United States Environmental Protection Agency
Enforcement and Compliance Assurance (2201A)
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EPA

Superfund At Work

Hazardous Waste Cleanup Efforts Nationwide

Operating Industries, Inc. Landfill Site Profile

Site Description: Municipal and hazardous waste landfill

Site Size: 190 acres

Primary Contaminants: Volatile organic compounds (VOCs), heavy metals

Potential Range of Health Effects: Central nervous system disorders and increased risk of cancer

Nearby Population Affected: 35,000 people within one mile

Year Listed on NPL: 1986

State: California

EPA Region: 9

Congressional District: 31 and 34

Success in Brief

Largest Private Party Settlement Achieved in Southern California

The U.S. Environmental Protection Agency (EPA) has been managing a hazardous waste cleanup program dubbed "Superfund" for the last 15 years. Divided regionally, EPA has been enormously successful in the western states of Arizona, California, Hawaii, Nevada, and the Pacific Islands. Effective enforcement has obtained private party funding for almost 90% of all Superfund sites. Under the law, owners and operators of hazardous waste sites, and generators and transporters of the wastes must either conduct site cleanup or pay for state or federal agencies to do the job. Powerful joint and several liability provisions ensure that potentially responsible parties can be sued together or individually for 100% of cleanup costs. Such provisions give EPA a great deal of leverage with violators and have hastened cleanup actions nationwide.

Nowhere has EPA been as successful in leveraging private resources than at Operating Industries, Inc. (OII) in Monterey Park, California. In 1991, EPA filed the largest private party settlement ever reached for a single site, valued at more than $130 million. Combined with three other OII settlements, more than $248 million in state and federal costs have been recovered. The four separate consent decrees avoided the litigation path and mobilized resources for cleanup.

Small, metal "summa canisters," each about the size of a basketball, were placed in houses for 24 hours and then removed for laboratory testing. *(See page 4.)*

The Site Today

A state-of-the-art leachate treatment plant is in operation, and design of the new thermal destruction facility is underway. Construction continues on the long-term protective cover and surface water management system. The final remedy, to be selected in 1997, will require 30 years of maintenance.

A Site Snapshot

The OII Landfill site is located 10 miles east of downtown Los Angeles in Monterey Park, California. The area around the landfill is heavily developed with a mix of commercial, industrial, and residential neighborhoods. The Pomona Freeway divides the 190-acre site into two parcels (see map on page 6).

Once a quarry pit carved out of the Montebello Hills, the site converted to landfilling operations in 1948. Operating Industries, Inc. purchased the property in 1951 and accepted municipal garbage, commercial rubbish, industrial solvents, and hazardous wastes. When closed in 1984, state officials estimated the volume at **38 million cubic yards** of solid waste and **more than 300 million gallons** of liquid industrial wastes. Some areas are 325 feet thick and slope at a 45-degree angle.

Approximately 35,000 people live within a one-mile radius of the site, and many homes directly abut the property. Methane, a landfill gas produced when refuse decomposes, is a serious problem because of the explosion and fire potential. Seasonal precipitation percolates through the waste, forming leachate and threatening the integrity of the slopes. This toxic leachate contains volatile organic compounds (VOCs) including vinyl chloride, trichloroethylene, benzene, and toluene that have made their way into the ground water at the site.

A mountain of garbage towers exceptionally close to homes. Trees at the leading edge serve as a green belt in Iguala Park, a buffer zone between the landfill and the neighborhood.

3,800 Companies Dump Toxic Wastes on the Doorstep of the City of Angels

Prior to World War II, Los Angeles was surrounded by rolling valleys and deep canyons where orchards and coyotes outnumbered automobiles. When a local company began landfilling in the old Montebello quarry, mixing household trash with hazardous waste was a common disposal practice. Municipal sprawl allowed the construction of houses and businesses adjacent to the ever-growing landfill that eventually would tower 200 feet above the freeway.

Determination Pays Off

A group of neighbors in Montebello and Monterey Park had watched trucks of all descriptions lumber into the community, dumping their hazardous cargo on a daily basis. Changing demographics over the 35-year period brought a multi-lingual population that eventually shared a common goal: shutting down the landfill.

Communities all over the country with similar experiences brought public pressure to Capitol Hill. The 1970s witnessed a flurry of hazardous waste regulation writing, but by then thousands of problem industrial sites existed. In 1980, Congress thought we could solve our toxic waste problems in a few years with a few billion dollars. Passage of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) set ambitious goals for the newly established Superfund program. No one could guess at the extent of contamination in the ground water and soil after removal of conspicuous drums and barrels. Indeed, treatment technologies hadn't been invented; once developed, some technologies would have to operate 20 or 30 years to clean up these sites.

EPA Takes Early Action

In January 1984, the state placed the OII Landfill on the California Hazardous Waste Priority List. Two years later, EPA put the site on the National Priorities List (NPL), a roster of hazardous waste sites requiring federal intervention. Within a few months, field investigators launched a series of studies to explore the extent of contamination off site and to assess existing environmental controls at the landfill. Using CERCLA removal authority, EPA rehabilitated the main gas flare station, undertook efforts to stabilize the slopes of the landfill, and improved erosion control, surface runoff, and drainage systems.

With homes built so close to the landfill, community relations efforts began before EPA listed the site on the NPL. The continuous process of educating, informing, and listening to the people in the community took a great deal of dedication. Public meetings and comment periods brought a deluge of responses and took EPA into both kitchens and conference rooms.

Site Control and Monitoring

To manage the diverse list of problems all demanding attention at once, EPA divided the cleanup into categories called *operable units*. The first category, Site Control and Monitoring, includes a variety of daily site activities required to maintain the landfill and environmental controls. In 1988, EPA began negotiations with a group of hazardous waste generators. In May 1989, the group agreed to conduct the daily operations in a consent decree valued at $66 million.

Following closure, EPA supervised the placement of a soil cover on the landfill to control exposure from wind and rain. Workers installed an underground piping network to capture and flare methane and other landfill gases and later installed new recovery wells and monitoring probes to capture a greater volume. Repairs to piping and access roads, soil cover maintenance, and improvements to the site irrigation system are but a few "routine operations" that EPA supervises.

Leachate Treatment

Toxic liquid forms when liquid industrial wastes mix with rain and water. Parties to the

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Companies Dump Toxic Wastes

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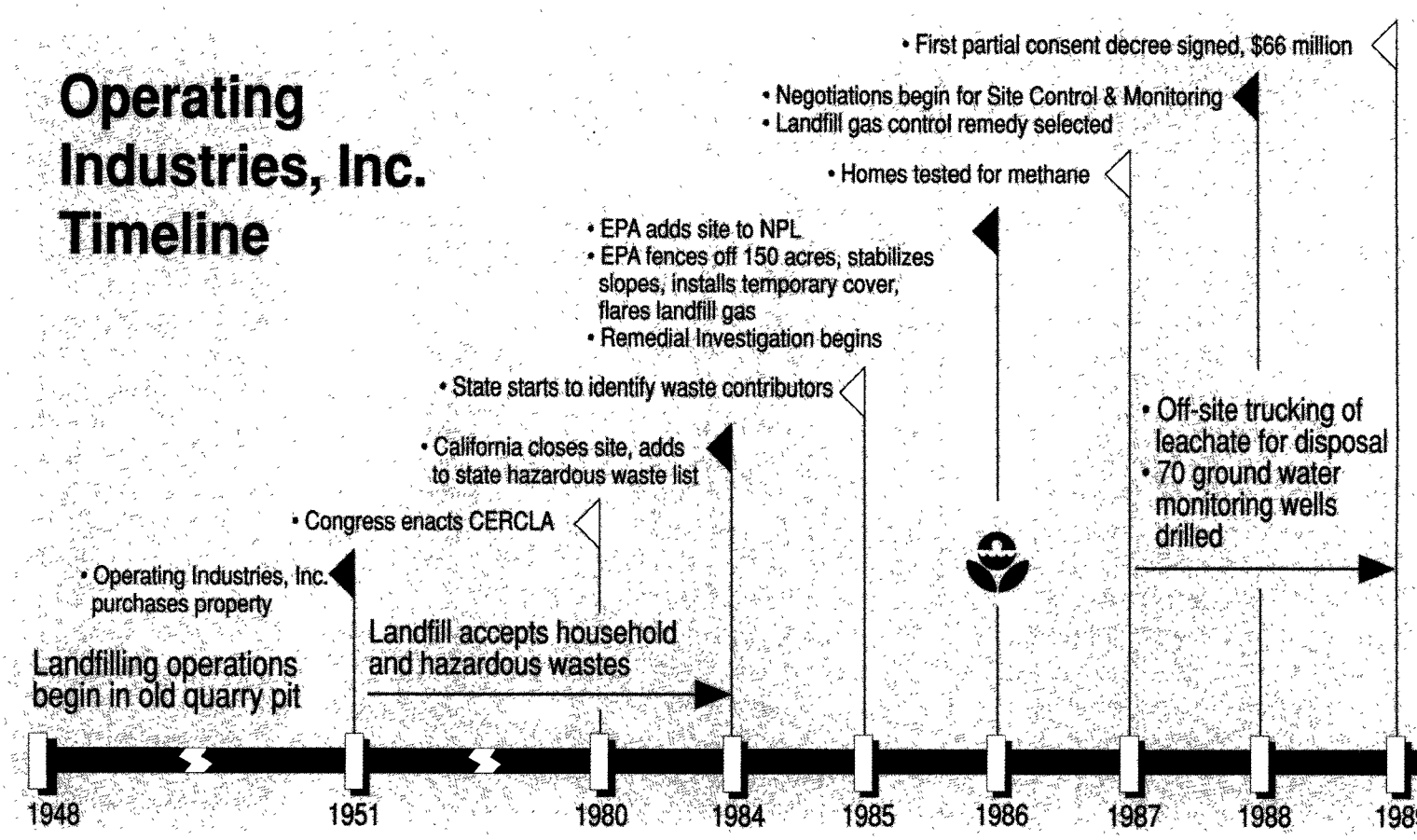
1989 consent decree agreed to construct an on-site treatment plant for leachate, the second operable unit. Before construction of the plant was completed, 12 million gallons of leachate were collected and stored in temporary tanks and then transported off site for treatment and disposal. Meanwhile, EPA and the state signed a second partial consent decree in September 1991, adding $9 million from additional waste contributors.

The group of companies that had signed the consent decrees with EPA and the state formed a corporation named CURE, Inc. (Coalition Undertaking Remedial Efforts). In August 1994, the County Sanitation Districts of Los Angeles issued a permit to begin leachate treatment operations at the new OII plant. Since September 1994, CURE has been collecting 4,200 gallons of leachate per day from wells and other collection systems installed in the landfill. Following a series of treatments, a certified laboratory staffed by two chemists tests each batch of effluent before discharge into county sewer systems.

Landfill Gas Control and Landfill Cover

EPA selected the remedy for gas control in 1988, amending the plan in 1990 to include the long-term landfill cover and surface water management. In March 1992, EPA reached a third settlement with 178 parties to construct the landfill cover and gas control system to control both surface and below ground emissions. The group formed a second corporation named New CURE, Inc.

Over the ensuing years, studies showed that in addition to methane the gas contained hazardous substances; EPA was most concerned about vinyl chloride, a potential carcinogen. From November 1992 through July 1993, technicians collected 660 samples inside 197 homes using summa cannisters. Results showed only 4% of homes



with elevated vinyl chloride or methane levels. Temporary gas control systems were installed in each of these homes. EPA continues to monitor homes for landfill gas on a regular basis.

During 1993, New CURE, Inc. installed over two miles of new pipelines to more efficiently collect the landfill gas. Past improvements were located primarily on the landfill property; portions of the new construction reached to city streets in Montebello along the southern and western borders. In addition, engineers designed and built new sections of the pipe system on the surface of the landfill and made improvements to the flares.

EPA recently completed an evaluation of candidate locations for the new thermal destruction facility that will be built at the OII site. The facility will be used to treat or destroy the landfill gas produced at the site and will replace the old flares currently being used. This facility may also be used to recover energy from the landfill gas.

While cooperative efforts continued on various systems, EPA's enforcement team tried to convince three companies to participate in the cleanup. Textile Rubber and Chemical Company, Gemini Industries, Inc., and Hoechst Celanese Corporation collectively disposed of over one million gallons of hazardous waste but refused to settle. In November 1993, EPA ordered these three companies to participate and informed 50 other parties of their potential liability at the site.

In the meantime, New CURE, Inc. spent an entire year trucking in clean clay for preparation of the comprehensive landfill cover. Construction activities will continue into 1996 and are scheduled for completion by 1999. The cover will keep water and oxygen out, prevent erosion, and ensure slope stability during settlement or seismic events such as earthquakes. The cover also will

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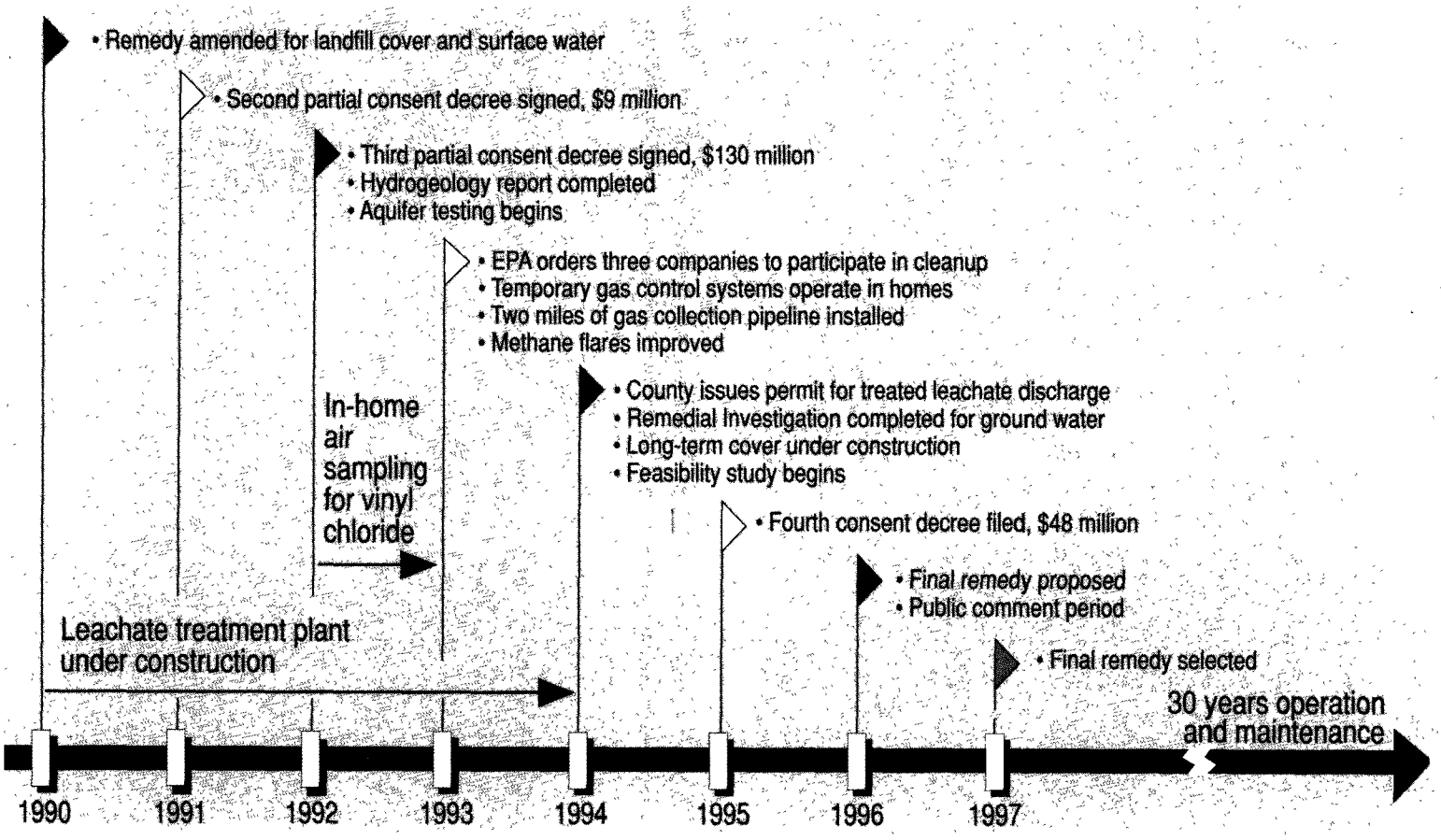
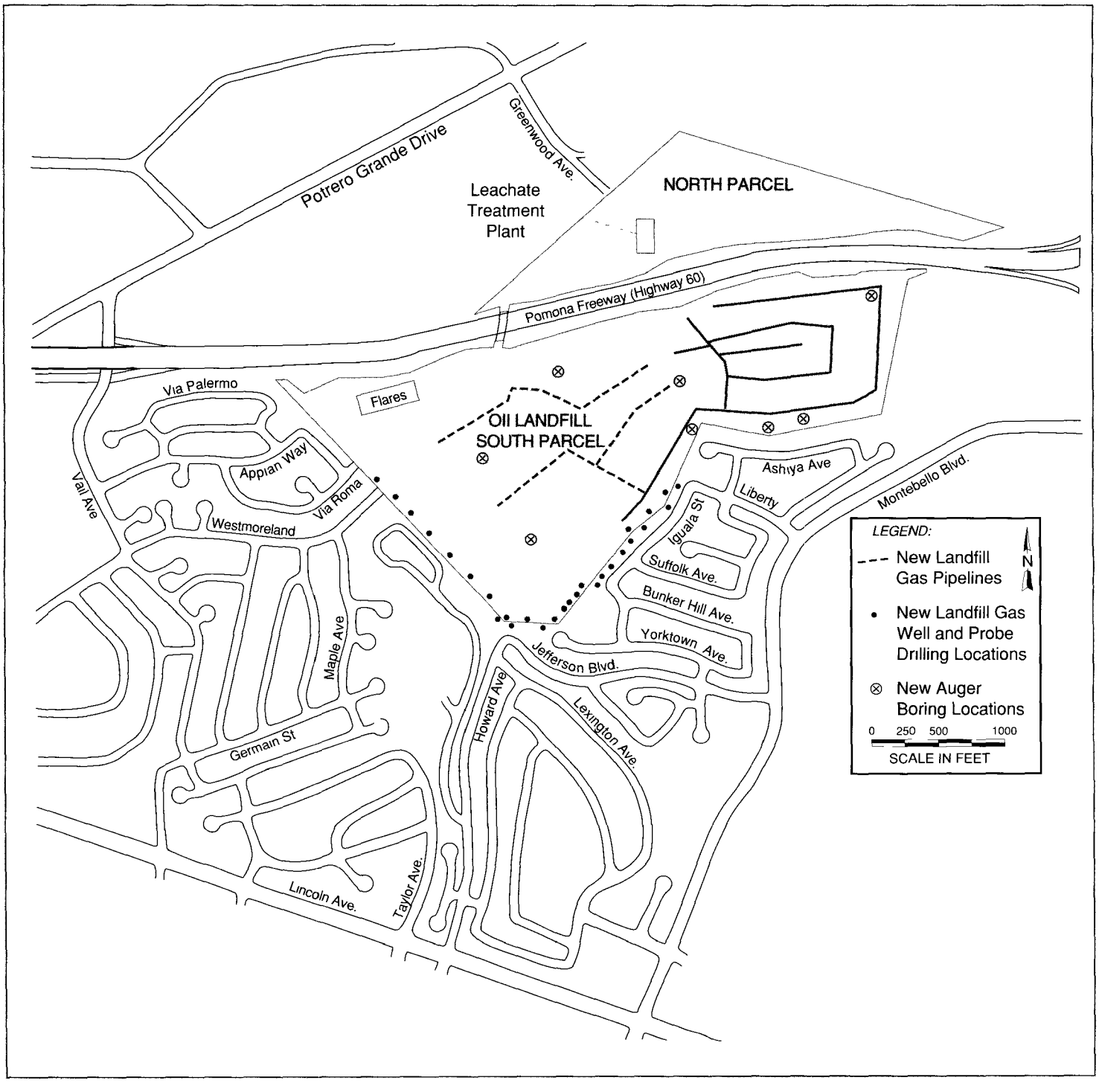


Operating Industries, Inc. Landfill Site



Companies Dump Toxic Wastes

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enhance overall effectiveness of the gas control system and improve the appearance of the site. Additional landscaping for the buffer zone in Iguala Park is part of this effort and includes trees and shrubs to reduce noise and dust.

Final Remedy and Ground Water Treatment

As part of the ongoing remedial investigation started in 1986, EPA needed to determine the extent of ground water contamination. Fortunately, the migration of contaminants had not progressed much beyond the site boundary. Samples from more than 70 monitoring wells formed the basis of the first hydrogeology report completed in 1992. Additional wells were drilled along the southern edge to test the aquifer, some in the Iguala Park area. Engineers continue to take regular samples from the monitoring wells. Unaffected by the landfill, homes and businesses receive drinking water from municipal water companies delivered in closed pipeline systems.

Completion of this overall investigation in October 1994 set the stage for the Feasibility Study underway that will compare different alternatives for final closure of the landfill. These options include remedies for ground water, long-term operation and maintenance of all site systems, and incorporation of previous EPA decisions on leachate treatment, landfill gas control, and the comprehensive landfill cover.

When the Feasibility Study is done, EPA will present the options for the final remedy in a Proposed Plan scheduled for spring 1996. EPA will hold a public meeting and open a comment period at that time. Following the evaluation of public comments, EPA will select the final remedy for the site.

Community Participates in Site Activities

The success of EPA's enforcement and cleanup efforts has hinged to a great extent on the attitudes and involvement of dedicated homeowners. Committed to ensuring their

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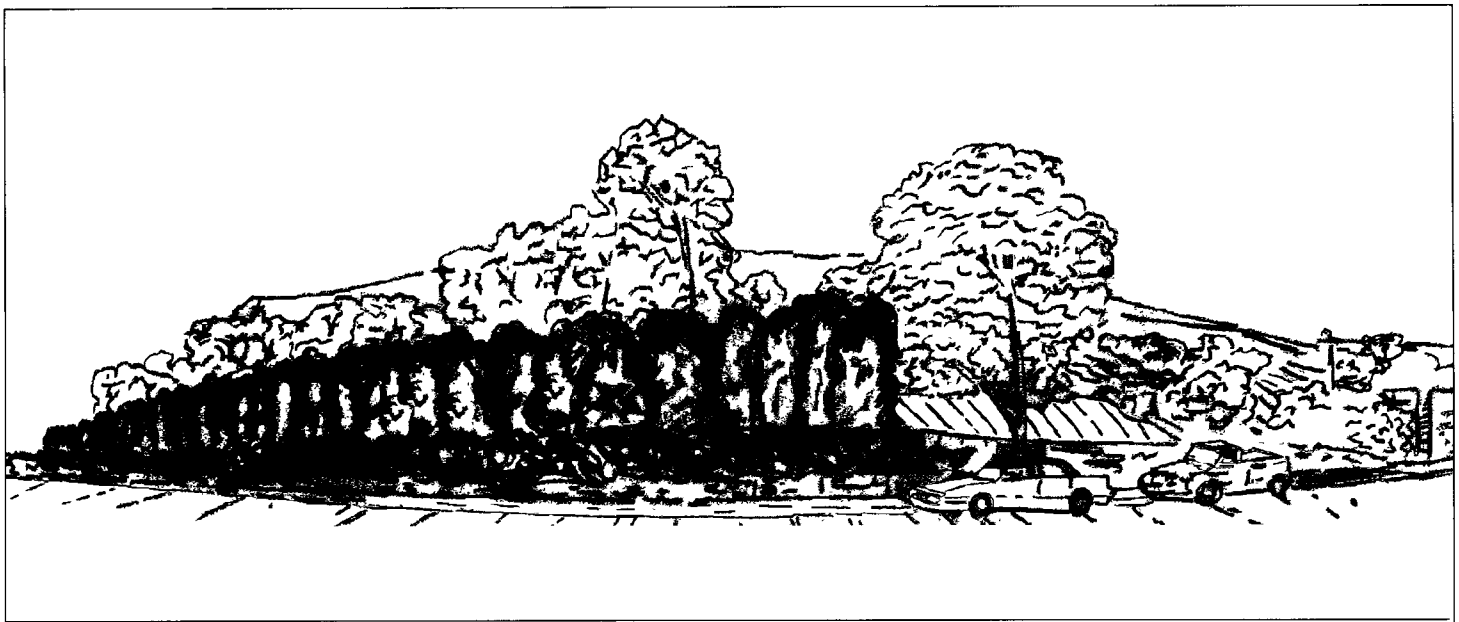

Proposed changes for Iguala Park will provide a more effective "buffer zone" between the landfill and the neighborhood. Trees and shrubs will create a pleasant visual screen, and also may help reduce noise and dust problems.

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own health, local residents have patiently endured the dirt and noise of trucks plying the streets of their neighborhood, drilling rigs in their back yards, and in-home air sampling devices.

This community serves as a powerful reminder that no population should be forced to shoulder a disproportionate burden of exposure to environmental pollution.

Success at Operating Industries, Inc. Landfill Site

Residents in Montebello and Monterey Park have witnessed major change over the last 10 years, due to continuous EPA involvement at this mammoth Superfund site. Early emergency actions included improvements to the landfill control systems, construction of slope stability measures, and installation of effective landfill gas control systems at nearby residences. Major elements of the cleanup, such as construction of the on-site leachate treatment plant, are complete. The gas control and surface water management systems have been designed and will soon be constructed. Daily maintenance of existing control and monitoring facilities continues under state and federal oversight.

EPA is preparing the Feasibility Study to tie together a ground water remedy with all the remedies previously selected and will provide for long-term operation and maintenance at the site. Meanwhile, aggressive and effective enforcement efforts seek to include potentially responsible parties in settlements for the interim remedial work and final site remedy.

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