

Brownfields Redevelopment

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Cal/EPA
**DEPARTMENT OF TOXIC
SUBSTANCES CONTROL**



BACKGROUND

The Brownfields phenomenon, with its striking images of rusting relics in the industrial areas of the Northeast and Midwest, is just as pervasive in the state of California.

In fact, California may have a more significant and distinct Brownfields problem. Our vast and varied history of industrialization, the economic impact of closing military bases, the loss of some local industries such as Northwest logging, the rash of natural disasters and events such as the 1992 riots in Los Angeles are just a few factors which have contributed to the "browning" of the Golden State.

Scores of properties which are contaminated with hazardous wastes or are perceived to be contaminated remain as a legacy to this recent and past history.

Restoring these abandoned and under-used properties can help bring new life and strength to a community. Making a once toxic area viable again means new jobs, a stronger tax base and a safer environment.

The Department of Toxic Substances Control, together with other government agencies and private industry, have adopted many innovative approaches to revitalizing and redeveloping Brownfields properties. Some recent success stories are outlined on the following pages.

Port of Long Beach/TCL project, Wilmington

The Port of Long Beach has been the site of a number of Brownfields activities which have paved the way for significant redevelopment projects.

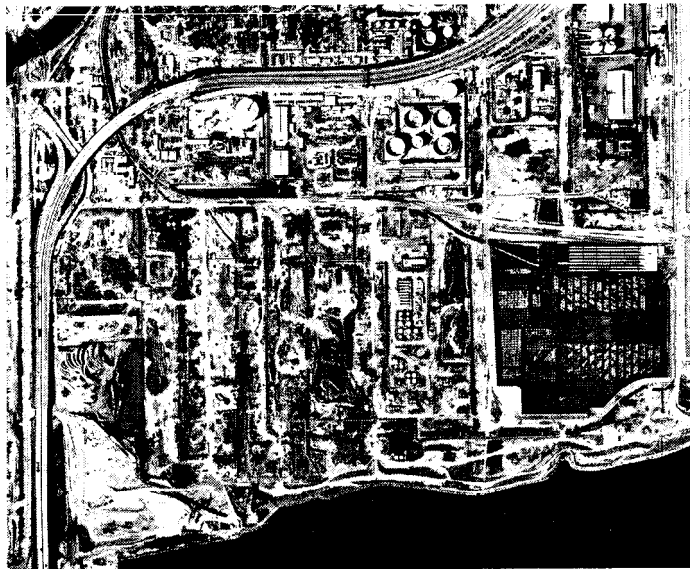
Today, more cargo and containers move through the Port of Long Beach than any other port in the United States. It serves as a gateway to the world for 17 million regional residents, and for manufacturers and consumers across the country.

DTSC has played a major role in recent hazardous waste cleanup and redevelopment activities at the Port.

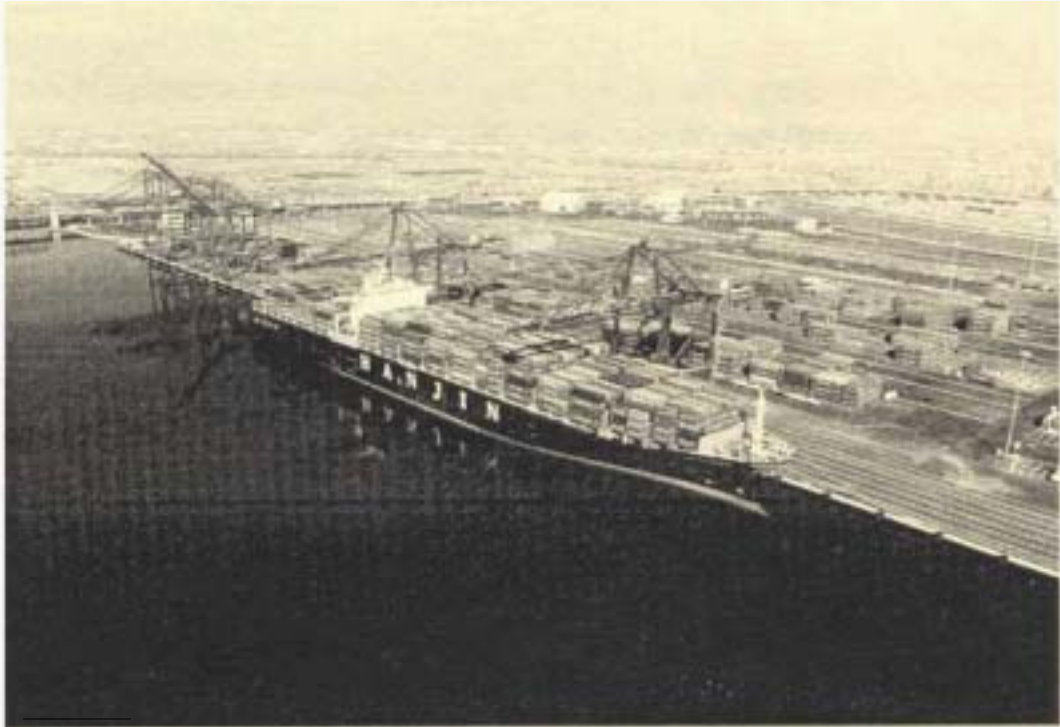
One of the largest projects is the former TCL site -- a state Superfund site -- which is now home to a new national distribution center for Toyota Motor Sales, Inc. and the Hanjin Shipping Company marine container terminal.

This 240-acre site is a former disposal facility that accepted oil wastes and tank bottom sludge from 1951 to 1972 as part of an oil and gas production plant. It was heavily contaminated with petroleum-based wastes, metals and other hazardous wastes from past activities.

With DTSC oversight and involvement, nearly 500,000 cubic yards of contaminated soil was excavated, treated and stabilized.



Aerial view of the TCL site in 1996. In the southeast corner is the Toyota parcel. In the west side of the picture, remediation of the TCL study area is underway.



The Hanjin Shipping Company opened its terminal in December 1997. Encompassing 171 acres, the terminal is the largest in the Port of Long Beach and the second largest in North America. The Wharf area is capable of working three large vessels simultaneously with technologically advanced platform racks to service large numbers of containers at once.

Rather than transport the soil to an offsite hazardous waste disposal facility, which would have cost upwards of \$200 million, DTSC and others involved in the project were able to develop an innovative plan to clean the contaminated soil at the site for less than \$20 million. In addition, 2.7 million cubic yards of clean, imported soil was used to regrade the site and cover the treated soil in a way to ensure maximum long term environmental and public protection. Working around-the-clock, all remediation work and construction of the container terminal was completed in approximately two years.

The new terminal generates customs revenues and taxes of \$680 million annually, together with revenue to the Port of Long Beach of \$30 million annually. Hanjin Shipping is the second largest carrier in import and export container movement between Asia and the United States.

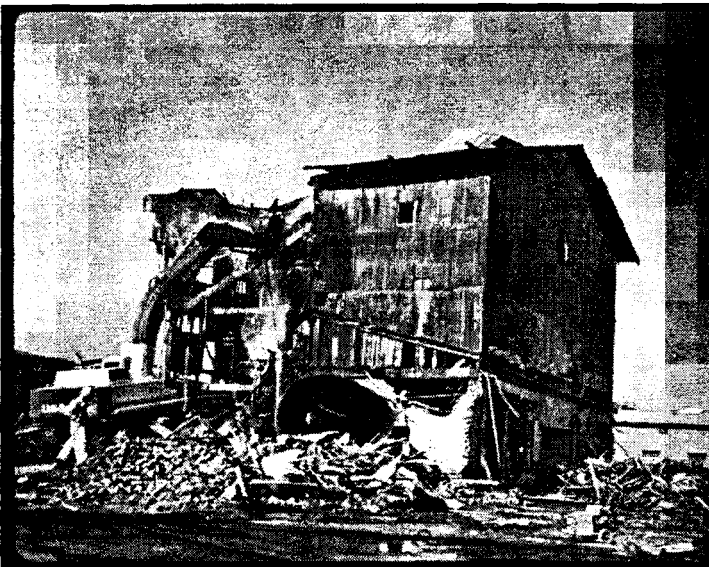
Franciscan Ceramics Site, Los Angeles

The former Franciscan Ceramics property is located in the Atwater village area of Los Angeles, near the communities of Glendale and Los Feliz.

The plant was used for more than 80 years to manufacture ceramics and pottery. Decades of manufacturing operations resulted in contamination from heavy metals, including lead, cadmium and zinc throughout the 45 acre site.

Work began on this Brownfields project in 1987, when DTSC entered into a consent order with the developers to investigate and remediate the site. As part of this cleanup effort, 120,000 tons of contaminated soil was excavated and disposed of offsite. An engineered "cap" was constructed over 10 acres of the site to contain additional subsurface contamination. Ten groundwater monitoring wells were installed onsite and sampling analyses continue to be performed yearly to ensure maximum environmental protection. This phase of the work was completed in 1990.

Five years later, a 25-acre portion of the property was developed into a major shopping area. During construction, several "hot spots" of remaining contamination were discovered, including the remains of several kilns with high lead levels. DTSC worked closely with the developers, local agencies and neighbors to expedite the cleanup of these hot spots.



One of many buildings demolished at the former Franciscan Ceramics facility. During the cleanup, several brick kilns were discovered which contained elevated levels of lead. All kiln areas were excavated to DTSC's cleanup levels.

Kaiser Steel Mill Site/California Speedway, Fontana

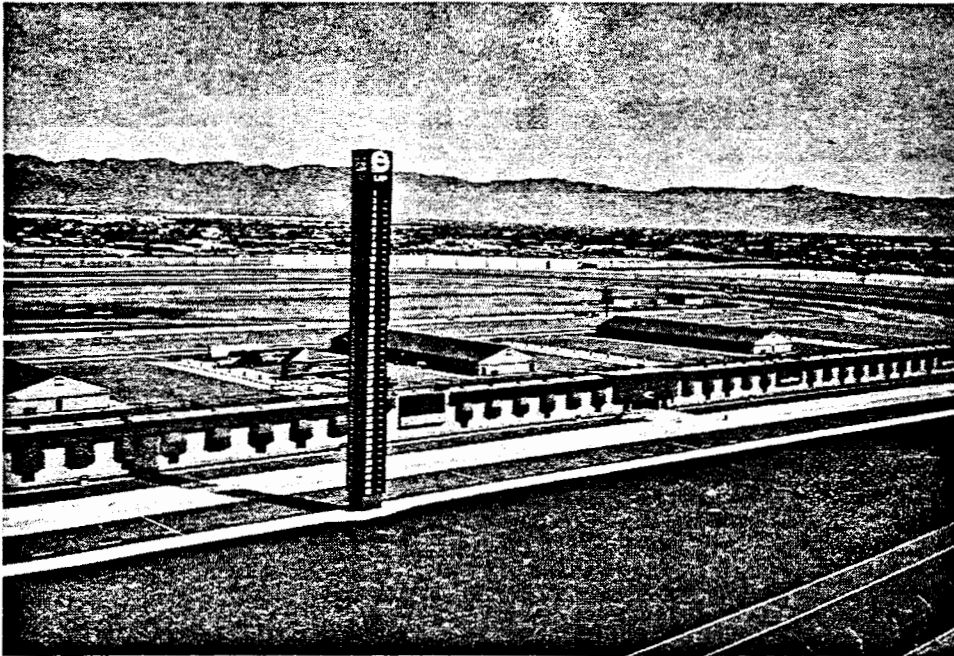
Another major Brownfields redevelopment success story is the 550 acre parcel of the former Kaiser Steel Mill, which was transformed from a former industrial Brownfields site into the world class California Speedway -- creating hundreds of new jobs, new tax revenues and providing environmental protection at the site.

The project is the result of a tremendous partnership between the public and private sectors, including DTSC. This partnership earned Kaiser Ventures Inc. The Governor's Award for Environmental and Economic Leadership in 1996. Additionally, California's Brownfields Initiative received national recognition from Renew America and from the National Awards Council for Environmental Sustainability for work at this site.



Before its redevelopment, the Kaiser Steel mill site, located 50 miles east of Los Angeles was an industrial wasteland littered with thousands of tires and idled blast furnaces.

Kaiser Steel owned and operated a large steel production facility at this site from 1942 to 1983. The Speedway now sits on the part of the site where coal was turned into coke by burning it in high-temperature furnaces. The gases from these furnaces were trapped and recovered as by-products such as coal tar and other petroleum type products. As was often the case in those days, environmental protection was not the first and foremost consideration in industrial operations and as a result, tons of hazardous materials were produced and left behind for future cleanup.



The California Speedway; built at a cost of \$110 million, is the largest sports venue in Southern California. It is owned by Penske Motorsports, Inc. and hosts the NASCAR Winston Cup California 500 in addition to other motor-sporting events.

Once Kaiser had reached preliminary agreement with Penske Motorsports for the project, they approached DTSC to help expedite the cleanup of the site so development could proceed as quickly as possible.

DTSC committed the resources and staff to expedite review of the cleanup plans and work activities. Within five months, the site was characterized, hazardous waste removed, an environmental cap constructed and the land was ready for reuse - - record time for a site of this size and complexity. The Inaugural Race of the California Speedway was held June 22, 1997. An estimated 100,000 people attended the sold-out event.

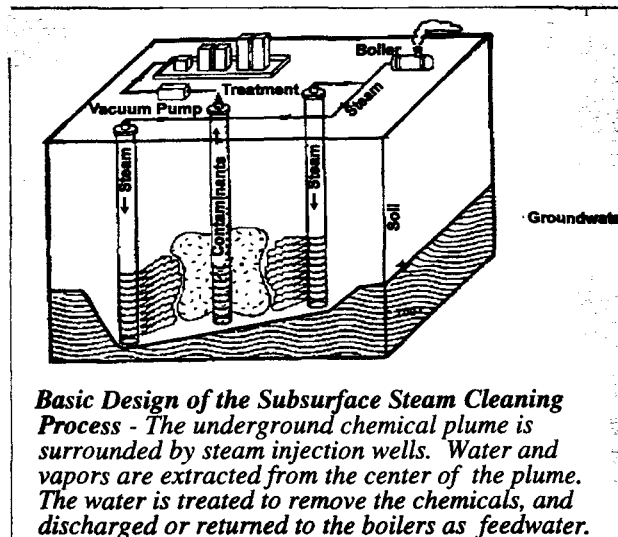
DTSC and Kaiser are continuing their partnership to remediate and redevelop property at the Kaiser Steel Mill. Recent successes include the remediation of a 23 acre parcel and development of this parcel into the West Valley Material Recycling Facility.

- **The California Speedway generates \$125 million in new economic activity annually and \$2.5 million in new tax revenue for the State of California and the County of San Bernardino.**
- **Approximately 1,200 new jobs were created in the Inland Empire as a result of this project.**

Southern California Edison Pole Yard Facility, Visalia

Innovative hazardous waste cleanup technologies are creating new opportunities for Brownfields redevelopment. One such example of these emerging technologies is being used at the Southern California Edison's Pole Yard facility in Visalia.

From the 1920's until 1980, the facility was used to treat wooden power poles with preservative chemicals. Leaks and spills over the years resulted in significant contamination. The site was put on the State Superfund List in 1985.



Basic Design of the Subsurface Steam Cleaning Process - The underground chemical plume is surrounded by steam injection wells. Water and vapors are extracted from the center of the plume. The water is treated to remove the chemicals, and discharged or returned to the boilers as feedwater.

Operation of a traditional pump-and-treat system to clean the site would have cost approximately \$1 million annually and taken over 100 years.

Instead, Southern California Edison took an innovative approach. Working with University of California and Lawrence Livermore National Lab, Edison developed a steam injection and vapor extraction system which removes contaminants from subsurface soil and groundwater that cannot be practically removed by conventional means. In 1997, operation of the new technology began with dramatic results:

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| Before Implementation of the System = | Less than one gallon of pole treating chemicals extracted <u>per month</u> |
| After Implementation of the System = | Up to 500 gallons of pole treating chemicals extracted <u>per day</u> |

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