United States
Environmental Protection
Agency

Enforcement and
Compliance Assurance
(2201A)

EPA 520-F-97-001
Spring 1997

EPA

Superfund At Work

Hazardous Waste Cleanup Efforts Nationwide

Dutchtown Oil Treatment Plant Site Profile

Site Description: An abandoned oil reclamation facility

Site Size: 21.5 acres; fenced area is 5 acres

Primary Contaminants: Benzene, volatile organic compounds, heavy metals

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

Ecological Concerns: Contamination of shallow ground water zone

Year Listed on the NPL: 1987

EPA Region: 6

State: Louisiana

Congressional District: 3

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Photo by Black and Veatch Waste Science and Technology Corp.

Ankle-deep in rain and muck, workers skim oil using a vacuum truck.

Success in Brief

Companies Remove Oily Wastes

Leaking tanks and unlined waste pits are common at many Superfund sites, and the Dutchtown Oil Treatment Plant had some of both. Built to process petrochemical wastes from barge, shipbuilding, and oil companies operating in the Mississippi River delta, the treatment plant was in business for over 12 years. The facility operators' usual way of processing materials was to pour everything together, heat the mix, extract the solids and water, and sell the results for low quality fuel. There was some seepage from the pits, and spills, overflows, and intentional drainage of the pits may have occurred.

The State of Louisiana closed the plant down and took immediate steps to prevent further environmental degradation, but the shallow ground water was already contaminated. Heeding the requests of local citizens, EPA formed a partnership with the Louisiana Department of Environmental Quality (LDEQ) to develop a plan for removing the wastes and excavating contaminated soil, thereby protecting the drinking water supply.

Using Superfund authority, EPA enlisted the cooperation of 22 companies which generated the waste to perform a seven million dollar removal action. Workers labored through torrential spring rains and the worst flooding in the state in almost two decades. In less than a year, the surface was completely clear and extensive ground water testing was underway: another Superfund site cleaned up to the community's satisfaction.

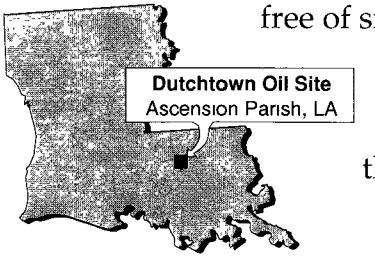
The Site Today

A grass covered, 24-inch-thick clay cap now covers the old waste pits and tank areas. Regular monitoring of the ground water ensures that the long term remedial program is working as expected.

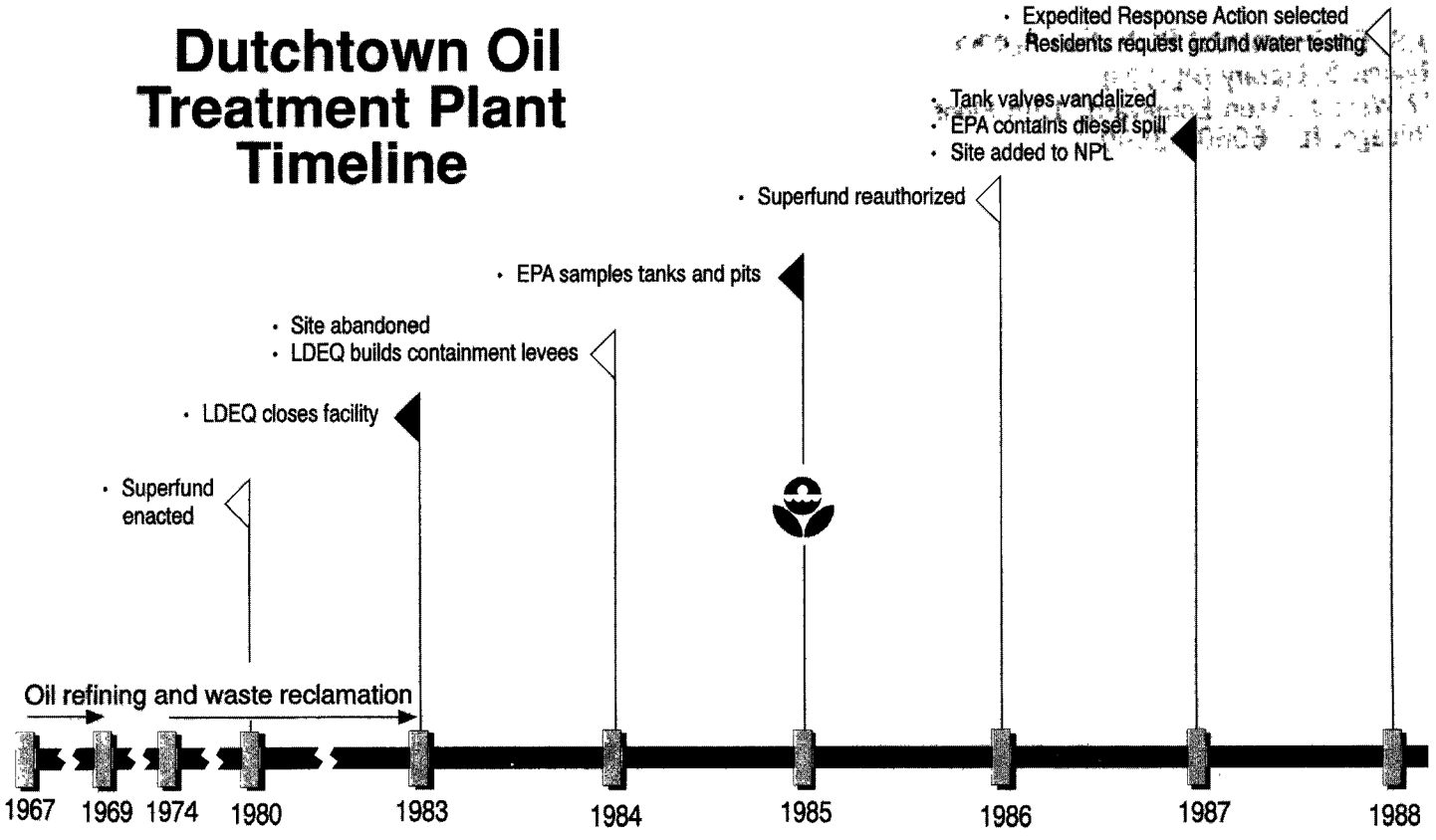
A Site Snapshot

The former oil reclamation facility was at the intersection of Interstate 10 and Highway 74 in Ascension Parish, Louisiana. The Dutchtown Oil Treatment Plant site is included in the Mississippi River floodplain and is drained by ditches that eventually flow into Grand Goudine Bayou. An elementary school, a trailer park, and other residential areas are located near the 21.5-acre site with the closest household about 165 feet from the former location of one of the small waste oil pits. At least 1,800 people obtain drinking water from wells within three miles of the site.

During the course of about 12 years, the treatment plant operators filled several unlined waste pits and 10 aboveground storage tanks with waste oil and oily sludge. One on-site pit was loaded with trash and contained hundreds of thousands of gallons of waste oil. Periodic flooding of the area may have caused the pits to overflow onto one neighbor's property and into the Interstate-10 ditch.



A shallow zone saturated with ground water is contaminated with volatile organic compounds (VOCs); the deeper water-bearing zone, at a depth of 30 feet, sampled free of site pollutants. The VOCs included benzene, styrene, and ethyl benzene. Although workers reported no adverse health effects while employed at the site, prolonged exposure and direct contact with high concentrations of VOCs may cause dizziness, nausea, and central nervous system disorders; exposure to reduced levels causes an increased risk of cancer. Many constituents of waste oil are slow to biodegrade and can remain in the environment for years.



Superfund Program Expedites Cleanup of Louisian

State Steps in After Owners Abandon Site

Various companies with operations in the Mississippi River delta recycled waste oil, solvents, and petrochemical waste at the Dutchtown facility from 1967 to 1969 and again from 1974 to 1983. During this period, Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. Thousands of improperly controlled or abandoned hazardous waste sites littered every state in the nation. This new law empowered EPA to identify and begin cleaning up these sites using a "Superfund" derived from exise taxes on chemical feedstocks and crude oil. The states each named four sites within their borders that needed remediation first; that roster became the National Priorities List (NPL). Many more have since been added on the basis of assessment and scoring.

The states each named four sites that needed remediation first

In August 1983, after the facility owners failed to apply for proper state permits, LDEQ ordered them to cease operations and begin cleaning up the site. In January 1984, the owners abandoned the site following the state's closure.

LDEQ subsequently took emergency measures to prevent unauthorized access and to prevent migration of contaminants, including construction of secondary earthen levees around the waste pits to prevent the waste from spreading whenever rains caused the waste oil lagoon to overflow. In July 1985, an EPA team inventoried the tanks and sampled the holding pond and waste oil pits the following January.

Then in March 1987, EPA used emergency authority to contain a diesel fuel spill caused by vandalized storage tank

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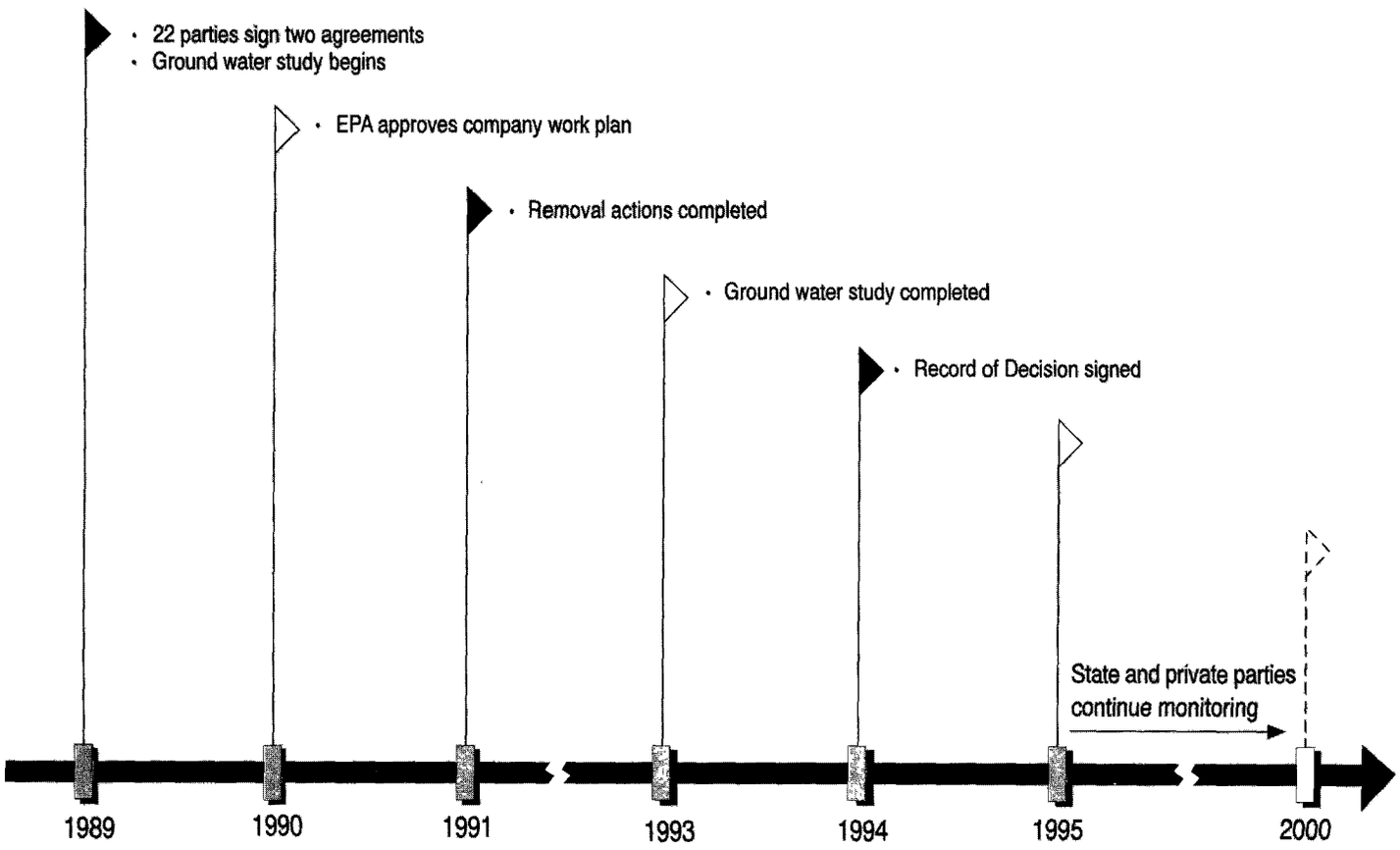

Facility

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valves. Additional sampling of the ten other tanks was completed at that time; EPA added Dutchtown to the NPL in July.

Public Focus on Immediate Hazards

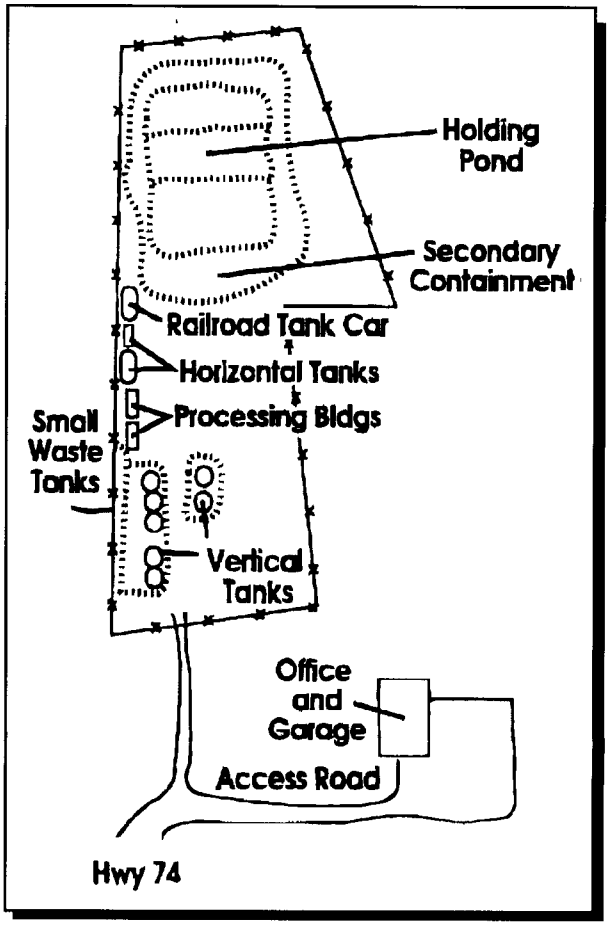
Once immediate dangers are past, EPA's first step in the long-term cleanup process is to assess the nature and extent of contamination at the site. On the basis of this investigation, EPA identifies a number of potential cleanup methods, invites the public to discuss and comment on various alternatives, and selects a remedy. EPA also identifies the parties who owned and operated the site or who generated or transported hazardous wastes and negotiates with them to conduct the cleanup.

Because local residents expressed concern about potential ground water contamination, EPA chose to conduct an "expedited response action" to address immediate site hazards. Site managers held a 30-day public comment period in February, 1988 and in March, held a public meeting at the Dutchtown Primary School to solicit local opinions on proposed technical plans. EPA selected excavation and incineration of oily sludge from the storage tanks and waste pits at an approved, off-site facility. The remedial action included treating and safely discharging more than 3.4 million gallons of contaminated waste water from the pits and placing a new fence around the site.

Enforcement and Perseverance Pay Off

Throughout the summer of 1988, the U.S. Army Corps of Engineers (USACE) drew blueprints for the cleanup while EPA pursued companies legally responsible for the site remediation. In the fall of 1989, 22 companies which had contributed materials to the site signed two settlement documents.

Under an administrative order on consent, the 22 companies began a comprehensive site study to determine the extent of contamination and to propose remedial alternatives. Under terms of a consent decree, the same 22 parties agreed to develop a plan and perform the expedited cleanup. They further agreed to reimburse EPA and the State for past and future oversight costs. The total value of this settlement was approximately $7.5 million. In May 1990, a federal court judge approved the consent decree and in June, the parties submitted a draft work plan to EPA.



Cleanup Crews Battle Heavy Rains

In November 1990, workers began setting up equipment and trailers and in January 1991, started excavating waste oil, sludge, and tainted soil from on-site pits.

That spring, torrential rains caused serious flooding along the Amite River as well as the entire Mississippi River delta. Almost continuous storm systems produced the wettest April on record for the state since 1973. While the oil and sludge extraction was underway, ground water levels in the

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Photo by Black and Veatch Waste Science and Technology Corp.

Workers remove styrene tar from the waste pits.

shallow zone rose significantly. Engineers installed a French drain to recover nearly 76,000 gallons of contaminated ground water. Cleanup crews were able to separate the oil and subsequently stored, treated, and re-injected the ground water off site. In total, workers removed and incinerated almost 450,000 gallons of oil and oily sludge.

Following the initial removal, 4,400 cubic yards of contaminated soil remained for disposal, far more than originally estimated. Rather than incinerate the contaminated soil, EPA approved an innovative and more economical technology known as "soil washing" which agitated and rinsed the contaminants with very hot water and dried the mud slurry.

Crews then mixed the "washed" soil with fly ash (kiln dust) and used this stabilized soil as backfill for the on-site pits. The former pit areas were then covered with a two-foot layer of clay and planted with native grasses. Workers also removed and recycled old storage tanks and debris and covered the former tank area with an 18-inch clay cover.

Throughout the removal process, 3.4 million gallons of water were discharged from the site. This amount included water from the soil washing process, treated stormwater, and from emptied ponds and pits. At one time, eighteen tanks were located on-site to store treated water while it was tested for discharge requirements and deemed safe to release. The water was treated with activated carbon, and more than 2.4 million gallons were processed and discharged to surface waters.

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Comprehensive Site Study Completed

Under agreement with EPA, cooperating parties conducted a comprehensive study to determine the extent of ground water contamination in 1989. Although ground water contamination had been detected off site in the shallow zone, residential wells at 200 to 500 feet were sampled by EPA and found to be unaffected by the site. That study was completed in May 1993. EPA issued the Record of Decision (ROD) in June, 1994 which included natural attenuation of ground water with a contingency for extraction and treatment if any contamination was detected. Currently, the parties are sampling 22 monitor wells.

Community Group Wins Technical Assistance Grant

EPA obtained community support by holding public meetings and asking for citizens to participate in the selection of remedy. Public input motivated EPA to expedite the removal of obvious wastes from the site.

In May 1992, the Ascension Superfund Koalition (ASK) received a $50,000 Technical Assistance Grant (TAG) from EPA. The TAG allowed ASK to hire a technical advisor to review EPA documents and instruct residents on the results of the excavation, the site study, and future plans for the site.

Success at Dutchtown Oil

EPA, the State of Louisiana, and private parties worked together to remove almost half a million gallons of hazardous oil and sludge and used "soil washing" to treat contaminants from on-site ponds and pits. Storage tanks and plant equipment also were dismantled, and millions of gallons of water were treated and discharged during some of the heaviest spring rains in 20 years. These major efforts were completed because the Superfund program is fair and flexible. Bringing a site that was ecologically dead back to a condition where Mother Nature could purge, reseed, and start anew was the end result.

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