

# E.I. DuPont de Nemours and Company, Inc.

EPA ID No. CAD 009151671

6000 Bridgehead Road, Oakley CA 94561



DEPARTMENT OF TOXIC  
SUBSTANCES CONTROL

## Informational Status Report

*DTSC is one of six Boards and Departments within the California Environmental Protection Agency. The Department's mission is to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality, by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.*

State of California



California  
Environmental  
Protection Agency



## INTRODUCTION

The Department of Toxic Substances Control (DTSC) has prepared this fact sheet to provide information on site assessment and clean-up activities of the former DuPont manufacturing plant in Oakley, California. The boundaries of the DuPont Oakley site are shown in Figure 1 below.

On March 28, 2002, the Cal-EPA Site Designation Committee (consisting of six members representing the State Water Resources Control Board, Cal/EPA, DTSC, Department of Fish and Game, Air Resources Board, and Office of Environmental Health Hazards Assessment) transferred oversight of DuPont Oakley to DTSC for all investigation and remediation activities. The transfer of oversight to

DTSC will help to consolidate regulatory oversight of the DuPont Oakley site. DuPont had been operating under the oversight of the Central Valley Regional Water Quality Control Board prior to the transfer.

DTSC is authorized by the U.S. Environmental Protection Agency (U.S. EPA) to implement Resource Conservation and Recovery Act (RCRA) corrective action program requirements in the State of California. DTSC also implements state laws and regulations. The DuPont Oakley site had regulated units thus making the site subject to RCRA corrective action. As lead agency, DTSC will be implementing both state and federal hazardous waste control laws to protect human health and the environment in carrying out site characterization and clean-up activities at DuPont.

**Figure 1**



## FACT SHEET PURPOSE AND CONTENTS

The purpose of this fact sheet is to provide information about the DuPont Oakley site, site history, contaminants currently found in soil and groundwater, regulatory information, public participation opportunities, and where to find more information. A community survey is also included. *We ask that you complete this survey and return it to DTSC to assist in future planning activities.*

## SITE HISTORY AND DESCRIPTION

The DuPont Oakley site is located in Contra Costa County in the newly incorporated community of Oakley. The property is located on Bridgehead Road, bordered to the north by the San Joaquin River, to the south by the railroad, to the east by Big Break Road, and to the west by Highway 160. The site is in the heart of the City of Oakley Redevelopment District, situated along the East 18<sup>th</sup> Street/Main Street corridor. The site consists of approximately 365 acres of which 184 acres are wetlands adjacent to the San Joaquin River.

DuPont operated a manufacturing plant by the name of DuPont Antioch Works on the site from 1956 to 1997, and at the height of its operations employed nearly 600 people.

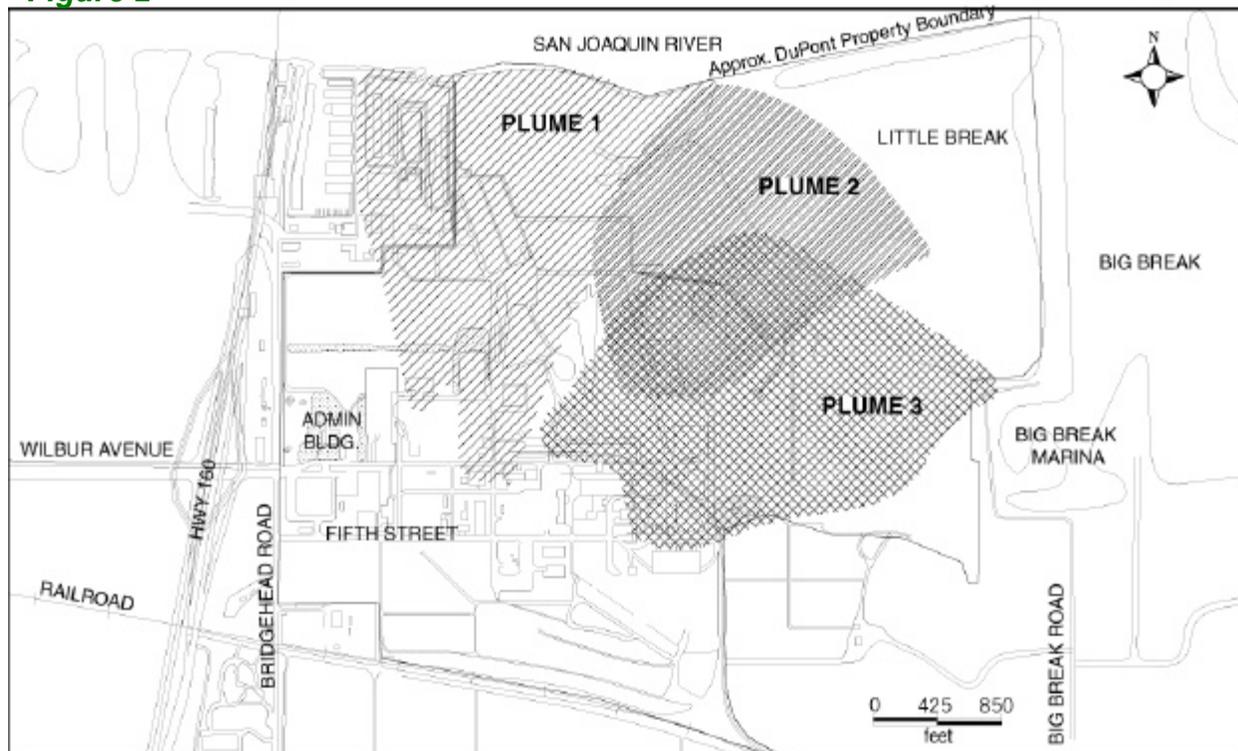
The site was originally constructed as a manufacturing facility for the gasoline “anti-

knock” agent tetraethyl lead (TEL), and for the manufacture of the refrigeration cooling compounds chlorofluorocarbons (Freon®).

Production of titanium dioxide, a white pigment used in a variety of household products and food, was added in 1963. A byproduct of the titanium dioxide manufacturing process was stabilized with concrete and sold for use as a roadway sub-base material under the trade name Sierra-Crete®.

All production activities at DuPont Oakley have been discontinued. In response to the federal phase out of TEL and Freon®, DuPont discontinued operations and ultimately closed the Oakley plant in 1998. Manufacturing facilities were demolished in 1999. A small portion of the site is currently used by a DuPont joint venture for quality control testing of automotive finishes.

**Figure 2**



## CONTAMINATION IN GROUNDWATER AND SOIL

During the 1980s, DuPont began to investigate groundwater at the Oakley site. These tests showed that groundwater under certain areas of the site contained various metallic and organic contaminants associated with the historical manufacture of Freon® (a refrigeration cooling compound), tetraethyl lead (a gasoline antiknock agent), and titanium dioxide (a white pigment). Three separate groundwater contamination areas (plumes) have been identified (see Figure 2). The chemicals that have been found in groundwater are shown in Table 1 on this page.

In 1989, DuPont installed a groundwater treatment system to remove contaminants from the site's groundwater. Since then, groundwater investigations at the site have been ongoing with over 130 monitoring wells installed and thousands of samples collected. The groundwater treatment system was stopped in 2000 when it was determined that it was not meeting expected performance results. A more effective process, a Permeable Reactive Barrier (PRB) Wall, is currently being evaluated.

In 2000, DuPont installed a test PRB wall to accelerate the treatment of groundwater contaminants. The PRB is a porous underground wall composed of iron filings installed deep into the aquifer. The iron filings in the wall react with and destroy organic compounds in the water that passes through it. A 110-foot wide test PRB was installed at a depth of 50 to 110 feet below the ground surface.

As part of future site activities, DTSC is working with DuPont to develop plans to determine the levels of groundwater contamination, and to clean-up the

groundwater to levels which are protective of human health and the environment.

DuPont has also conducted a series of investigations as to the nature and extent of soil contamination at the Oakley site. As part of future site activities, DTSC is working with DuPont to develop plans to complete the investigation of site soils suspected of being contaminated, and to remediate these contaminated areas, as necessary.

The contaminants that have been found in groundwater and site soils are shown in Table 1 below. Figure 2 on the previous page shows the location of each groundwater plume.

**Table 1 - Contaminants Identified in DuPont Oakley Site Soils and Groundwater**

Contaminants Present	Soil	Groundwater <sup>1</sup>
Arsenic*	✓	Plume 1
Carbon tetrachloride*	✓	Plume 1
Chromium*	✓	NP
cis-1,2-Dichloroethene	NP	Plume 3
Dioxins*	✓	NP
Ethylene dibromide*	✓	Plumes 1 & 2
Ethylene dichloride*	✓	Plumes 1 & 2
Fluoride	✓	Plume 1
Freons*	✓	Plume 1
Lead*	✓	Plumes 1 & 2
Hexachlorobenzene*	✓	NP
Polychlorinated biphenyls*	✓	NP
Tetrachloroethylene	✓	Plume 3
Tetraethyl lead	✓	Plumes 1 & 2
trans-1,2-Dichloroethene	NP	Plume 3
Trichloroethylene*	✓	Plume 3
Vanadium	✓	NP
Vinyl chloride*	NP	Plume 3

\* Contaminant has been shown to cause cancer in laboratory animals.

<sup>1</sup> The number(s) after the Plume refer to the associated groundwater plume(s) where the contaminant is present.

NP Sampling has not verified the presence of the contaminant in the soil or the associated groundwater plume(s).

## REGULATORY OVERVIEW

RCRA, an amendment to the Solid Waste Disposal Act, was enacted in 1976 to address the management of solid and hazardous waste in the United States. When RCRA regulations were issued in 1980, DuPont identified a number of Hazardous Waste Management Units on site. DuPont received interim authorization in 1981. As amended, the RCRA statute mandates that EPA require the investigation and associated clean-up of all hazardous releases at RCRA-regulated facilities. This process is known as “Corrective Action.”

DTSC is currently preparing a Corrective Action Consent Agreement for DuPont’s Oakley site. The consent agreement will address the completion of site-wide investigation and remediation activities required to complete DuPont’s corrective action obligations, and to redevelop the site.

The following steps shown in Table 2 below will ensure the appropriate clean-up decisions for the DuPont Oakley site:

**Table 2 – Components of Corrective Action**

ACTIVITY	STATUS
Initial Site Assessment	Completed
RCRA Facility Assessment (RFA)	Completed
RCRA Facility Investigation (RFI) <i>(For Groundwater)</i>	Substantially Complete/ Ongoing
RCRA Facility Investigation (RFI) <i>(For Surface Water and Sediments)</i>	Ongoing/ Future
RCRA Facility Investigation (RFI) <i>(For Soil)</i>	Ongoing/ Future
Perform Interim Actions <i>If necessary to protect human health and the environment</i>	Ongoing/ Future
Corrective Measures Study (CMS) <i>Evaluation of Remedial Alternatives</i>	Future
Public Comment	Future
Proposed RCRA Remedy Selection	Future
Corrective Measures Implementation (CMI) <i>Remedy Implementation</i>	Future
Corrective Action Termination	Future

## SITE REDEVELOPMENT

DuPont plans to retain ownership of the majority of its Oakley property and to lease land for compatible future uses. DuPont plans to preserve the 184 acres of wetlands on their Oakley property in their natural condition.

## PUBLIC PARTICIPATION ACTIVITIES

A major portion of the RCRA program is the involvement of citizens, the regulated community, and stakeholders. The public plays a key role by providing input and comments during varying stages of investigation, permit development, and site clean-up activities. DTSC is currently reviewing DuPont’s previously prepared Public Participation Program. The current Public Participation Program consists of:

- Stakeholder interviews with a broad cross section of interested parties.
- A community-wide informational public meeting and open house.
- Informational presentations at city agency and civic meetings.
- A fact sheet and newsletter distributed to local interested parties and agencies.
- A public repository for public review of site-related documents.
- A regularly updated public Web site ([www.oakley.dupont.com](http://www.oakley.dupont.com)).
- Media interviews and outreach.
- A Community Advisory Group to review ongoing activities and to serve as a liaison with the larger community.

## Upcoming Activities

Under DTSC oversight, DuPont will conduct various activities to facilitate public participation. These will include:

Fact Sheets – DTSC is responsible for and will prepare regular updates about regulatory efforts through a series of fact sheets, such as this one. Fact sheets will be mailed to residents near the site, placed in information repositories and other city/community locations, posted on the Web site, and forwarded to the media.

Newsletter – DuPont is responsible for and produces periodic newsletters that provide detailed information about DuPont’s efforts to investigate, remediate, and redevelop the DuPont site. These newsletters are prepared and distributed by DuPont, and DTSC does not review or provide input during the preparation of DuPont’s newsletter.

Community Advisory Group – DuPont has established a Community Advisory Group (CAG), comprised of Oakley citizens living and working near the DuPont site as well as individuals representing local and regional agencies. DuPont will continue to host the CAG, scheduling meetings approximately every quarter at the DuPont Oakley facility. CAG meetings are open to the public.

Community Meetings – DTSC is responsible for and will hold public meetings at key steps in the project to provide the public with an opportunity to learn more about the DuPont Oakley site and planned activities and to provide comments.

## GLOSSARY OF TERMS

**Aquifer:** *A water-bearing layer of rock or sediment that is capable of yielding useable amounts of water. Drinking water and irrigation wells draw water from the underlying aquifer.*

**Clean-up process:** *A comprehensive program for the clean-up (remediation ) of a contaminated site. It involves investigation, analysis, development of a clean-up plan, and implementation of that plan.*

**Groundwater:** *Water beneath the earth's surface that flows through soil and rock openings, aquifers, and often serves as a primary source of drinking water.*

**Plume:** *A body of contaminated groundwater flowing from a specific source. The movement of the groundwater is influenced by such factors as local groundwater flow patterns, the character of the aquifer in which the groundwater is contained, and the density of contaminants.*

**Remediation:** *Clean-up of a site to levels determined to be health-protective for its intended use.*

**Resource Conservation and Recovery Act (RCRA):** *A 1976 amendment to the first federal solid waste legislation, the Solid Waste Disposal Act of 1965. In RCRA, Congress established initial directives and guidelines for U.S. EPA to regulate and manage solid waste, including hazardous waste. RCRA established a regulatory system to track hazardous substances from the time of generation to final disposal. The law requires safe and secure procedures to be used in treating, transporting, storing, and disposing of hazardous wastes. RCRA was designed to prevent new, uncontrolled hazardous waste sites.*

**Wetland:** *An area that is regularly saturated by surface or groundwater and, under normal circumstances, capable of supporting vegetation typically adapted for life in saturated soil conditions; they are critical to sustaining many species of fish and wildlife, including native and migratory birds. They include swamps, marshes, and bogs and may be either coastal or inland. Coastal wetlands are brackish (have a certain mixture of salt).*

**ANUNCIO** - Si prefiere hablar con alguien en español acerca de DuPont, favor de llamar a Jesus Cruz, Departamento de Control de Sustancias Toxicas. El numero de telefono es (510) 540-3933.

### **FOR MORE INFORMATION**

If you would like more information about the Site, please call the DTSC Public Participation Specialist, Jesus Cruz at (510) 540-3933. For media inquiries, please contact the DTSC Public Information Officer, Angela Blanchette at (510) 540-3732.

### **Information Repositories**

A repository of information has been established and is maintained for the public to access material about the DuPont Oakley site, remediation activities, and site redevelopment. The information repository is located at the Oakley Public Library, located at 1050 Neroly Road in Oakley, California. Phone: (925) 625-2400.

Public records related to the DuPont Oakley site are subject to disclosure under the California Public Record Act (Government Code Section 6250-6260) and available for public inspection during normal business hours. The Full Administrative Record for the DuPont Oakley site is available at DTSC. For a nominal fee, requests for public records may also be made by telephone, letter, or fax. The Full Administrative Record is available at the DTSC File Room, Department of Toxic Substances Control, Berkeley Field Office, located at 700 Heinz Avenue, Suite 200, Berkeley, CA 94710-2721. Phone: (510) 540-3800 - Fax: (510) 540-3738.

### **Web sites**

Information can also be found on the DTSC and DuPont Web sites.

**DTSC:** [www.dtsc.ca.gov](http://www.dtsc.ca.gov)

**DuPont:** [www.oakley.dupont.com](http://www.oakley.dupont.com)

### **Notice to Hearing Impaired Individuals**

TDD users can obtain additional information about the Site by using the California State Relay Service (1-888-877-5378) to reach the Public Participation Specialist at (510) 540-3933.



Jesus Cruz  
Department of Toxic Substances Control  
700 Heinz Avenue  
Berkeley, California 94710-2721

Community Survey Enclosed. Please complete and return to DTSC. Thank you.