant progress in resolving outstanding costs
- Goal to prevent another buildup of outstanding costs

Fixing the Foundation

Protecting Groundwater

Rick Fears

Brownfields and Environmental Restoration Program

Kate Burger

Brownfields and Environmental Restoration Program

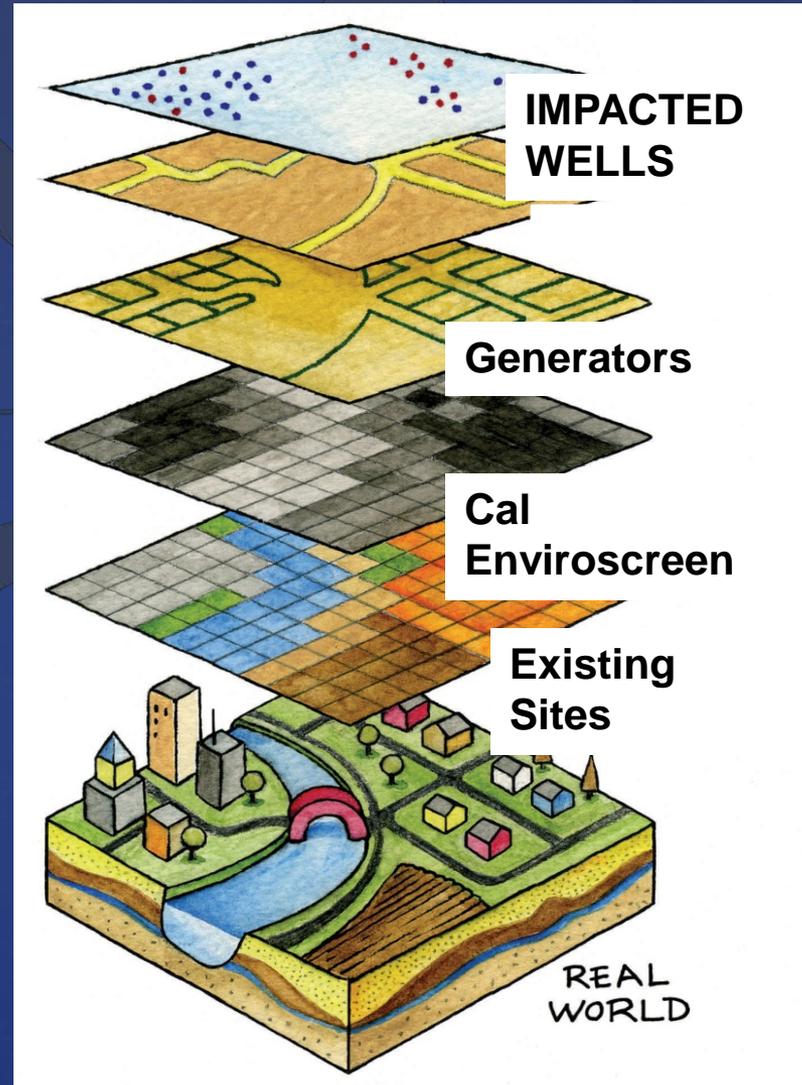


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Spatial Prioritization Geographic Information Tool (SPGIT)

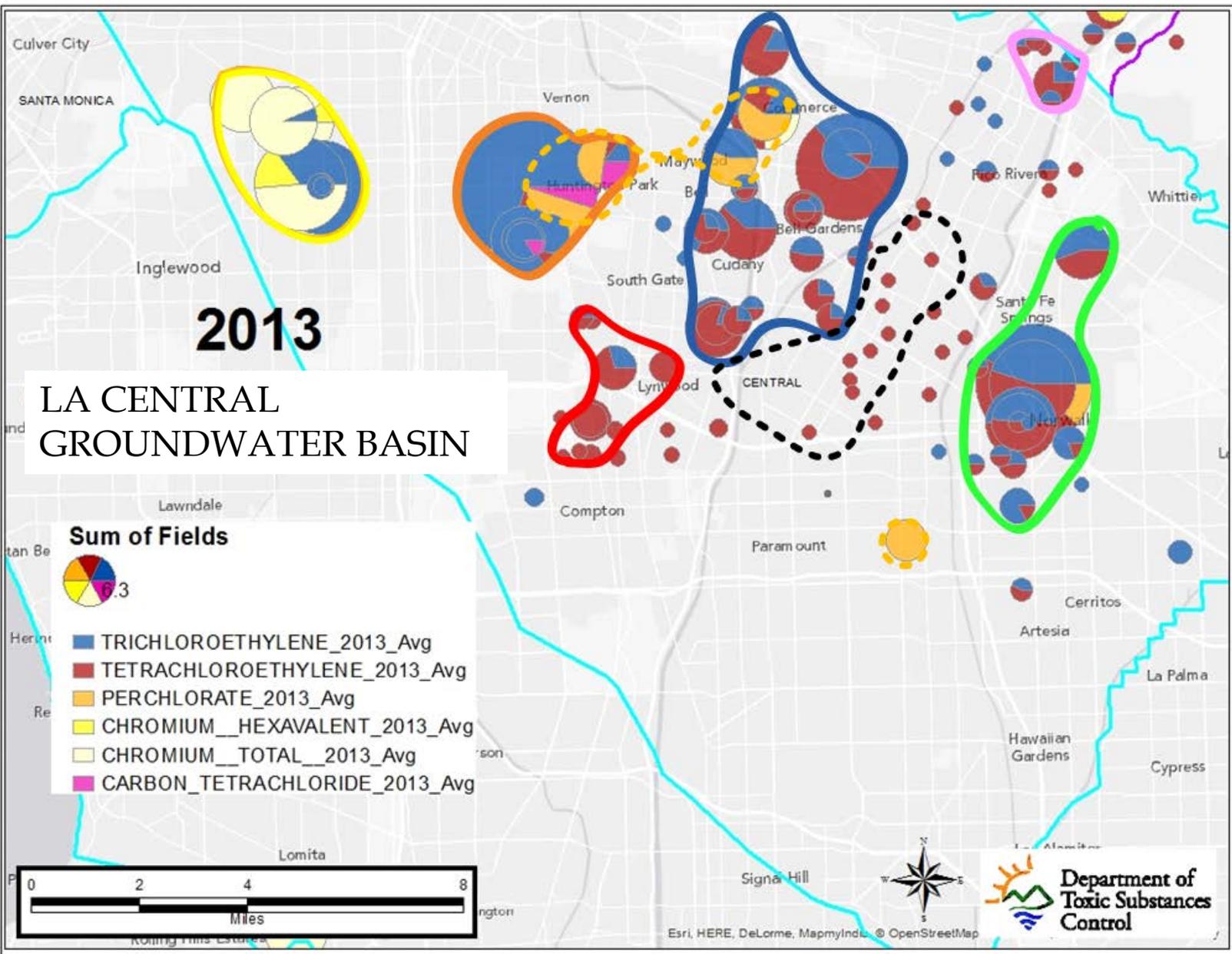


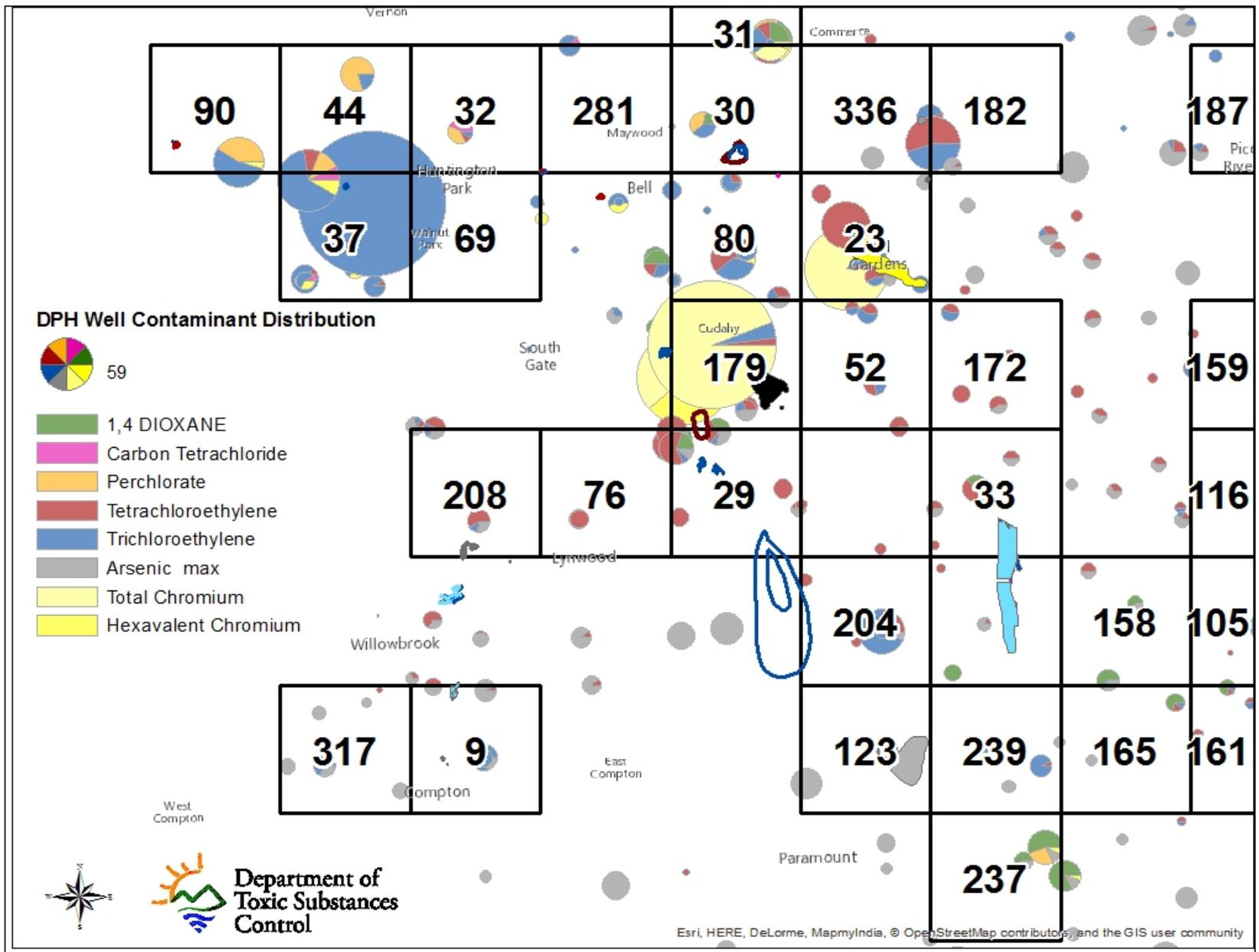
Drinking Water Wells

- State Water Resources Control Board tracks and monitors drinking water safety
- DTSC is responsible for protection of human health and the environment
- DTSC looks for soil and groundwater contamination that can potentially impact wells
- DTSC developed SPGIT in response to requests from disproportionately impacted communities

SPGIT - Prioritization Factors Targeting Impacted Well Clusters

Factor	Weight*
A. Health Risk – Contaminated Drinking Water Well Count	4
B. Potential Risk – Generator Density	3
C. OEHHA CalEnviroScreen	2
D. Environmental Work Completed	1





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Solutions

Collaboration

- U.S. Environmental Protection Agency
- LA Groundwater stakeholders
- Water Replenishment District
- U.S. Geological Survey
- Regional and State Water Boards

CONTAMINATED DRINKING WATER WELLS

NORTHEAST I710 STUDY AREA

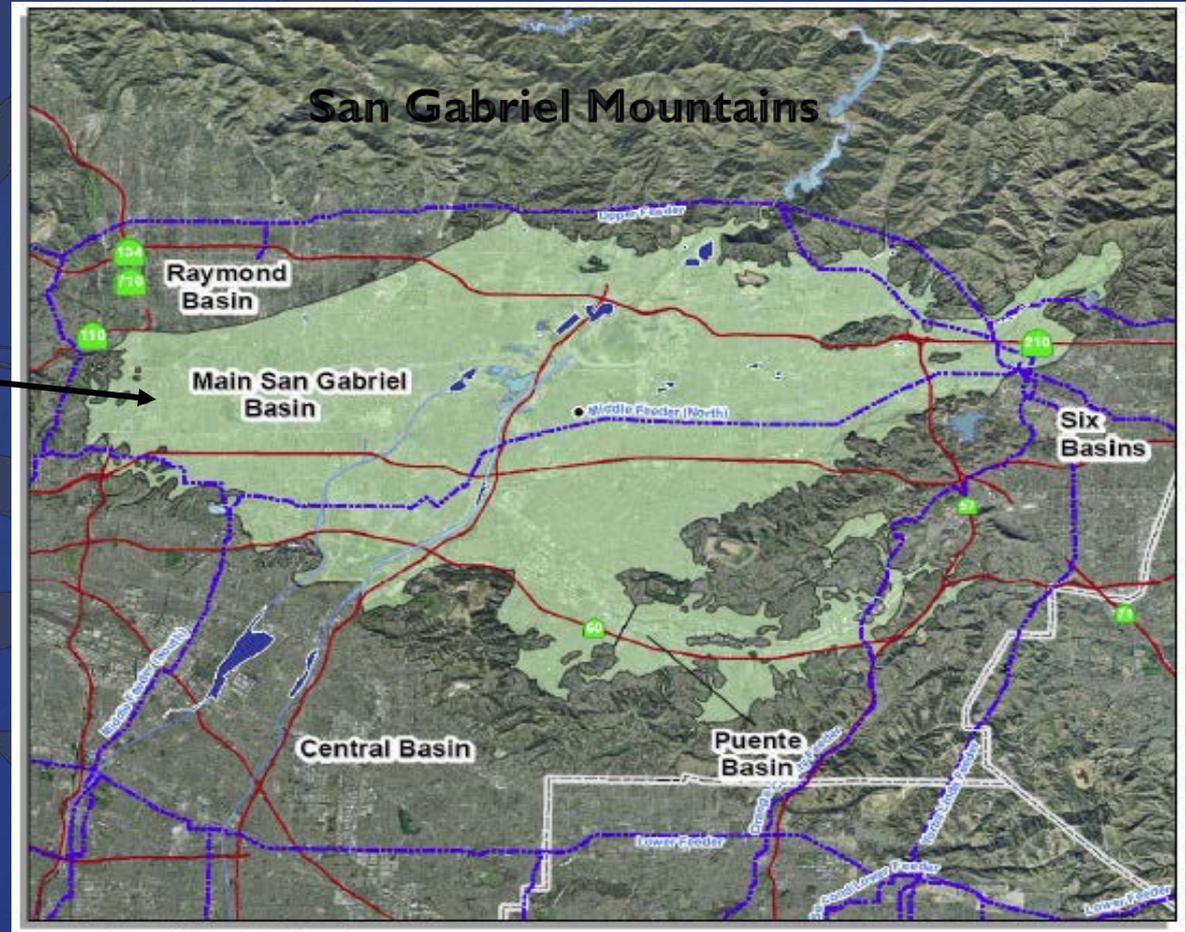
EXISTING PLUMES



- Selected Pilot Wells
- CA NPL Polygons and Plumes
- MCL Impacted Wells with a 2000 ft Buffer

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San Gabriel Groundwater Basin



Critical Drinking Water Supply

- One million people rely on San Gabriel Basin groundwater for 90% of their drinking water supply



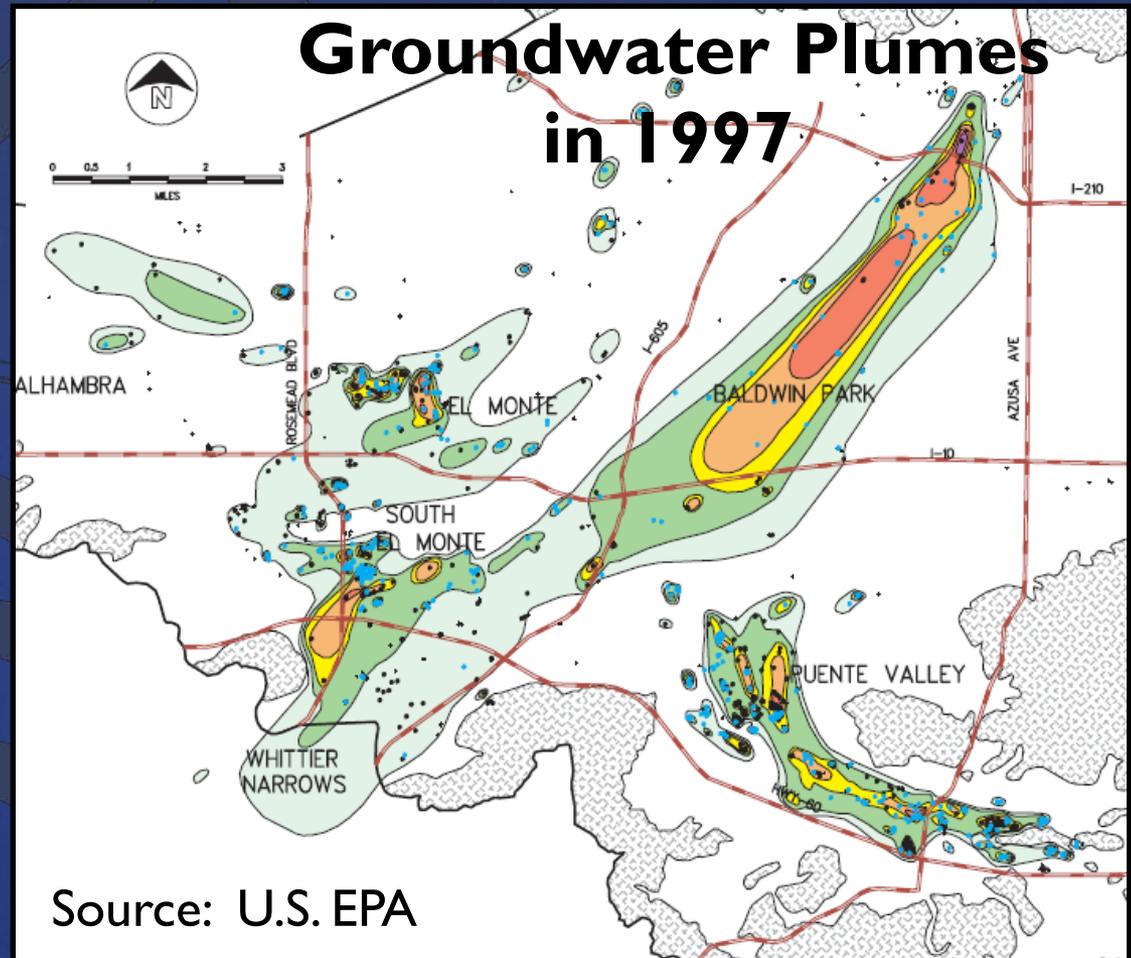
Extensive Contamination

1940s - 1960s:
rapid industrial
development

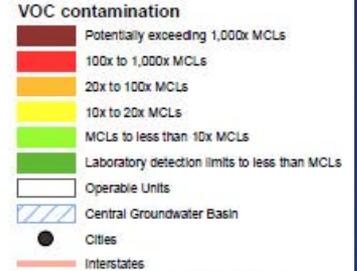
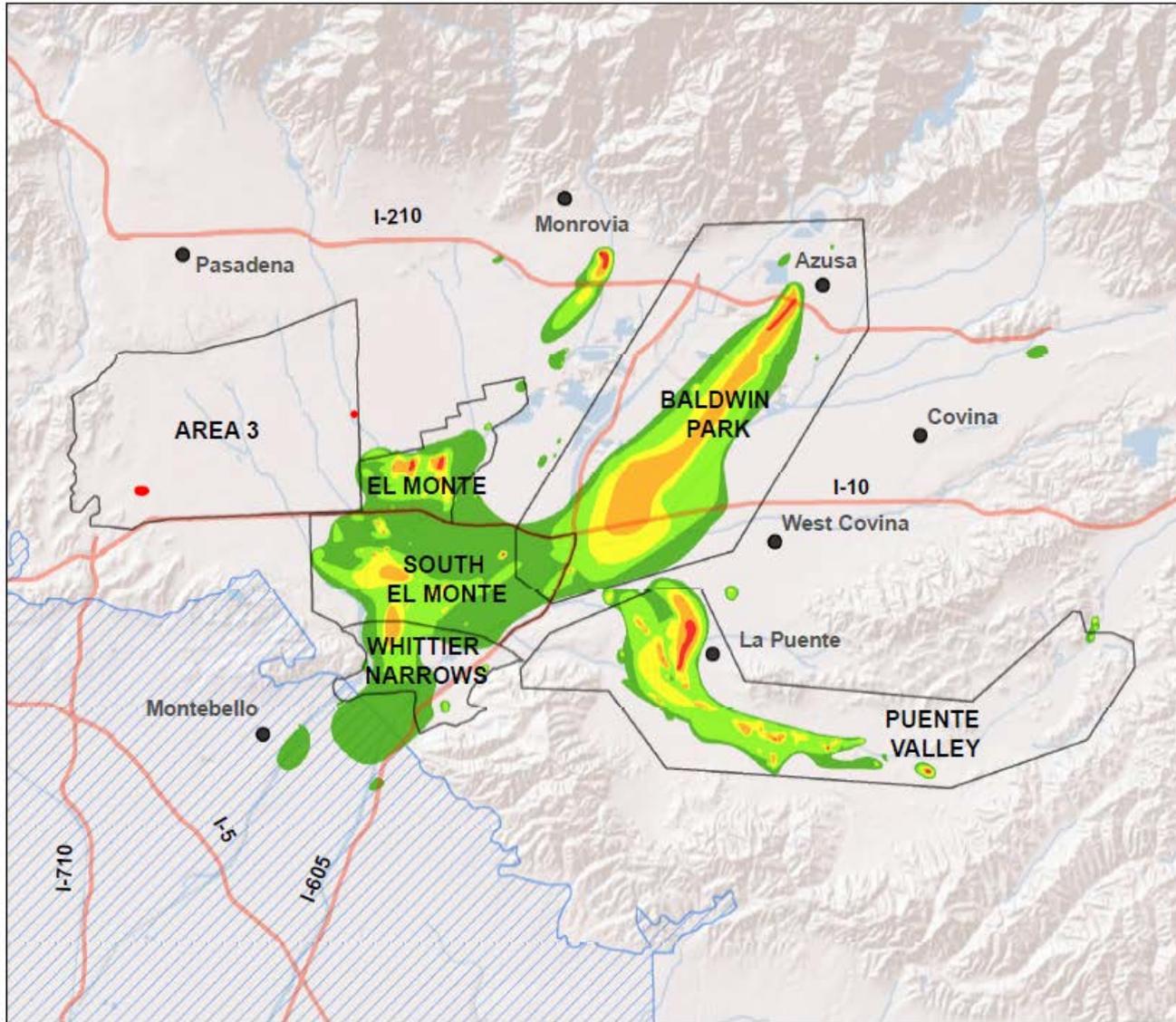
1979: Discovery

1984: U.S. EPA lists
four Superfund sites

1984 - present:
Assessment & cleanup



Operable Units in the San Gabriel Valley Superfund Sites

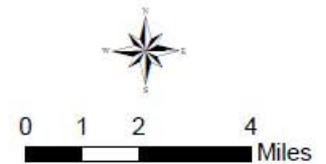


Areas of groundwater contaminated by volatile organic compounds (VOCs) are approximate. Composite (shallow and deep) VOC plumes through 3/1/08. VOC concentrations vary with time and depth.

Maximum Contaminant Levels (MCLs).

Source: U.S. Environmental Protection Agency, 2011, Progress Report on San Gabriel Valley Groundwater Cleanup, December 2011.

Cyan circle on inset map (below) shows area of interest.



ArcGIS online ESRI basemaps

Figure created Jan 21 2014

Who's Involved with the Cleanup?

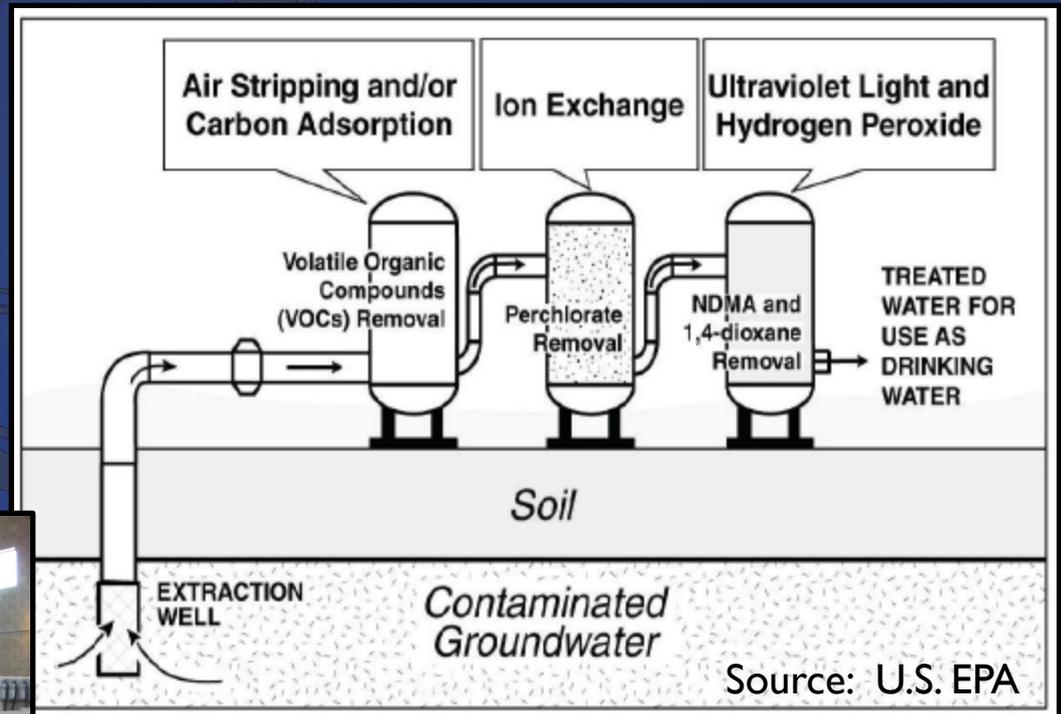


U.S. EPA's Superfund Remedies

- Regional-scale approach
- Groundwater extraction systems that control the contaminant migration
- Extracted groundwater is treated to safe levels
- If feasible, treated water is reused for drinking water supply



Multiple Contaminant Types



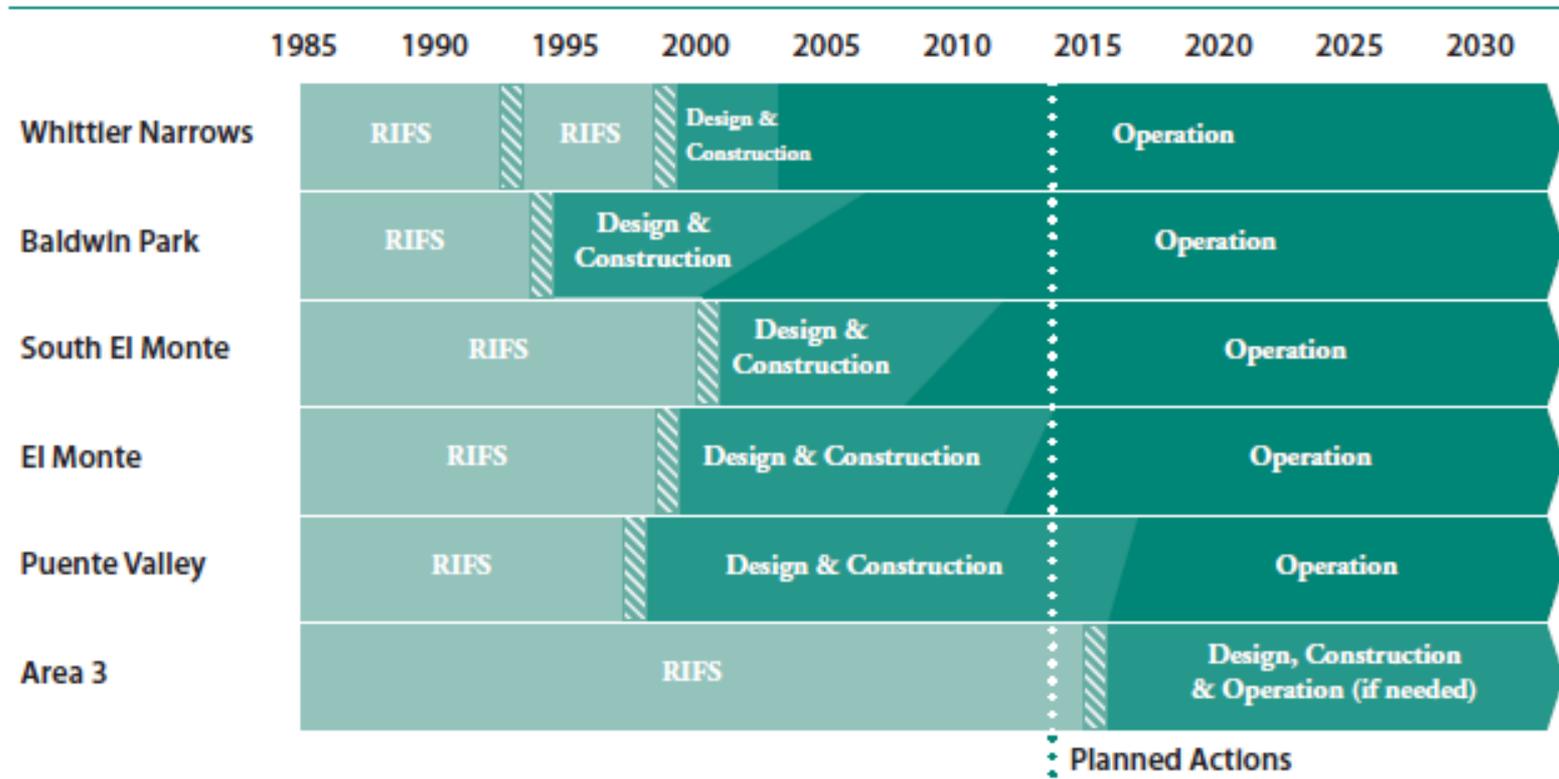
Nitrate
Total Dissolved Solids

Administrative Challenges

- Adjudicated basin – need pumping rights to implement remedies
- Permits for water end use (drinking water, surface water discharge, reinjection)
- Interagency coordination
- Funding for infrastructure & ongoing operations

Status of U.S. EPA's Remedies

San Gabriel Valley Cleanup – Progress and Plans

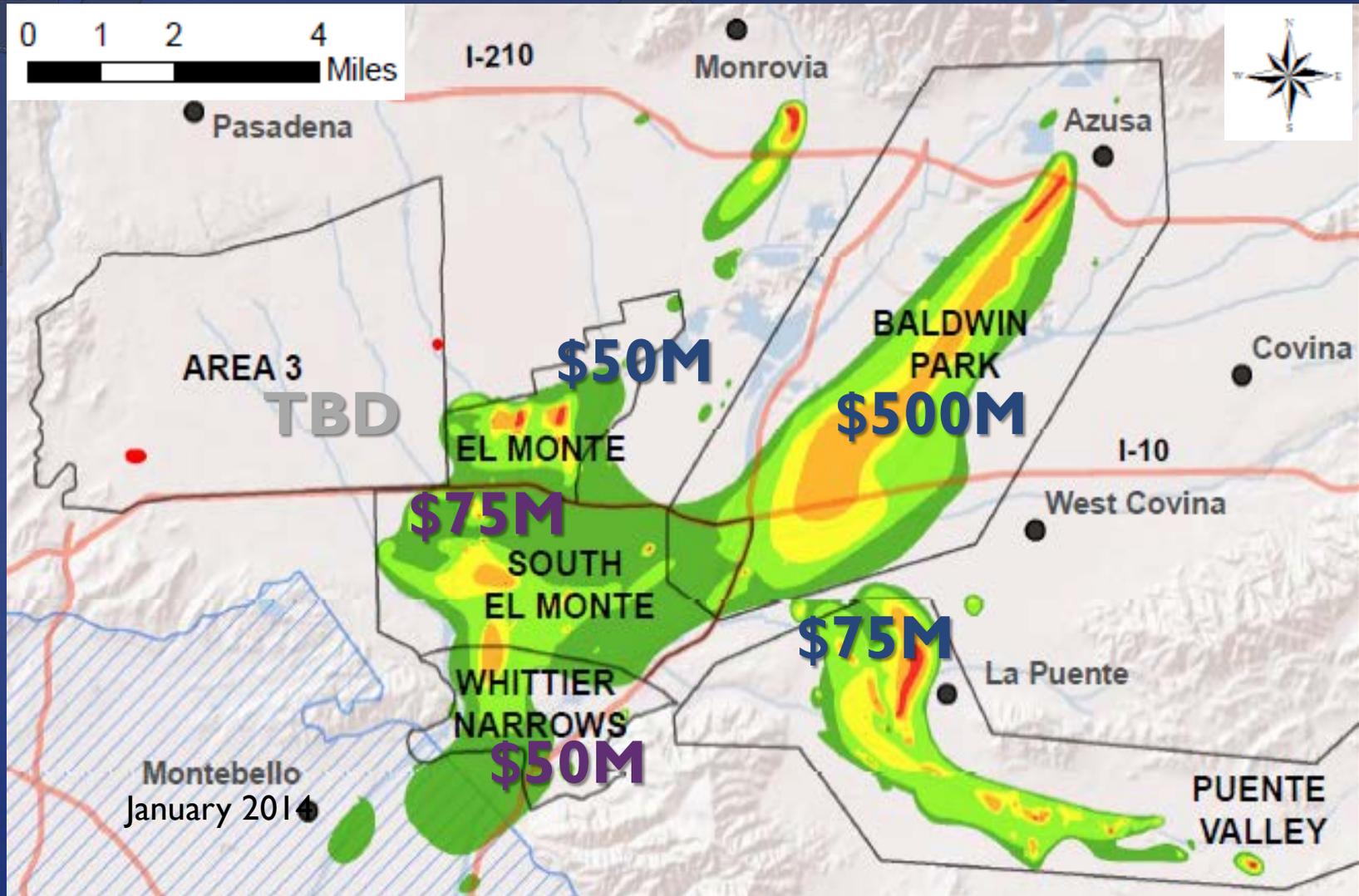


RIFS – Remedial Investigation and Feasibility Study (i.e., groundwater testing and engineering analyses)

▨ – EPA Record of Decision (i.e., cleanup plan)

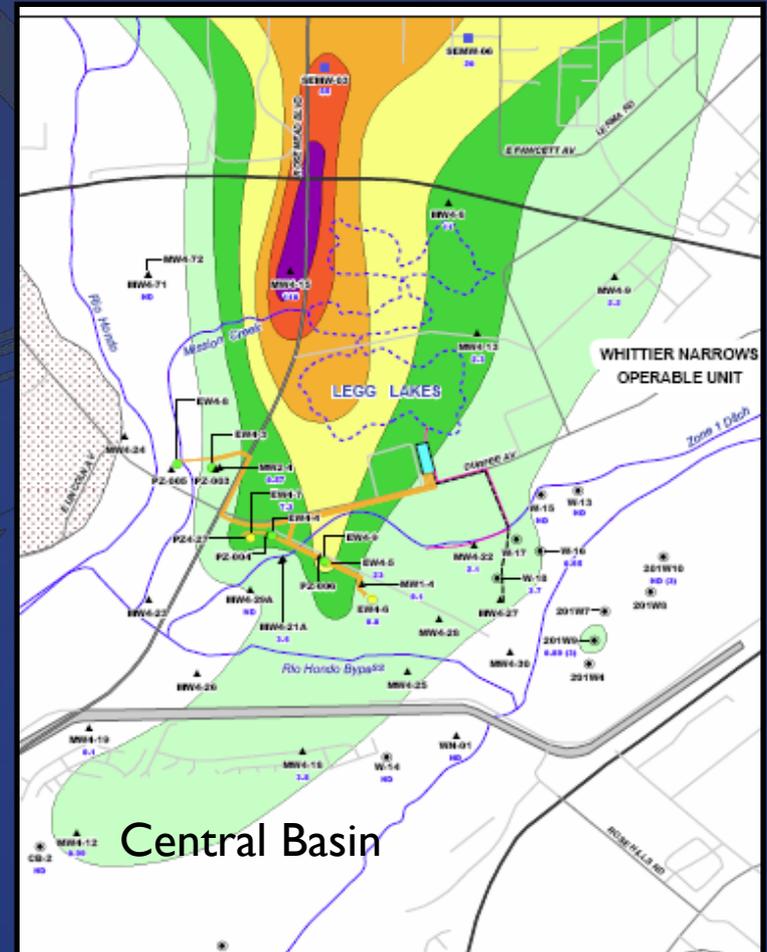
Source: U.S. EPA

U.S. EPA's Estimated Cleanup Costs



Whittier Narrows Operable Unit

- Keystone of San Gabriel Basin remedies
- Intercepts groundwater contamination migrating toward the Central Basin
- Orphan site
 - DTSC took over operations in May 2013



Whittier Narrows Operable Unit



U.S. EPA Modifications Underway



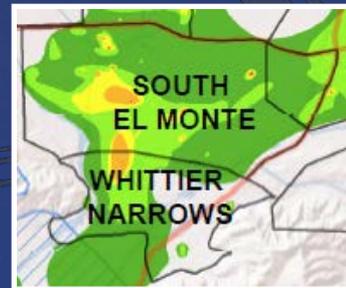
- Connect new drinking water end user
- \$8M in new infrastructure
- 10% State matching funds
- Projected completion in early 2016

San Gabriel Valley Cleanup Efforts

- Decades-long effort via
 - U.S. EPA's Superfund remedies
 - Local stakeholder efforts
 - Site-specific cleanups
- Projected cost is more than \$1 billion

State's Long-Term Role

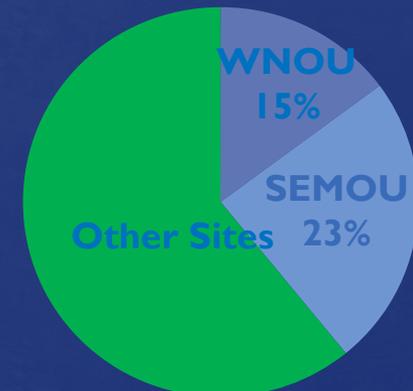
- O&M of U.S. EPA's Fund-lead remedies (DTSC on behalf of State)
 - Whittier Narrows OU (\$1.5M/yr)
 - South El Monte OU (\$2.5M/yr starting in 2023)
- On-going site-specific & hot spot cleanup efforts (DTSC, LARWQCB, U.S. EPA)



FY14/15
Site Remediation
Account



FY 22/23
Site Remediation
Account



Returning Land to Productive Use

Fernando Amador

Brownfields and Environmental Restoration Program

Emad Yemut

Brownfields and Environmental Restoration Program



Department of Toxic Substances Control



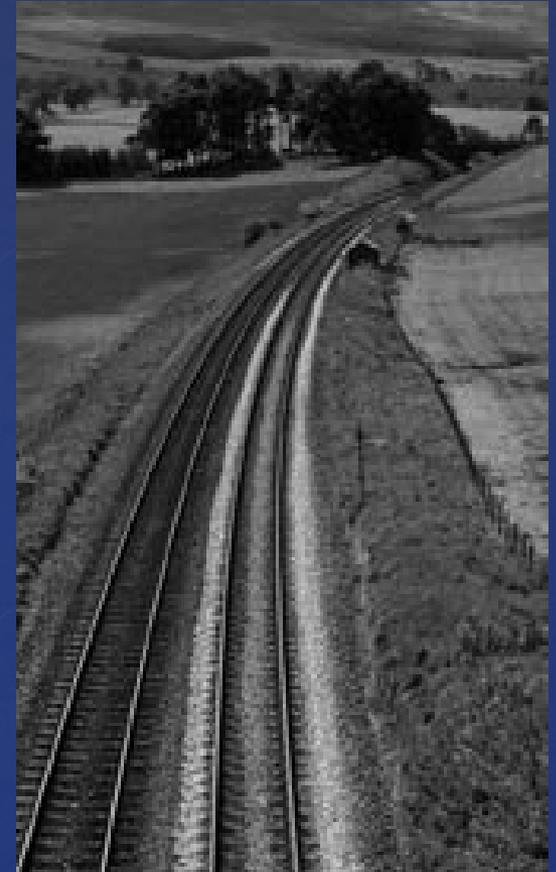
Cal/EPA

Cleaning Up California's Railfields

- What are Railfields
- Opportunities and challenges
- Two examples in Sacramento

Former Union Pacific Railyards

Former Curtis Park Railyard



Railfields

- Significant component of Brownfields
- Extensive legacy of potentially contaminated and unused rail lands
- Located in every state in the nation

Opportunities and Challenges

- Large parcels of lands
- Public and economic benefit
- Can be heavily contaminated.

Contributors to Railfields Success

- Partnering
- Environmental insurance
- Close alignment of cleanup with end use
- Focused study areas

Sacramento Railfields



- 240 acres adjacent to downtown
- Locomotive manufacturing and maintenance facility for over 100 years
- Operation resulted in significant releases to soil and groundwater

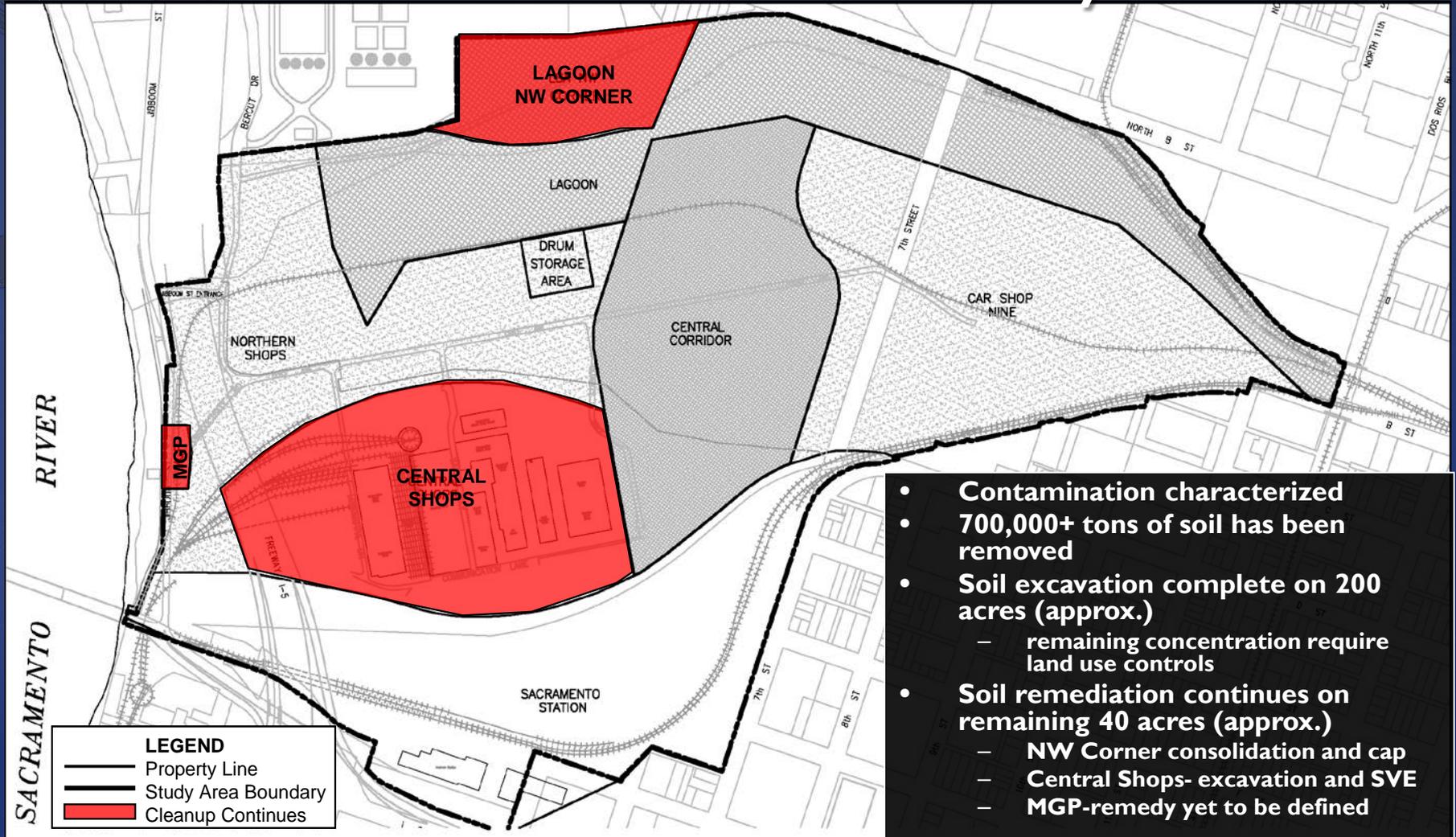
Regulatory Framework

- Enforceable cleanup agreement in June 1988
- Lead Agency designation in 1994
- UP remains responsible after sale of property
- Cleanup consistent with City's Specific Plan

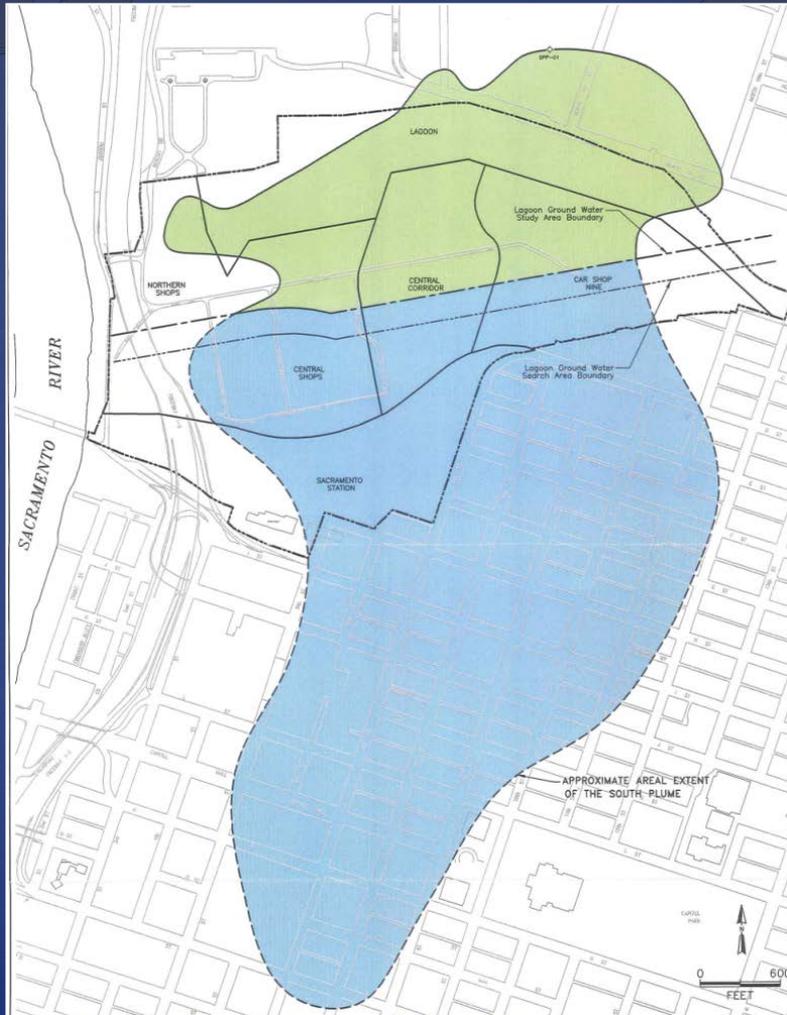
Status of Overall Cleanup

Operable Unit Name	Characterization	Remedy Selection	Remedy Implementation	Operations and Maintenance	Remedy Complete
Sand Piles		Soil Excavation			Cert 1990
Battery Shops		Soil Excavation		LUC	Cert 1990
Sac Station		Soil Excavation		LUC	Cert 1994
Federal Courthouse		Soil Excavation		LUC	Cert 1996
Pond & Ditch	IRM	Soil Excavation		LUC	Cert 1996
7 th Street		Soil Excavation		LUC	Cert 2001
Central Corridor		Soil Excavation		LUC	Est 2015
Car Shop Nine		Soil Excavation		LUC	Est 2015
Northern Shops		Soil Excavation		LUC	Est 2015
Drum Storage Area	IRM SVE	SVE, Excavation		LUC	Est 2015
Track Realignment		Soil Excavation		LUC	Est 2015
Lagoon Soil		Soil Excavation		LUC	Est 2015
Lagoon NW Corner		Consolidation and Cap	Cap design and placement required		Est 2017
Central Shops	IRM's - SVE	Excavation, SVE, P&T			Est 2017
Lagoon (GW)					Long Term
South Plume (GW)	IRM's - P&T				Long Term
MGP					Est 2018

Status of Soil Remedy



Status of Groundwater Remedy



- Two groundwater study areas
- Interim measures have provided plume control
- Final groundwater remedies are now being implemented
- Groundwater remediation will continue for decades
- Long term remediation will not preclude development

Remediation /Development

Early Remediation before development
infrastructure



Completed Infrastructure



Railyard Blvd

7th St

Building Abatement

Track Realignment

5th & 6th St

Intermodal Exp

DTSC's Ongoing Role at the Railyard

- Long term operation and maintenance
- Financial assurance
- Land use covenant and institutional controls
- 5-year review



Mixed Use Development

Former Curtis Park Railyard



*Western Pacific Railyard, Sacramento
circa 1929*

94 acres now surrounded by established homes and Sac City college

Regulatory Framework

- Enforceable cleanup agreement in June 1987
- UP remains responsible after sale of property.
- Cleanup consistent with City's Specific Plan
- Extensive Community involvement

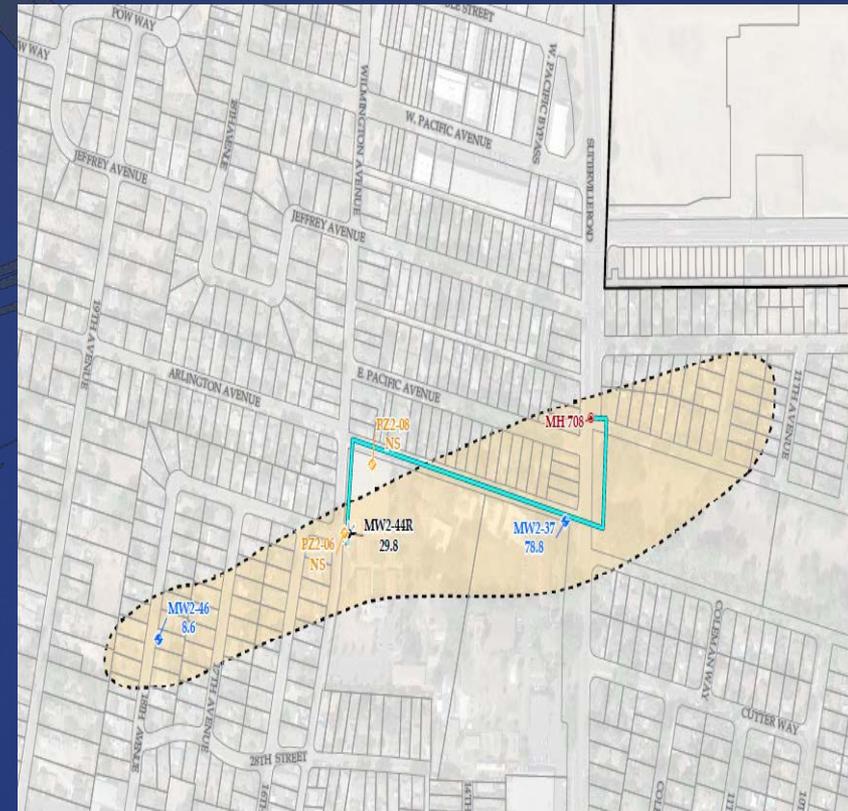
Cleanup Status – Curtis Park Railyard

Planned	
In Progress	
Complete	

Operable Unit Name	Characterize	Remedy Selection	Remedy Implementation	Operations & Maintenance	Remedy Complete
RT Light Rail Parcel	IRM - 900 tons removed from off site lots.	Soil Excavation	35,000 tons removed	LUC	Cert December 2009
Groundwater	IRM - GW Extraction and Treatment System	GW Extraction and Treatment System	203 pounds (96 CVOCs) have been removed from the groundwater	OMA	Cert 2015
Active Track(OU5)		LUC		LUC	Cert 2015
Inactive Yard (Curtis Park Village Development)	IRMs – Conducted since 1987: SVE Decommissioning of water supply well UST removals Removal of hot spot soil and slag	Soil Excavation	217,466 tons removed	LUC on small parcel (street)	Cert 2015

Status of Groundwater

- Groundwater plume extends offsite
- Remedial measures have provided plume control
- Remediation has been effective
- Groundwater remediation will continue for decades
- Long term remediation will not preclude development



Cleanup Completed

- Early interim measures
- Focused soil removal for Regional Transit project
- Final soil remediation



Curtis Park Village



A stylized, dark blue mountain range graphic with jagged peaks, positioned behind the text. The background is a solid dark blue with some faint, abstract brushstroke-like patterns.

Carson

Porsche Experience Center
at former Dominguez Golf Course

History

- Originally part of BKK Main Street Dump (includes Dominguez Golf Course and adjacent properties, Victoria Golf Course, Goodyear Blimp)
- Separated from rest of site for development
- Permitted to accept Class II wastes (liquid and solid waste)
- Landfill closed in 1960
- Contains mostly municipal solid waste
- Some industrial waste/liquids
- DTSC is lead agency overseeing remediation of the site
- Remedial Action Plan approved in 2012

Previous Conditions



Golf Driving Range

**Dominguez Golf Course and 64-unit apartment Complex – 53 acres
before the start of site clearing and demolition**

Porsche
Coming Soon



**Demolition
old golf club house**

Summary of Remedial Objectives

- Eliminate risk exposure of public to landfill wastes
- Prevent surface water from entering waste prism
- Capture, control and treat landfill gas
- Capture, control and treat contaminated groundwater plume near property boundary (Will be completed later along with the rest of the BKK Main Street Dump)

Summary of Remedial Systems

- Site-wide gas removal and treatment system
- Site-wide impermeable cap
- Southern boundary groundwater control system (To be installed in conjunction with the rest of the BKK Main Street Dump)
- Long-term operation & maintenance of remedial systems

Summary of Other Mitigation Measures

- Building Protection System
- Pile-supported building and tracks to mitigate effects of differential landfill settlement

Gas Removal System

- Gas control over entire site
- Horizontal wells under buildings
- Horizontal wells across site
- Vertical wells on perimeter
- Gas treatment system
- Automated monitoring system (24/7)
- Back-up power and monitoring systems





Landfill Cap

- Designed to accommodate settlement
- Primary landfill cap made up of clay and geosynthetic clay liner (GCL)
- GCL and clay cap are continuous over landfill, except for the building footprint
- Primary liner under building (membrane) to be “linear low density polyethylene”
- Very strong, flexible and impermeable
- Primary membrane under buildings and connected to foundations



Multiple Layers Of Protection

- LF gas active collection system (24/7)
- Primary landfill Cap (GCL and clay covers parking and track areas)
- Linear low density polyethylene liner under building
- Below-slab passive venting system
- Below-slab automated methane detection system
- Secondary membrane attached to slab
- Building ventilation systems (code req'd)



Porsche Experience Center
Carson, CA

Redevelopment Details

- Overall project costs, including remediation, estimated at more than \$50 million
- Will create 290 jobs in short and long term
- Facility expected to generate \$22 million annually
- Installation of a large-scale driver skills training and entertainment complex is innovative use of a former landfill property

PEC Building Construction





Conceptual Rendering of Finished Project





Updates on Key Cleanup Sites

Mark Malinowski

Brownfields and Environmental Restoration Program

Su Patel

Hazardous Waste Management Program



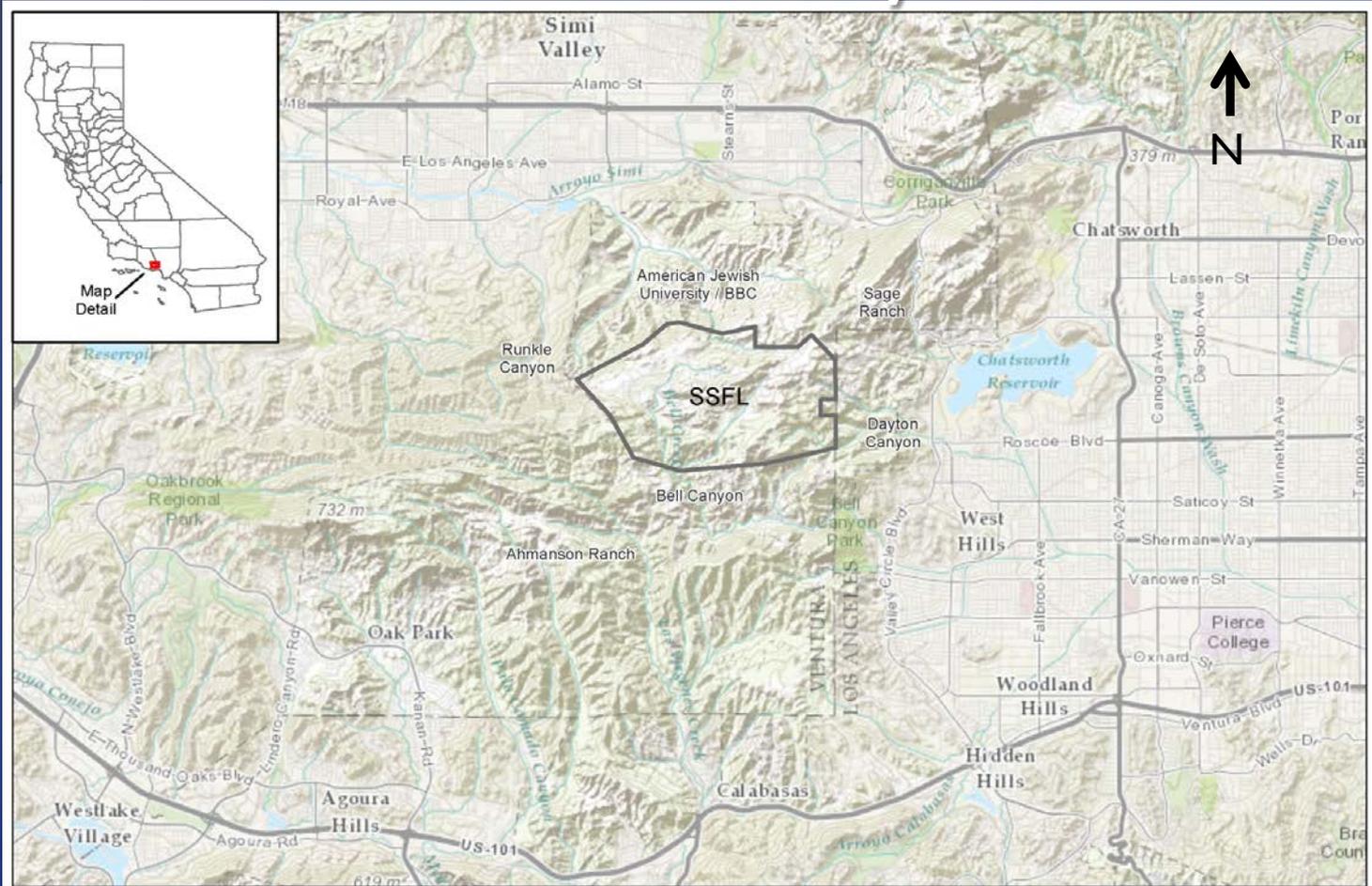
Department of Toxic Substances Control



Santa Susana Field Laboratory Project Update



Location of Santa Susana Field Laboratory



Cleanup Orders

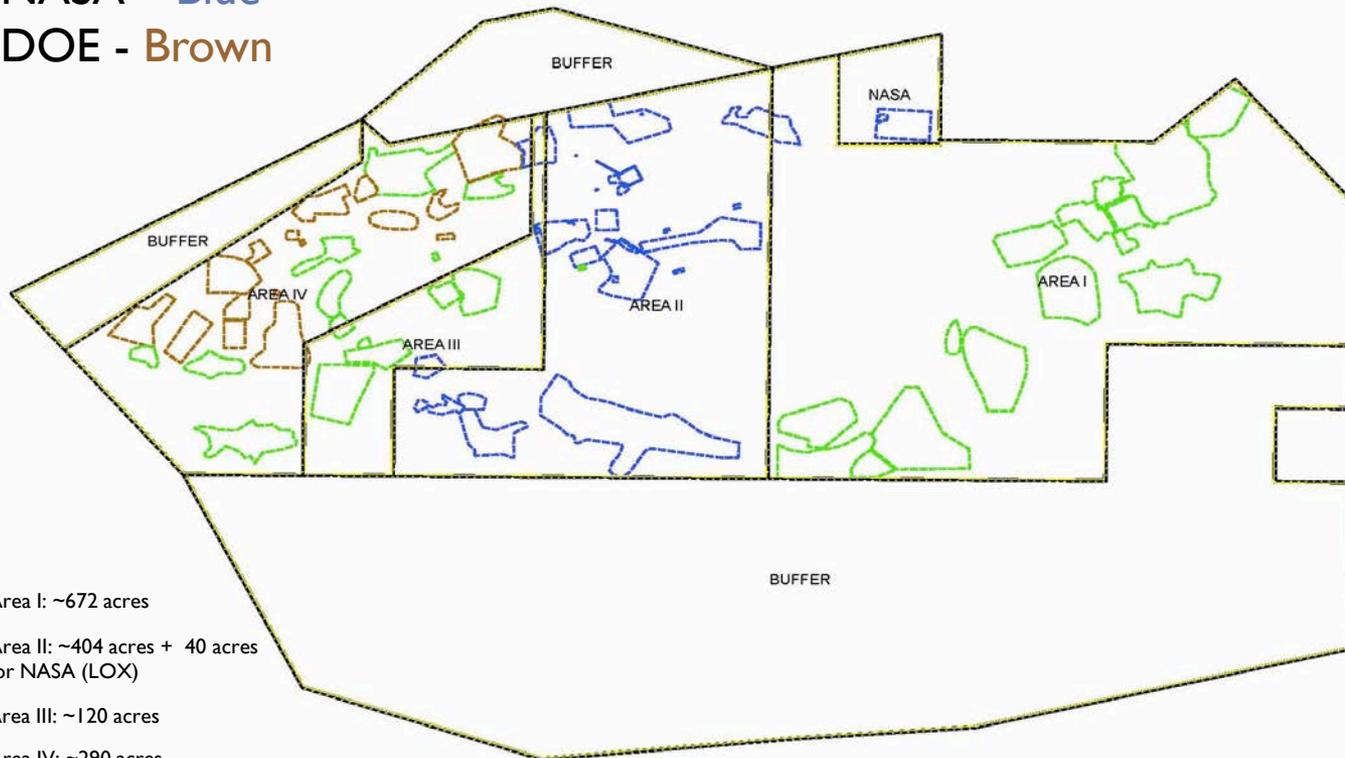
- The Boeing Company – 2007 Consent Order
- NASA – 2010 Administrative Order on Consent
- DOE – 2010 Administrative Order on Consent

SSFL Areas and Sites

Boeing – Green

NASA – Blue

DOE - Brown



Area I: ~672 acres

Area II: ~404 acres + 40 acres
for NASA (LOX)

Area III: ~120 acres

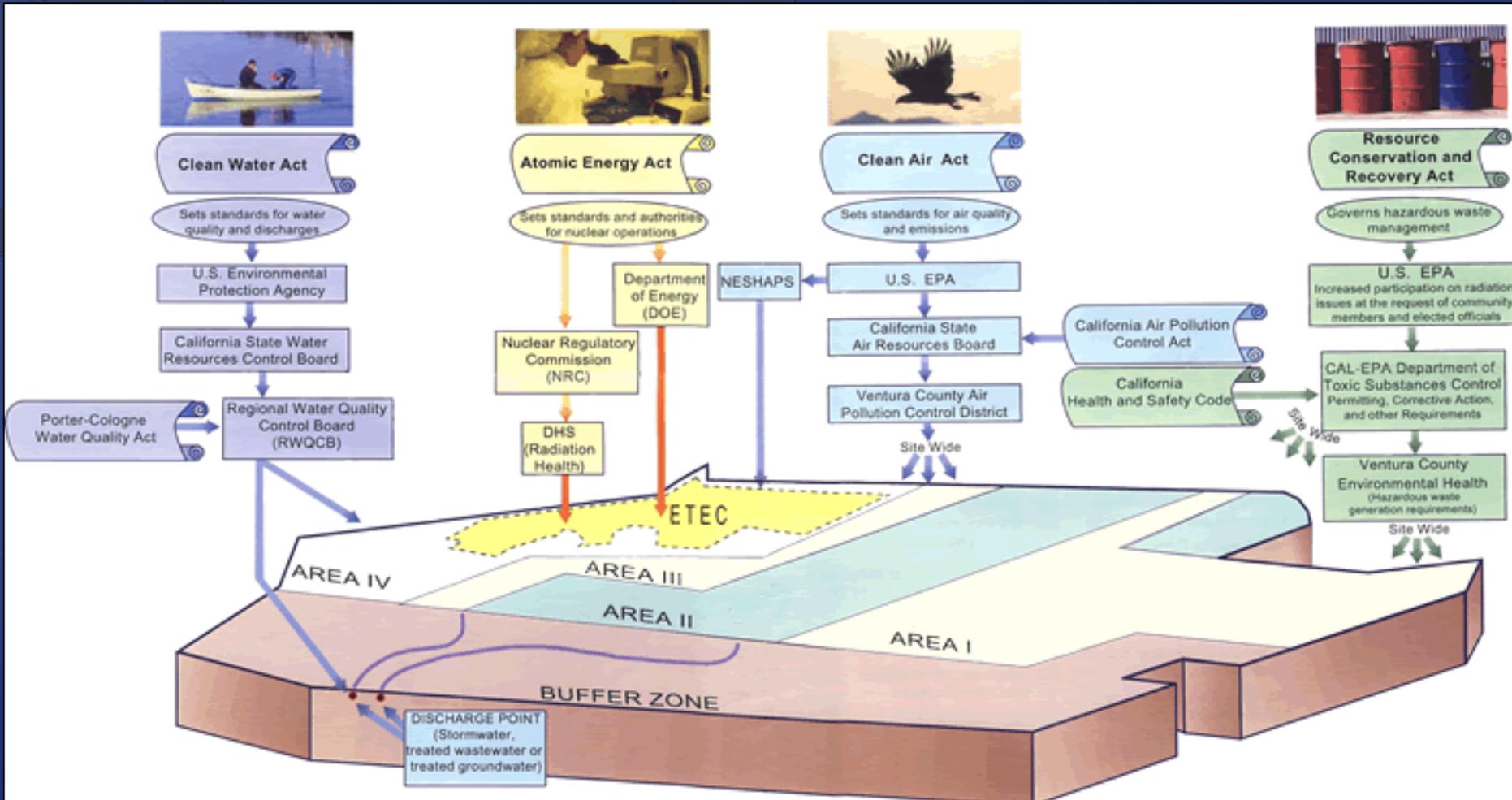
Area IV: ~290 acres

Southern Buffer: ~1,143 acres

Northern Buffer: ~182 acres

SSFL is ~ 2,850 acres

Overseeing SSFL – Agencies and Laws



Investigation and Cleanup Process

Facility Investigation

Determine the extent of soil and groundwater contamination

Corrective Measures Study

Evaluate potential cleanup alternatives

Proposed Remedy Selection

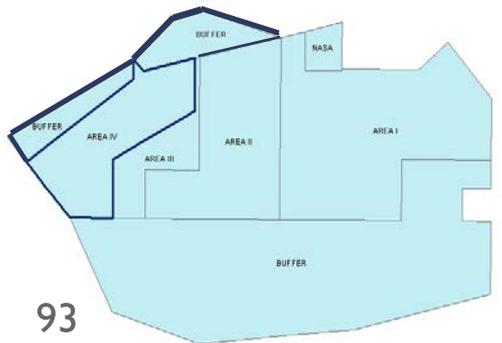
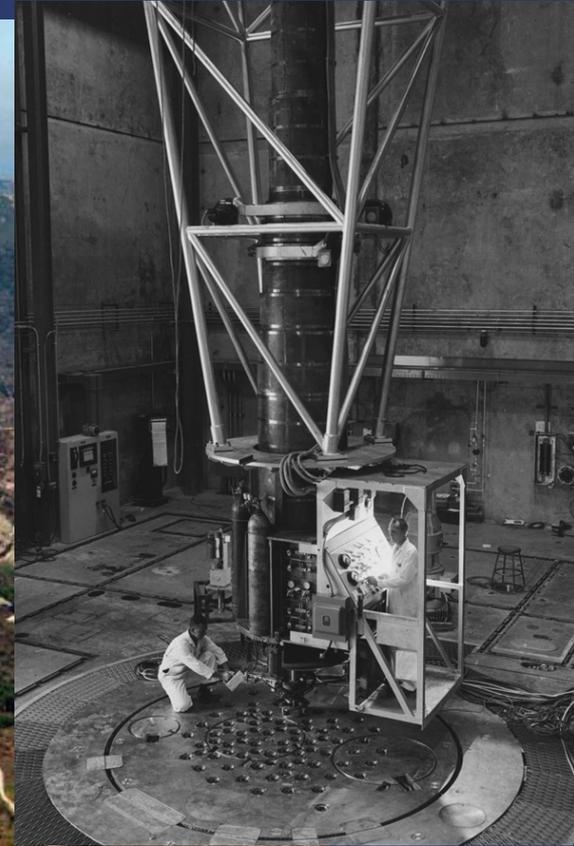
Proposed remedy available for public comment

Final Remedy Selection and Cleanup Implementation

After consideration of public comment a final cleanup plan is selected

Public Participation conducted throughout.
DTSC will apply and comply with CEQA.

DOE Area IV – Burro Flats



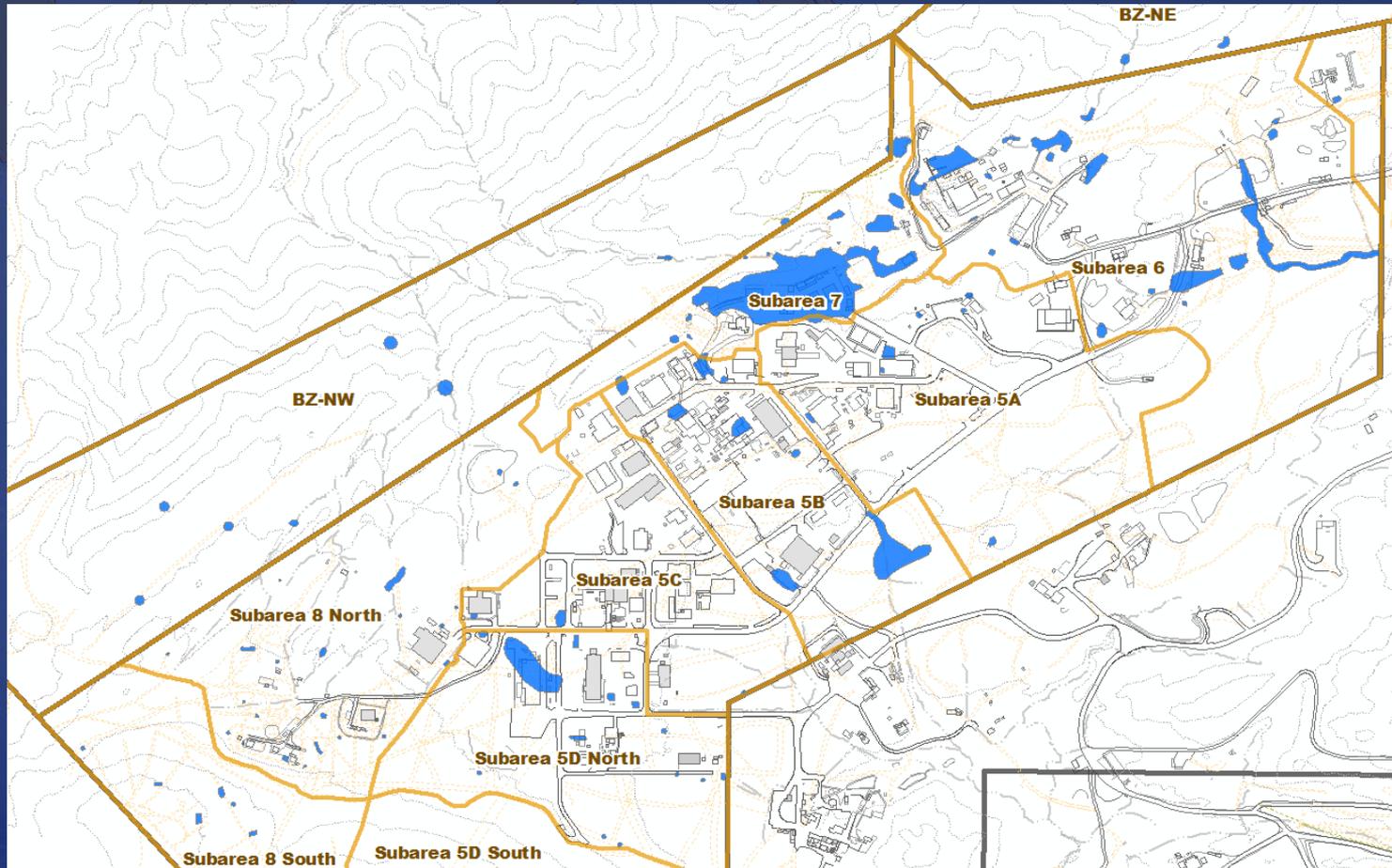
DOE Status

- Soils characterization program
Fieldwork complete in 2014
- Groundwater source investigations
Currently underway

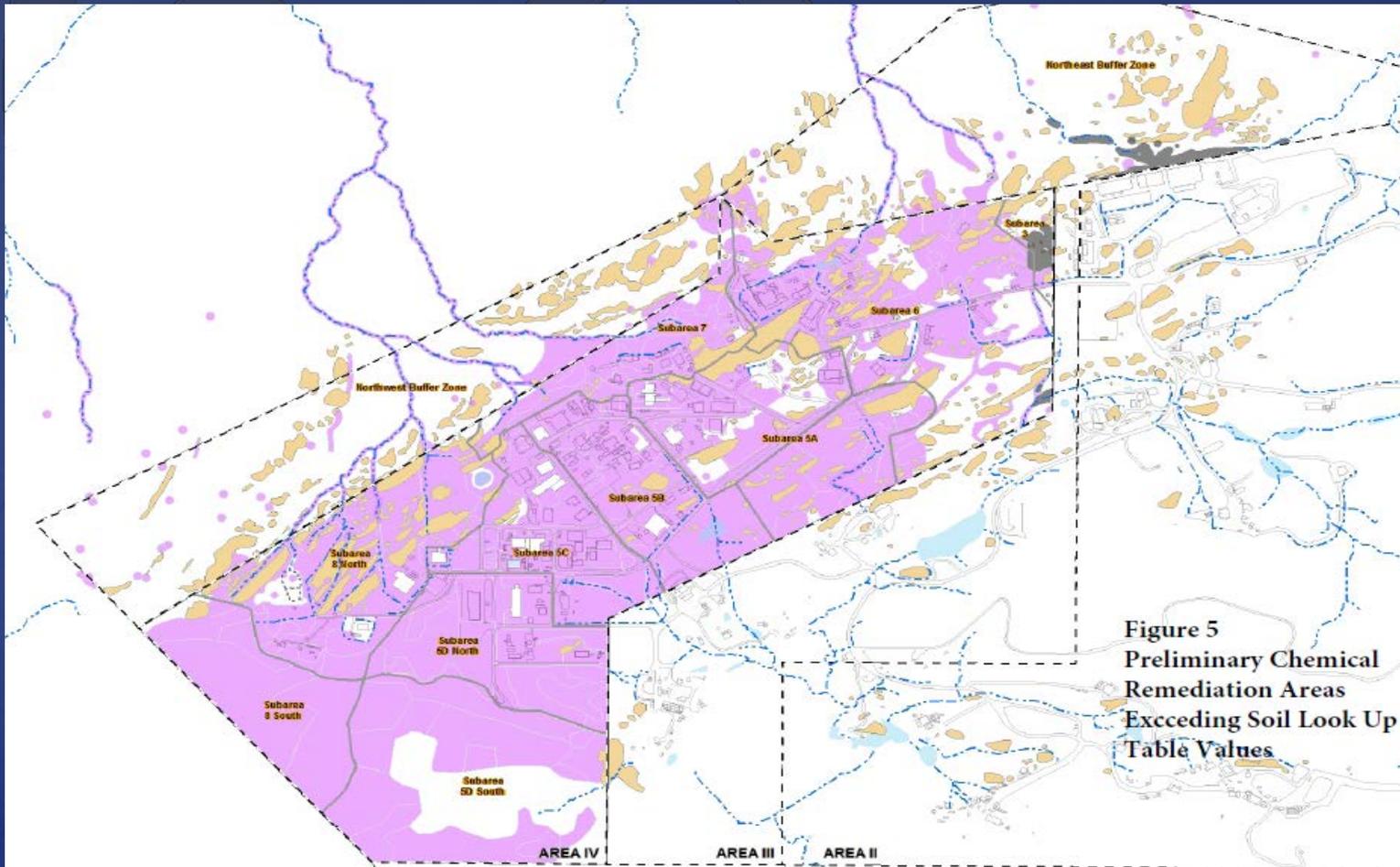


- Soil treatability studies
To complete in 2015
- Demolition program
To begin after DOE completes NEPA

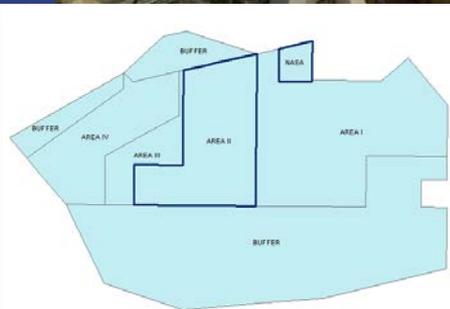
Preliminary Cleanup Areas Radiological



Preliminary Cleanup Areas Chemicals



NASA Coca Area Test Stands



NASA Status



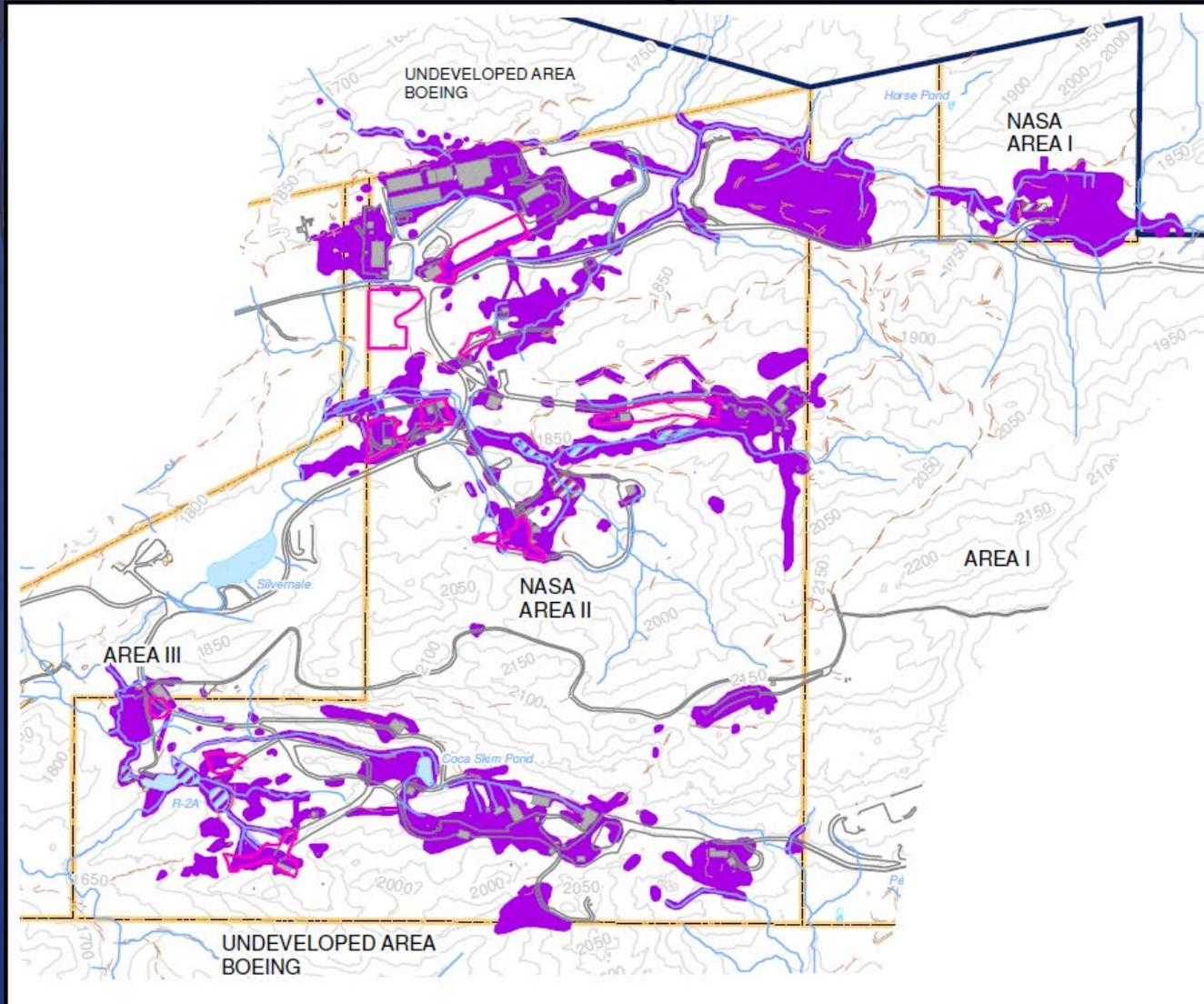
- Soil and groundwater treatability studies
To complete in 2015
- Demolition program

- Soils characterization
Field work complete in 2014
- Groundwater
Four major investigation areas

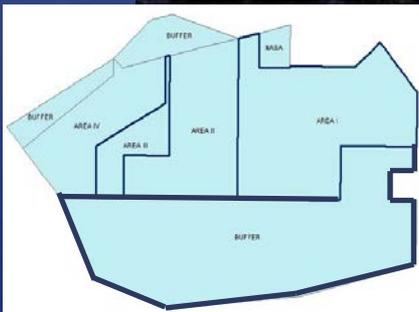


Liquid Oxygen (LOX) Buildings

NASA Impacted Soils



The Boeing Company – The Bowl



Boeing Status

- Soils characterization
To complete in 2015
- Groundwater
Major investigation areas
almost complete



- Groundwater treatability studies
To complete in 2015
- Demolition program



Component Testing Laboratory III



Before

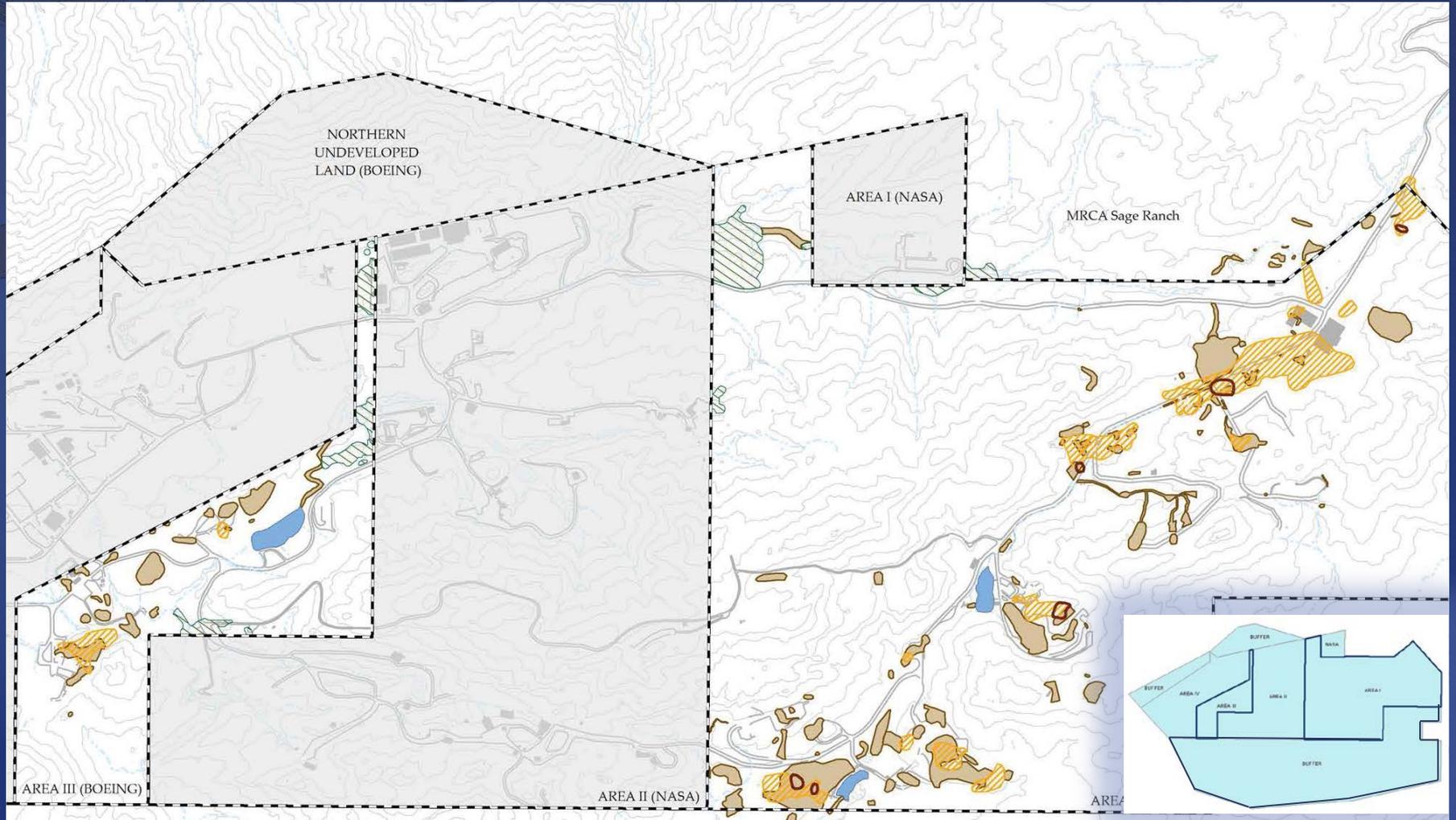


After



2014

Boeing Soil Characterization



Site-wide Treatability Studies

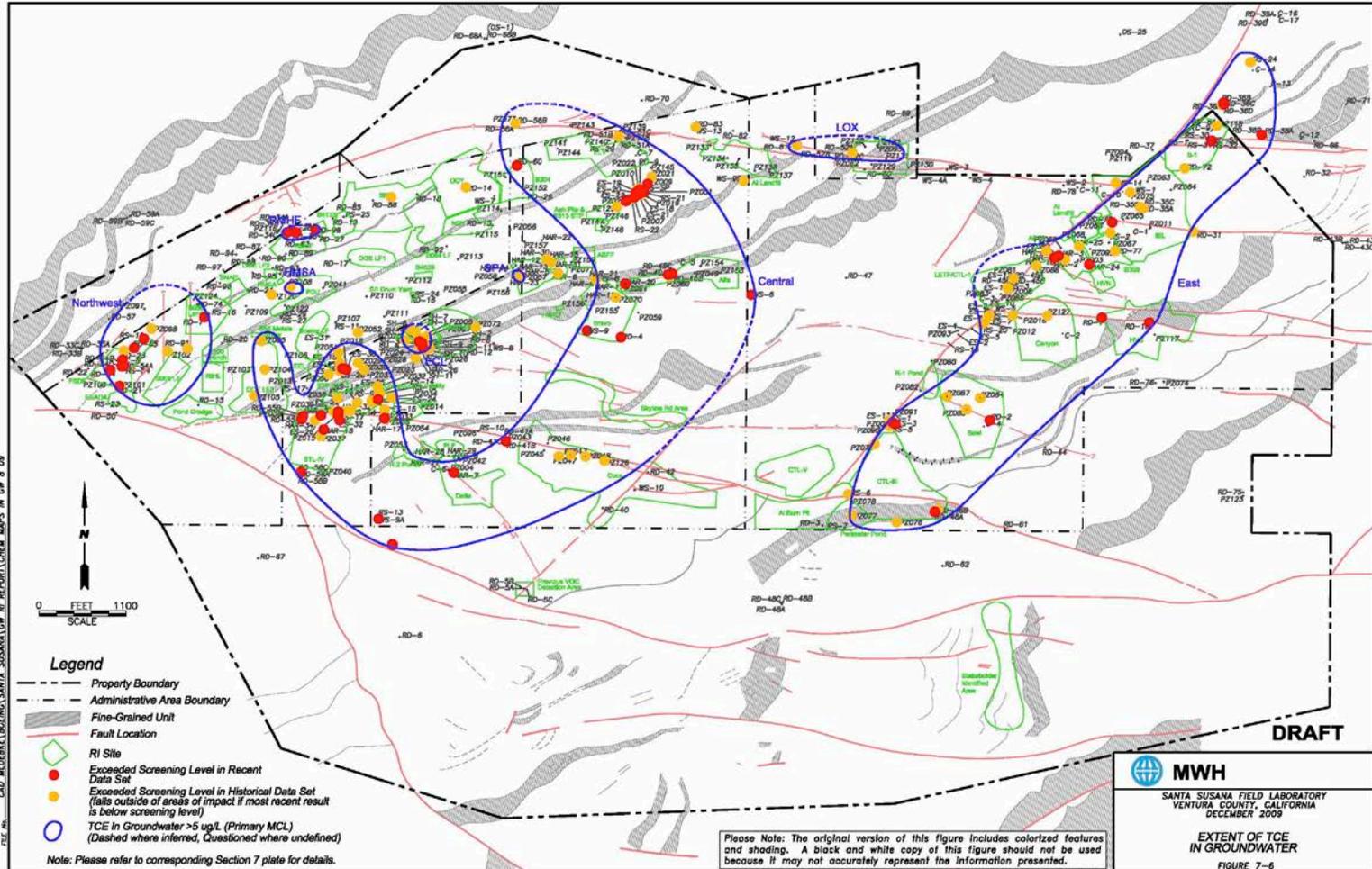
- Treatability Study Workplan
 - Studies to assess ways to get to cleanup without removing soils or pumping groundwater
 - Bedrock vapor extraction
 - Monitored Natural Attenuation (groundwater and soils)
 - In-situ Chemical Oxidation (groundwater)
 - Land farming/Bioremediation (soils)
 - Phytoremediation (soils)
 - Soil partitioning studies

Site-wide Groundwater

- Remedial Investigation Report
 - Identified data gaps
 - Address fault and seep sampling
- Groundwater Interim Measures
 - Operate wells from source areas
 - Implement in 2015
 - Quarterly groundwater monitoring



TCE Contaminated Groundwater



Site-wide California Environmental Quality Act

- Draft program Environmental Impact Report (EIR)
 - Will address cleanup actions for all three responsible parties
 - Will propose alternative routes and conveyance system
 - Will address impacts to cultural and biological resources
- Work with interested parties as we develop draft EIR
- Draft EIR Available Fall 2015

What's Next (next six months)

- Draft Environmental Impact Report
- Soils
 - Complete investigations
 - Treatability studies
 - Cleanup decision documents
- Groundwater
 - Start-up Groundwater Interim Measures
 - Investigation
 - Review and assess
 - Quarterly reports, draft Seeps/Springs report, fault study reports, source zone workplans and reports.

Technical Roundtable Meetings

Boeing Soil/Groundwater/Treatability Studies Public Update Meeting

- May 19, 2015 6:30 p.m. to 8:30 p.m.
- At DTSC Chatsworth Office

DTSC Community Outreach

- DTSC - SSFL Website

http://www.dtsc.ca.gov/SiteCleanup/Santa_Susana_Field_Lab/index.cfm

- Monthly updates
- Calendar of SSFL events
- DTSC SSFL open house (April 28, 2015)
 - Simi Valley High School

Exide Technologies, Vernon Project Update



March 12, 2015: Order by DTSC

- February 26, 2015 – DTSC to deny Exide's hazardous waste permit
- March 12, 2015 – DTSC issued order amending November 2014 order to include:
 - Safe closure of Vernon facility
 - Expedited funding
 - Additional funds for cleanup of residential properties
- March 27, 2015 – Bankruptcy Court decision

April 9, 2015: Community Meeting led by DTSC

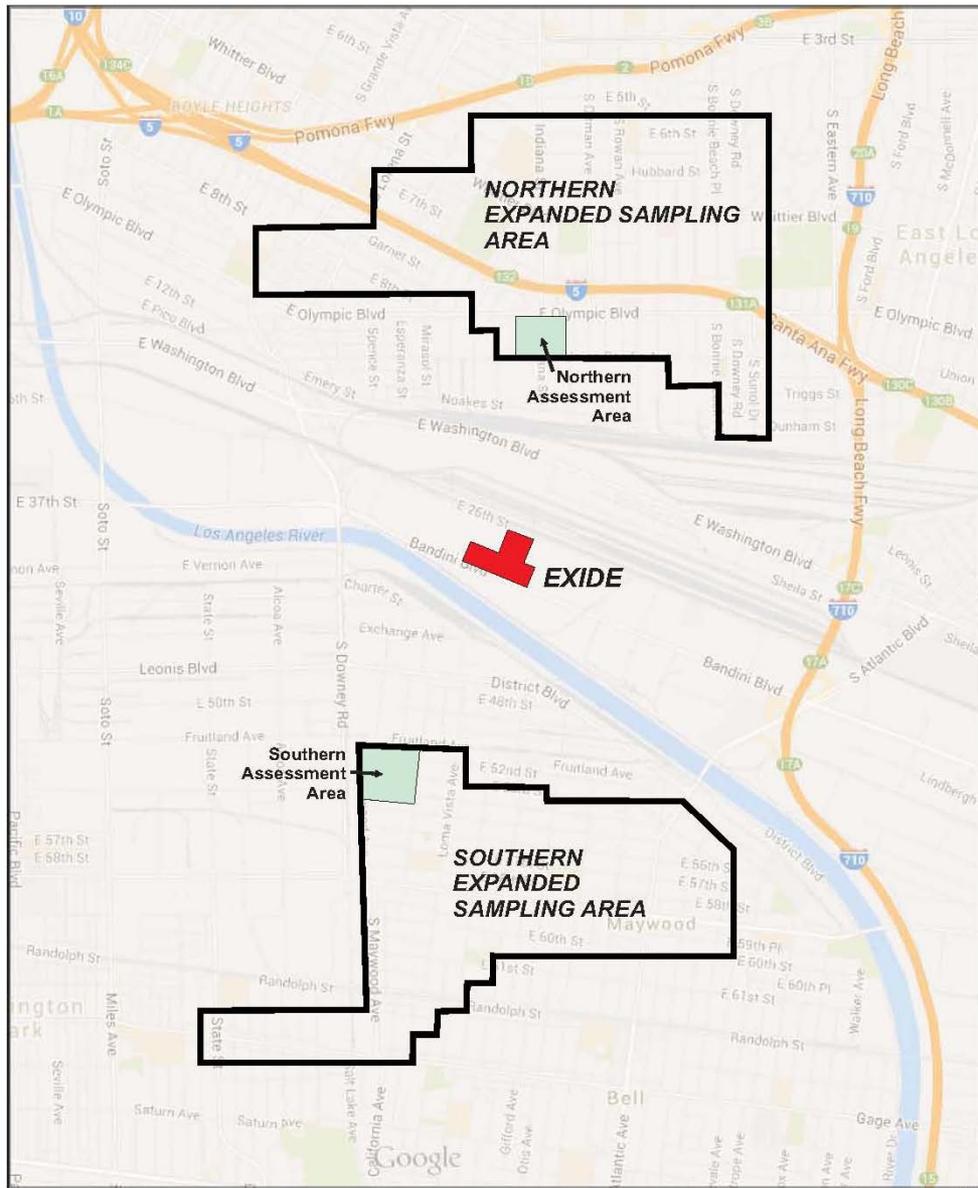
- More than 200 attendees
- Major milestones in Exide facility closure and cleanup process
- Collaborations with other agencies, community
- Establish a group that will serve as a forum for regular interaction

Going Forward

- Closure/Post Closure Plan
 - Proceed with final closure
 - Phased approach
- Investigation and cleanup
 - Residential cleanup
 - Non-residential offsite cleanup
 - Onsite cleanup

Residential Cleanup Process

- Interim Measures Workplan for Emergency Clean-up
 - Remove contaminated soil from yards
 - Dust control and air monitoring
 - Yard restoration
 - Interior cleaning of homes
 - Relocation during cleanup



Base Map: Google Maps 2015



DEPARTMENT OF TOXIC
SUBSTANCES CONTROL

RESIDENTIAL SOIL INVESTIGATION AREAS



Residential Cleanup Progress

Progress Cleaning Properties in the Northern and Southern Assessment Areas

Number of properties in assessment area:

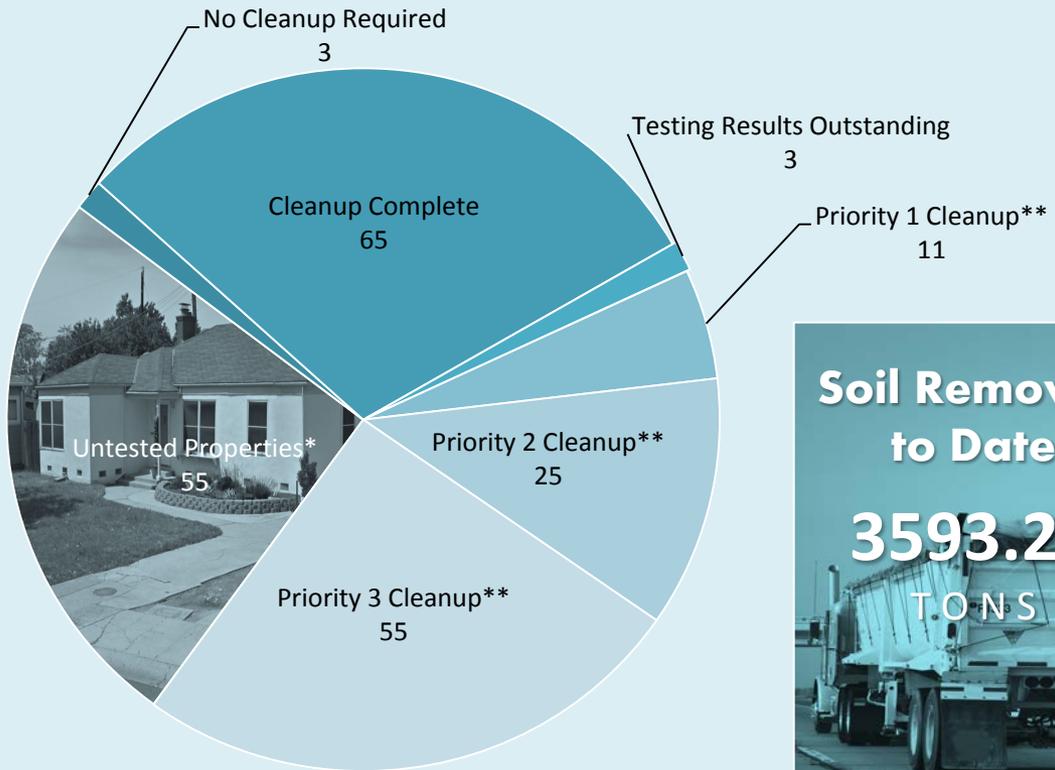
217

Last update: 04/16/2015

*Pending approval by property owner.

**Cleanup Pending

For questions, contact: Marina Perez (Bilingual), Public Participation Specialist (844) 225-3887



Soil Removed to Date

3593.21

TONS





Funding Offsite Residential Cleanup

November 21, 2014 Enforcement Order

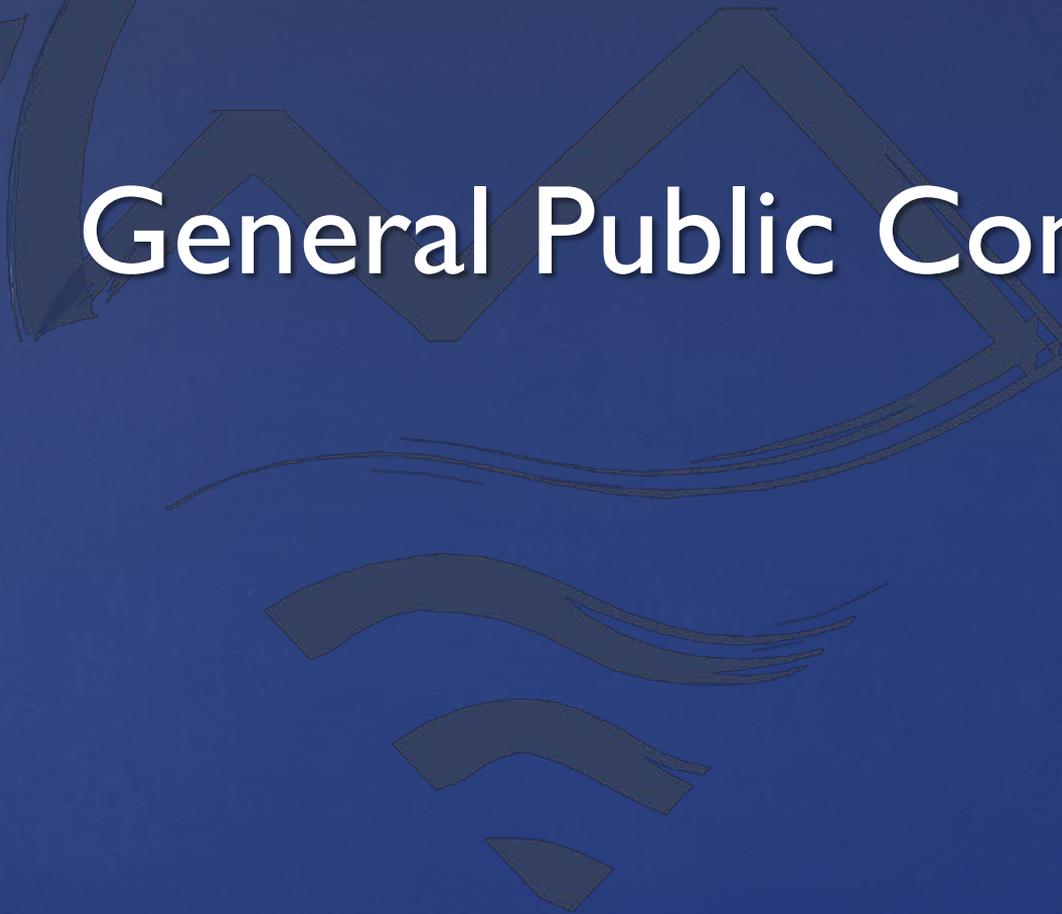
- \$9 million for cleanup of residential properties :
 - \$3 million deposited on November 21, 2014
 - \$3 million to deposit in April 2015
 - \$1.5 million to deposit in April 2016
 - \$1.5 million to deposit in April 2017

March 12, 2015, Amendment to 2014 Order

- Additional \$5 million in 2018

Sharing Information

- DTSC website
- Monthly Status Report
- E-List – subscribe for new information
- Interagency and Exide Community Workgroup as announced on April 9
- Next: May 6, 2015 - meeting to share sampling results for expanded area

A stylized, dark blue mountain range graphic is centered in the background. The mountains are composed of several jagged peaks and valleys, rendered with a slightly textured, brush-stroke-like appearance. The entire scene is set against a solid, medium-dark blue background.

General Public Comments

THANK YOU for participating in this
Department of Toxic Substances Control
Quarterly Public Meeting



Department of Toxic Substances Control



Cal/EPA