

 Agency for Toxic Substances & Disease Registry Public Health Assessments & Health Consultations

PRELIMINARY PUBLIC HEALTH ASSESSMENT

AMERICAN CREOSOTE WORKS, INCORPORATED
(WINNFIELD PLANT)
WINNFIELD, WINN PARISH, LOUISIANA

SUMMARY

The 34.21-acre American Creosote site is a former wood treating facility located in the city of Winnfield, Winn Parish, Louisiana. Various owners have utilized the site since 1901 until operations ceased in 1985. Most recently, the American Creosote facility used creosote and pentachlorophenol to pressure treat telephone poles, railroad crossties, and lumber. Contaminants of concern include polycyclic aromatic hydrocarbons (PAHs), benzene, pentachlorophenol (PCP), and dioxin (2,3,7,8, TCDD). The site was placed on the Environmental Protection Agency's [National Priorities List \(NPL\)](#) in 1992.

The site is bordered by a small creek, Creosote Branch, on the north and east, Front Street on the west, and a residential access road to the south and east. Completed exposure to these chemicals on the site and at the Creosote branch probably have occurred via incidental ingestion and dermal contact with soil, sediment, surface water and inhalation of air. Records indicate children in the area have used the site as a ballfield and playground. Potential exposure may occur via ingestion and dermal contact with soil, sediment at Port du Luce, ingestion of biota at Creosote Branch and Port du Luce, and inhalation of fugitive dust, however, sampling data on biota, residential yards, and fugitive dust have not been collected. The population at highest risk of exposure are residents particularly children who live adjacent to American Creosote and play at the banks of Creosote Branch, residents trespassing the site or living at the site border, and residents involved in recreational activities at the Creosote branch and Port du Luce.

Currently groundwater represents no health threat because no public wells are installed in the contaminated shallow aquifer, i.e., 5 to 30 feet deep. Potential exposure to contaminated groundwater would be possible if contamination does migrate off the site and residential wells were installed within the contaminated area or if the shallow aquifer is used as a source of potable water.

Citizens have raised several questions and comments related to health effects from exposure to site related contaminants. Concerns were expressed regarding the safety of the municipal water supply, the potential for carcinogenic and neurological effects from exposure to site contaminants, and concern over eating fish and game.

The Agency for Toxic Substances and Disease Registry's Health Activities Recommendation Panel and Louisiana's Office of Public Health, Section of Environmental Epidemiology (SEE) have evaluated the American Creosote public health assessment for appropriate follow up health actions. It was determined that a health professions education

program and a community health education should be conducted to inform area residents and health practitioners about the nature of the site and potential health effects resulting from exposure to contaminants. Because there are indications that people have been exposed to site contaminants and because of area residents' concerns of possible site-related cancers, a health statistics review should be conducted on cancer data and any other available health outcome data. The site should be considered for inclusion in a multi-site study of health effects and wood treating facilities.

BACKGROUND

A. Site Description and History

The 34.21-acre American Creosote site is a former wood treating facility less than one-half mile from the city of Winnfield, Winn Parish, Louisiana (Figure 1.1). The site is bordered by Creosote Branch (a small creek with banks 10 to 12 feet high) on the north and east, Front Street on the west, and a residential access road to the south and east. Since 1901, the site was operated by various owners and finally obtained by Stallworth Timber Company in 1979. The facility was abandoned by Stallworth Timber Company in 1985. In March, 1987, Louisiana Department of Environmental Quality (LDEQ) referred this site to U.S. Environmental Protection Agency (EPA) for studies to evaluate the nature and extent of contamination. The site was placed on the National Priorities List (NPL) in 1992.

A site investigation was initiated by EPA's Emergency Response Branch on March 19, 1987. In 1988, EPA ordered the Stallworth Timber Company to fence the site and remove chemicals from the on-site laboratory, and the company complied. EPA Region 6 performed a Removal Action in March and July of 1988 to prevent oils and sludges seeping out of the storage tanks from flowing through the site drainage ditches into Creosote Branch. In 1989, EPA issued an Administrative Order directing the company to address the imminent threats posed by the site. Stallworth declined to comply with the Order necessitating EPA action. EPA conducted an emergency removal action to temporarily stabilize the site from April 1989 until August 1989.

During active operation, the American Creosote facility used pressure treatment with creosote and pentachlorophenol in the manufacture of telephone poles, railroad crossties, and treated lumber. Untreated timber was debarked and staged on the south side of the site, railed into pressure vessels for treatment, and then to layout yards on the north side for drying and shipment. Prior to the 1989 removal action by EPA, the American Creosote site consisted of the following: 1) fifteen large storage tanks, 2) three large and six small pressure treating units (cookers), 3) three office maintenance sheds, 4) a tool and dye shop, 5) a gasoline pump with underground storage tanks, 6) five monitoring wells, 7) a small chemical laboratory west of the plant area near Front Street and the site access road, 8) a sludge pit, 9) a lagoon that has been backfilled with wood chips, and 10) a pond on the northeastern portion of the site. Historical aerial photographs indicate that additional lagoons were present during the 1950's in an area east of the process area. A swampy area, covering approximately 5 acres, extends eastward from the backfilled lagoon area along a small drainage course that flows into Creosote Branch. Historically, according to Department of Environmental Quality (DEQ) reports, the swampy area has been covered by a few inches to about one foot of tar-like material.

Hazardous substances, including various polycyclic aromatic hydrocarbons (PAHs), dioxins, benzene, and pentachlorophenol, were found in site soils, liquids, and sludges in the

plant area, the sludge lagoon, site drainage courses, and Creosote Branch. The shallow aquifer (5 to 30 feet deep) underlying the site was found to be contaminated with PAHs, benzene and phenols. Wells screened at 5 to 20 feet were reported to contain one foot of floating creosote and several inches of floating oils.

Two drainage ditches originate on the site near the plant area and a third traverses the site from south to north. From west to east the depths of the ditches are 1-2 feet, 3-5 feet, and 8-12 feet. Pools of black, tar-like material can be observed in the banks of the drainage ditches. Rainfall runoff washes this material from the ditches to Creosote Branch which continues on for about two miles to the confluence with Port de Luce Creek, which flows for another three miles to the southeast, then joins Cedar Creek before emptying into the Dugdemonna River. This river is one of the larger waterways in the Winnfield area and ultimately drains into the Little River in the southeastern section of Winn Parish. The State of Louisiana Stream Control Commission began investigations at the American Creosote facility in 1966, citing high levels of phenols and a high biological demand (BOD) in plant discharges, and identified phenol and creosote releases into Creosote Branch.

B. Site Visit

Ms. Diane Dugas, Dr. Lina Balluz, and Mr. Jeffery Purvis from the Louisiana Department of Health and Hospitals, Office of Public Health, Section of Environmental Epidemiology (SEE) and the American Creosote primary investigator from the Louisiana Department of Environmental Quality (DEQ), visited the site area on May 15, 1992. The following observations were all made on the site:

1. The site is fenced. There were signs "Hazardous Waste" signs at different locations around the fence. The gate was locked without a sign on it. A young child could enter around the gate onto the site.
2. The site is bounded on two sides by Creosote Branch, which is a perennial creek that flows through the western and northern part of the site. An oily sheen was observed on the creek.
3. Black material and an oily sheen were observed leaking from the site edges into Creosote Branch, the DEQ representative mentioned it was creosote.
4. Oily sheens and creosote were observed in the ditches on the site.
5. The on-site surface soil had spots of creosote and a bad smell could be detected during the few hours that were spent on the site.
6. The site has no vegetative cover, however the surrounding property does.
7. We observed one rusty pressure vessel with a "Hazardous Waste Inside" sign and several drums marked "Potential Hazardous Waste".
8. The DEQ representative mentioned that there are gas storage tanks underground.
9. Five monitoring wells were observed.
10. Deer prints were observed.
11. Although it was reported that the site was used by the children in the area as a ball field and playground, no evidence of this was seen.

The site was visited again in conjunction with a January 13, 1993 public meeting held by the SEE. No significant additional observations were noted from previous visits.

C. Demographics, Land Use, and Natural Resource Use

Demographics

The American Creosote site is within the corporate limits of Winnfield in Winn Parish, total 1990 population 17,606. The racial breakdown of the parish is: white - 69.7%, black - 28.5%, and other races - 0.8%. There are two communities near the site, the city of Winnfield, where the American Creosote site is located and the city of Joyce, approximately 2 miles from the site. According to local public health unit staff, the approximately 2,300 persons within a one mile radius of the site live in low income housing.

Residential neighborhoods are present in all directions from the site. Winnfield has a population of approximately 7,000 residents. Numerous businesses and private residences are within the city limits, which cover approximately two square miles. Joyce has approximately 180 residences and a population of 600 residents. A housing development lies to the south of the American Creosote site along McLeod and Watts Streets. The closest residence is 200 feet from the site. Most of the residences use the Winnfield Water System as their source of potable water.

Within an approximately 2 mile radius of the site are the schools of 1) Winnfield Primary School with 520 enrolled students and 70 employees, 2) Winnfield Intermediate School with 350 enrolled students and 39 employees, 3) Winnfield Kindergarten Annex with 100 enrolled students and 20 employees, and 4) Huey P. Long Memorial Trade School with 120 enrolled students and 19 employees. There are 7 churches within approximately a 2 mile radius from the site.

Land Use

Outside the Winnfield city limits, the area is primarily rural with very few residences. This land is predominantly forests and cypress swamps with intermittent agricultural production. Limited farming occurs near the site. The forest lands in the area support recreational uses such as hunting, fishing, camping, and hiking.

Natural Resource Use

Impacted groundwater in the site area is in two shallow aquifers. A shallow (5-30 feet deep) aquifer and a lower aquifer at 55 to 65 feet deep. Groundwater from these aquifers are not used in the vicinity of the site as a drinking water source. The Municipal Water Supply for the area is drawn from the deep aquifer at depths from 480 to 600 feet.

According to Louisiana Department of Transportation and Development, 12 water wells are within a one mile radius of the site at depths ranging from 480 feet to 600 feet. Of these 12 wells, three are public water supply, three are abandoned public water supply, five are test wells, and one is an observation well.

Groundwater flow direction of the shallow aquifers is to the north towards Creosote Branch. Surface water uses in the vicinity of the site includes: swimming, water skiing, fishing, and wading.

According to the U.S. Soil Conservation Service, average annual rainfall in the area is about 50 inches. The heaviest rainfall is in April and May. Flood-producing rains may occur during any month of the year and average about 54 days per year.

D. Health Outcome Data

Office of Vital Statistics:

The Office of Vital Statistics has been officially collecting vital statistics in Louisiana since 1877 when the Louisiana Legislature transferred the Orleans Parish Vital Records Registry to the Louisiana Board of Health. The office is a participator in the national birth and death registration system and provides stillbirth and marriage data to the National Center for Health Statistics and Induced Abortion data to Centers for Disease Control (CDC). Certificates of vital events and reports of communicable diseases are available by address from 1960 to the present upon request. In addition, a monograph displaying trends in disease by Parish is produced annually.

The population estimates used are from the 1990 U.S. Bureau of the Census and Louisiana State University.

COMMUNITY HEALTH CONCERNS

A public meeting was conducted in Winnfield at the local parish health unit on January 13, 1993 by the SEE. Notification of the meeting was released through articles in the three major newspapers servicing the area and the local newspaper. In addition, the two television stations and the local radio station servicing the area made announcements prior to the meeting. The purpose of the meeting was to inform residents about the public health assessment process and to collect residents' public health questions, concerns, and comments concerning the site. Ms. Dianne Dugas and Mr. Kenneth Lanier from SEE presented this information to the 21 people who attended the meeting.

After the presentation the residents were asked to express their concerns, make comments, and ask questions. The primary concern was whether or not the municipal drinking water supply is contaminated with compounds from the site. Residents also wanted to know the health effects of exposure to these compounds and if any are carcinogenic. Several people mentioned that there appeared to be a high incidence of cancer in the area and wondered if all carcinogens known to exist on the site would be tested in the drinking water and the air.

Several people wondered if site contaminants could cause neurological problems or such diseases as lupus, multiple sclerosis (MS), demyelinating polyneuropathy, or fibrositis.

Residents were also concerned about the depth of on-site soil contamination and what effects this could have. Several residents stated that drums were buried on the site during the EPA stabilization effort and that from their knowledge of past activities there were several "hot spots" that the previous owners created.

The area residents mentioned witnessing children trespassing the site and commented that the fence surrounding the site was not contiguous. They also said that in the past children used to swim in the pond on the site.

Other past activities on the site included loggers driving tractors across Creosote Branch and disturbing the sediment; fishing, crawfishing, and deer hunting were also mentioned as past activities occurring on the site. There is currently maintenance activity on gas and municipal water lines on the site. Occasional flooding results in surface water runoff into Creosote Branch draining into the Dugdemona River where activities, such as hunting, fishing, canoeing, crawfishing, camping, and swimming, occur.

In addition to concern over exposure from eating fish and game, which were exposed to site contaminants, residents expressed concern as to whether there was any contamination of the nearby dairy that operated east of the site. Following the meeting, additional concerns

were expressed regarding the use of dynamite on the site. Residents were curious as to whether the Department of Energy activity in the nearby salt mines may have affected the site. Several residents reiterated their knowledge of large quantities of contaminants buried on the site by the previous owners.

Responses to residents' questions are provided in the [Community Health Concerns Evaluation](#) section.

[Next Section](#) **[Table of Contents](#)**

Page last reviewed: December 18, 2009

Page last updated: December 18, 2009

Content source: [Agency for Toxic Substances and Disease Registry](#)

Agency for Toxic Substances and Disease Registry, 4770 Buford Hwy NE,
Atlanta, GA 30341
Contact CDC: 800-232-4636 / TTY: 888-232-6348

