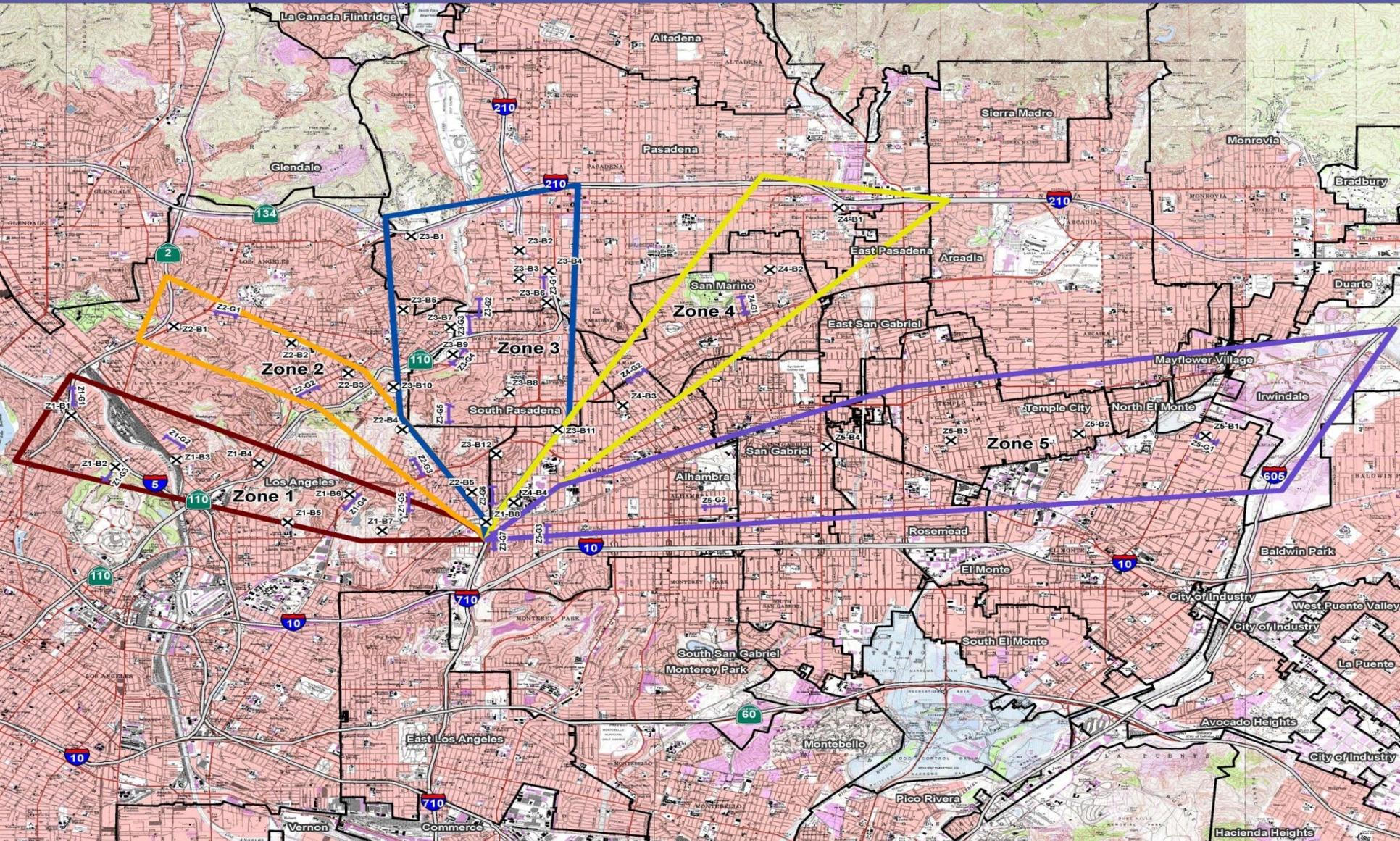


Objective of the Exploration Program

- A total of 5 potential zones were investigated
- Collected geotechnical, geological, and hydro-geological information for each zone
- Information to be used for screening purposes



Exploration Plan Zones

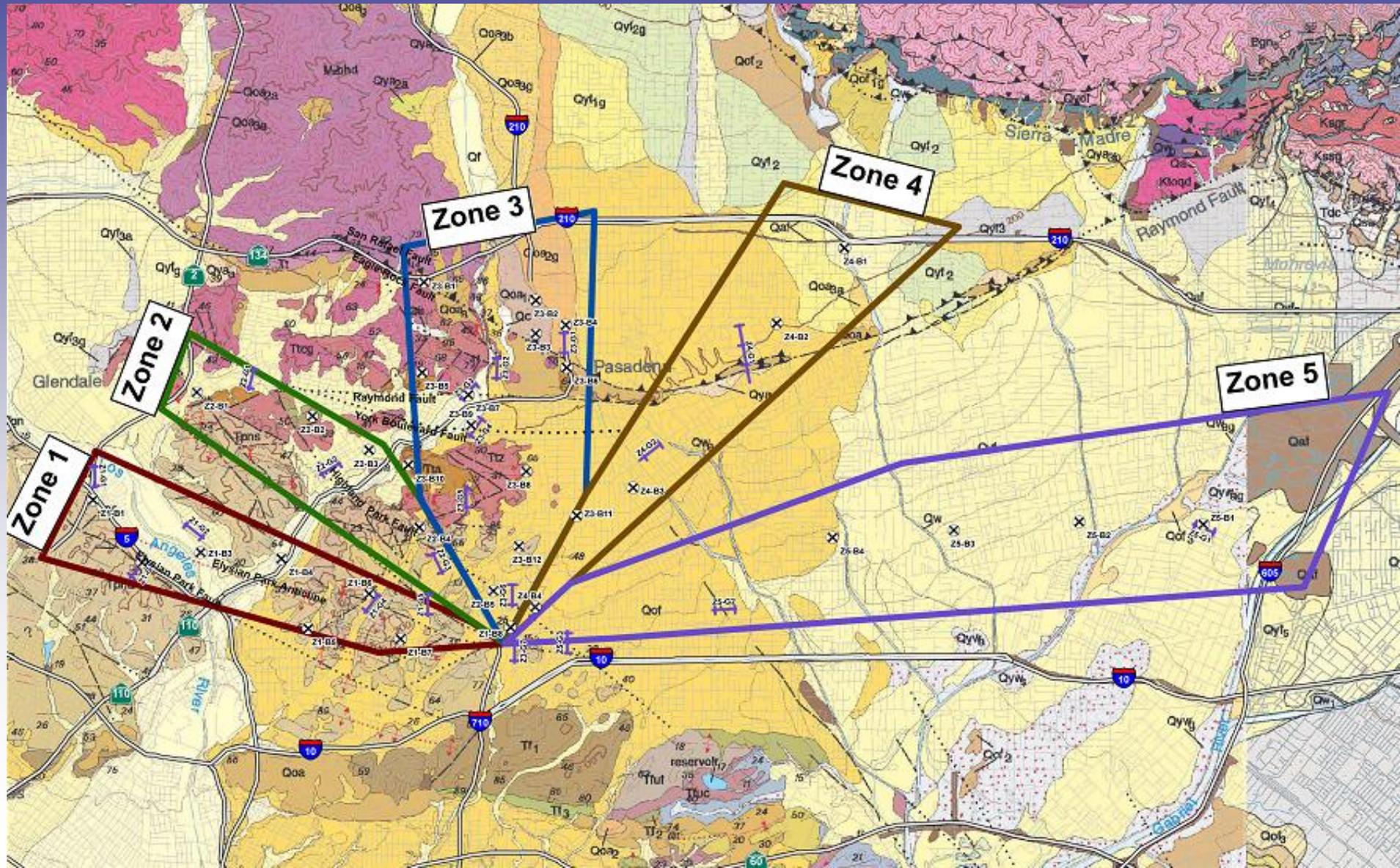


Key Factors Influencing Tunneling

- **Faulting**
 - Fault displacement
 - Rupture zone length
- **Uniformity of geologic material**
- **Potential for adverse tunneling conditions**
 - Flowing/squeezing soils, boulders
- **Properties of geologic materials**
- **Groundwater conditions**
- **Hazardous materials**



Geological Zones



Geotechnical Exploration Program

- Data collection and review
- Geologic mapping
- Geophysical Testing
 - Seismic Reflection Tests
 - Surface Wave Method
- Drilling, sampling, and logging
- Laboratory testing



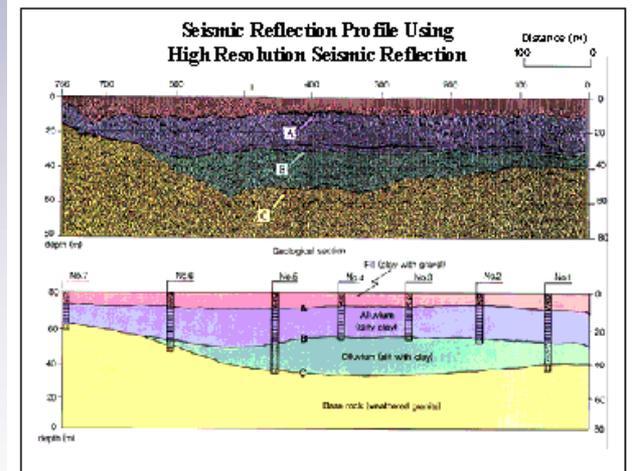
Boring Activities

- 25 small diameter borings
- Vertical and Inclined drilling
- Each boring took 10 to 15 days to complete
- 22 were converted to piezometers
- Drilling performed during daytime hours



Seismic Reflection Testing

- 17 seismic reflection surveys
- Non-destructive
- Geophysical testing was performed between 7 PM and 6 AM.
- One location per day



Surface Wave Testing

- A total of 79 tests
- Used traffic noise and hammer blows
- Tests done during daytime;
- Approximately 2 hours each
- 3 tests per day
- Non-destructive
- Minimal impact to public

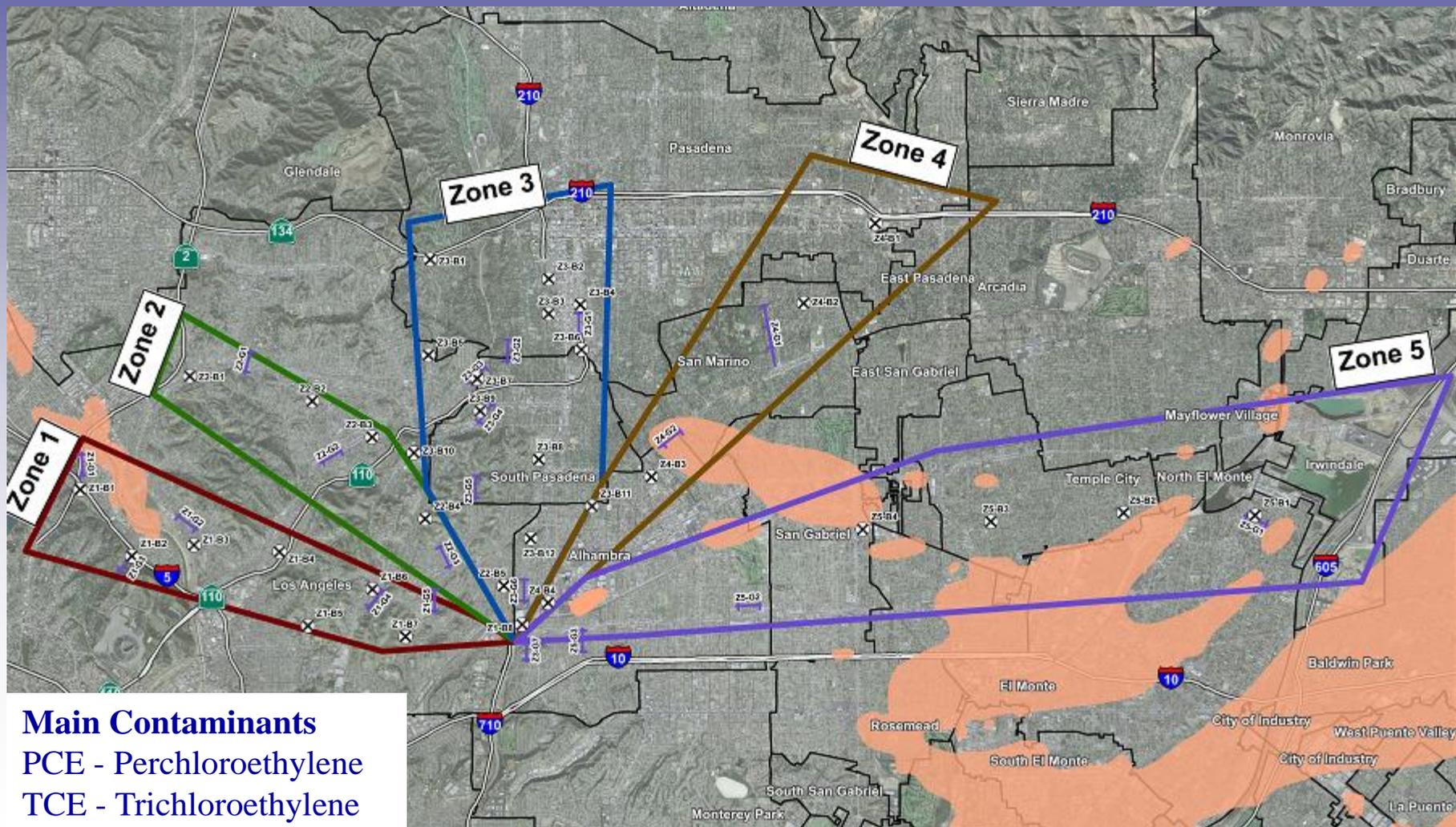


Exploration Summary

Zone	No. of Borings Compiled	No. of Borings Completed in Current Study	No. of Seismic Reflection Lines	No. of Surface Wave Lines	Approximate Length of Zone (mi)
1	74	7	4	20	5.0 – 5.5
2	61	5	3	12	5.0 – 5.5
3	40	12	6	25	4.5 – 5.0
4	34	1	2	10	6.0 – 7.5
5	77	0	2	12	9.5 – 11.0



Limits of Potential Groundwater Contamination



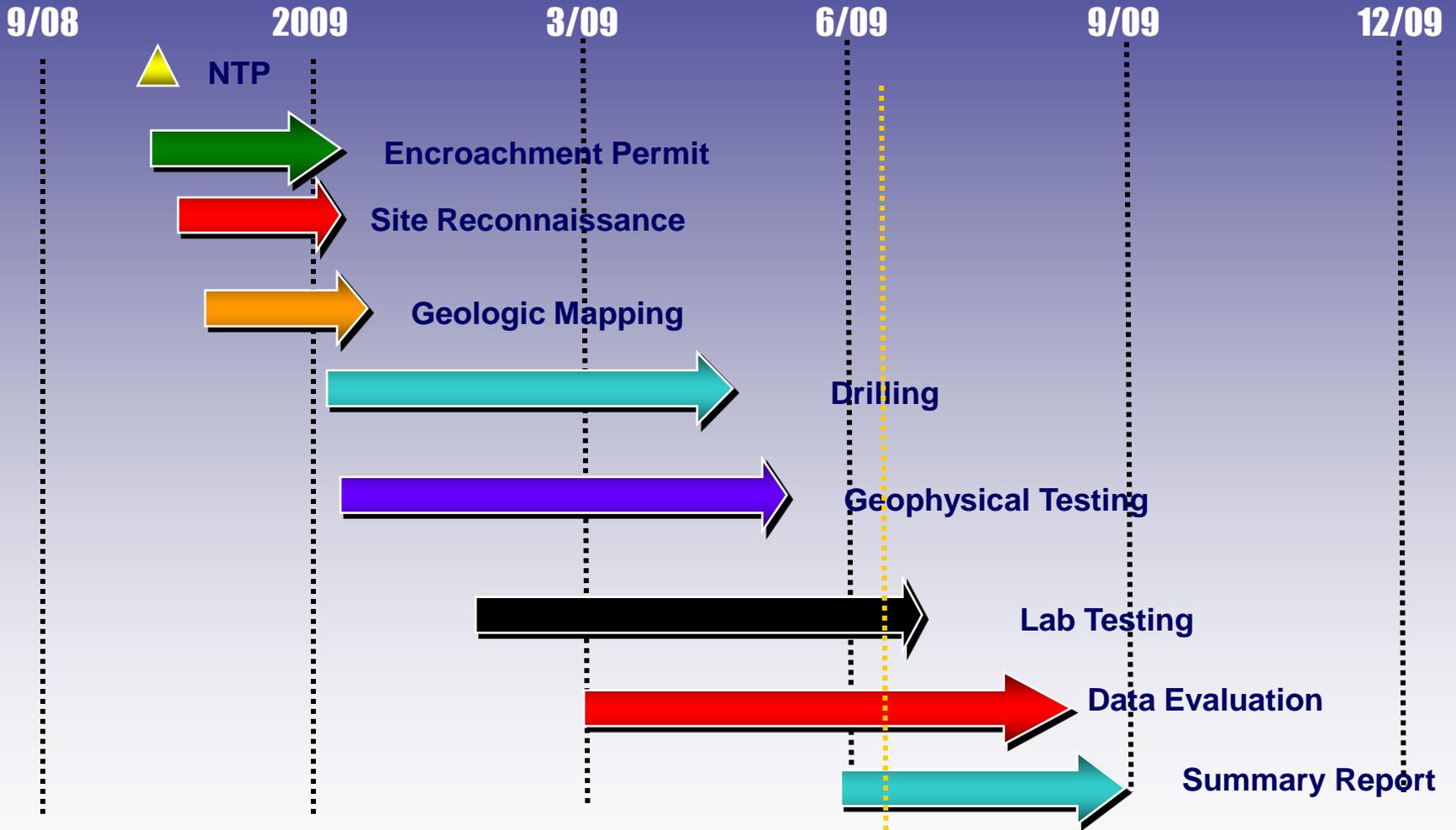
Main Contaminants
PCE - Perchloroethylene
TCE - Trichloroethylene

Status of Contaminated Groundwater Sites

- **Zone 1**
 - Containment in place
 - Groundwater treatment began in 1999
- **Zone 4**
 - Feasibility study will start to evaluate remedial alternatives
 - Record of Decision to be completed by 2011
 - Remedial and containment plans to be developed after 2011
- **Zone 5**
 - Plan for containment is being evaluated, Installation of containment planned to begin 2010
 - Cleaning up of the SUPERFUND site to be determined later



Project Schedule



Activities

- Conducted borings in Zones 1, 2, 3 and 4.
- Geological data has been obtained in Zones 1 through 5 from US EPA, DWR and other sources.
- A total of 8 borings and 3 geophysical lines have been eliminated.
- Borings were conducted by both Caltrans and CH2M HILL
- Borings conducted January to May 2009.



Summary of Public Outreach Activities

Total visits to Homes/Businesses: 2,000
 Borings: 25

Stakeholders added to database: 121
 Geophysical Line Testing: 17
 Surface Wave Testing: 70

City	Exploration Activity	# of Visits	# of Stakeholders added to Database
Alhambra	Borings: 4 Geophysical Line: 5 Surface Wave: 11	443	38
Los Angeles	Borings: 14 Geophysical Line: 7 Surface Wave: 27	740	51
Pasadena	Borings: 5 Geophysical Line: 2 Surface Wave: 4	143	8
South Pasadena	Borings: 2 Geophysical Line: 2 Surface Wave: 6	423	17
San Marino	Borings: 0 Geophysical Line: 1 Surface Wave: 1	50	7



Neighborhood & Community Outreach

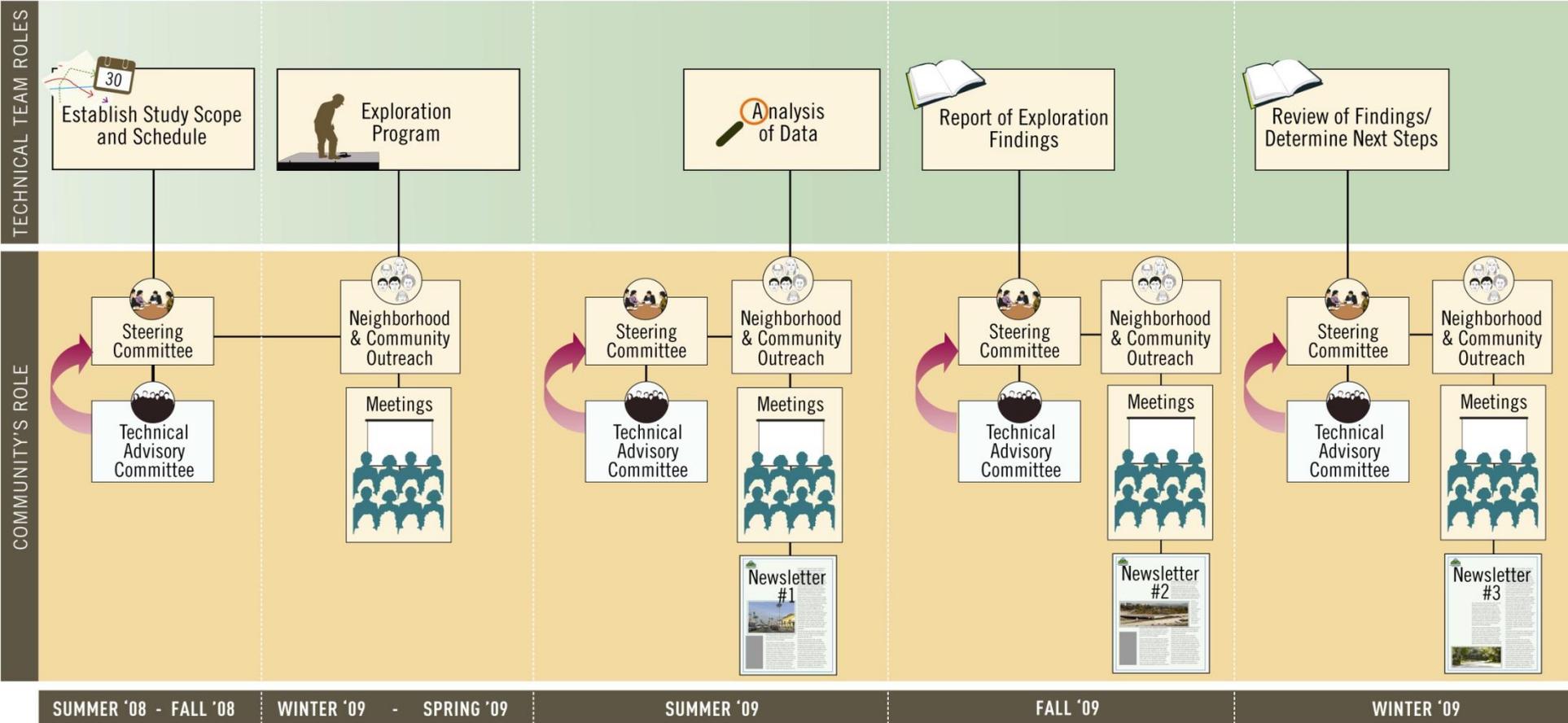
- **Steering and Technical Advisory Committees**
- **Elected Officials Briefings**
- **Presentations**
- **Community Meetings & Events, Focus Groups**
- **Boring Notices, Fact Sheets, FAQs, Newsletter**
- **Website**
- **Canvassing**
- **Advertising & Articles in Local Newspapers**
- **Field Office and Outreach**
- **Information Line**



Community's Involvement



SR-710 Tunnel Technical Study Public Involvement



For more information:

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Question and Answer

