



# MONTROSE SUPERFUND SITE

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • November 1999

## SOIL & PRODUCE RESULTS FOR 30-BLOCK AREA No DDT IN FILL OR VEGETABLES; LOW DDT IN SOILS; MORE PLANNED

The Environmental Protection Agency (EPA) has completed the first phase of sampling in neighborhoods near the former Montrose Chemical DDT plant. The purpose of this investigation is to find out whether the pesticide DDT may remain in residential soils. This plant operated at 20201 S. Normandie Avenue from 1947 until 1982.

EPA is now planning a second phase of sampling in neighborhoods during the winter months. EPA is also performing an evaluation of whether there are any health risks posed by DDT in neighborhood areas near the former plant. Residents whose yards were sampled during Phase 1 have now received letters from EPA providing them with the results of the sampling and with information about the results. If your yard was sampled and you did not receive your results, please contact Andy Bain at EPA (see end of this fact sheet for phone numbers).

### The Facts at a Glance...

EPA has results from more than 350 surface soil samples, 109 borings, and 41 vegetable and fruit samples from more than 176 yards for DDT and other chemicals.

#### EPA's Findings

- No DDT contaminated fill materials.
- No DDT detected in vegetables and fruits.
- Low levels of DDT in all yards sampled:
  - Average DDT level in neighborhood soils is about 1.8 parts per million (ppm)
  - EPA may consider up to about 170 ppm safe (see body of factsheet for details)
- Most DDT levels in the neighborhood are very similar to levels found in samples several miles away from the former Montrose plant.
- A few yards have DDT levels somewhat higher than most yards (e.g. 50 ppm). EPA will collect additional samples from these yards this winter.

- One yard along the former storm water ditch on Kenwood Avenue had levels of DDT up to 339 ppm. EPA has placed a temporary cover over the soils in this yard to prevent contact with the soils.
- No other chemicals were found at levels that could pose a health threat.

#### Next Steps...

- More sampling is scheduled for the next few months. Sampling will mostly focus on the former stormwater ditch that lay along Kenwood Avenue.
- A comprehensive study of possible health risks, called a risk assessment, is underway.
- When sampling is completed, EPA will decide whether cleanup actions are necessary for DDT.

### Open House...

Tuesday, December 7 • 5:00 to 8:00 p.m. • Holiday Inn • 19800 Vermont Ave.

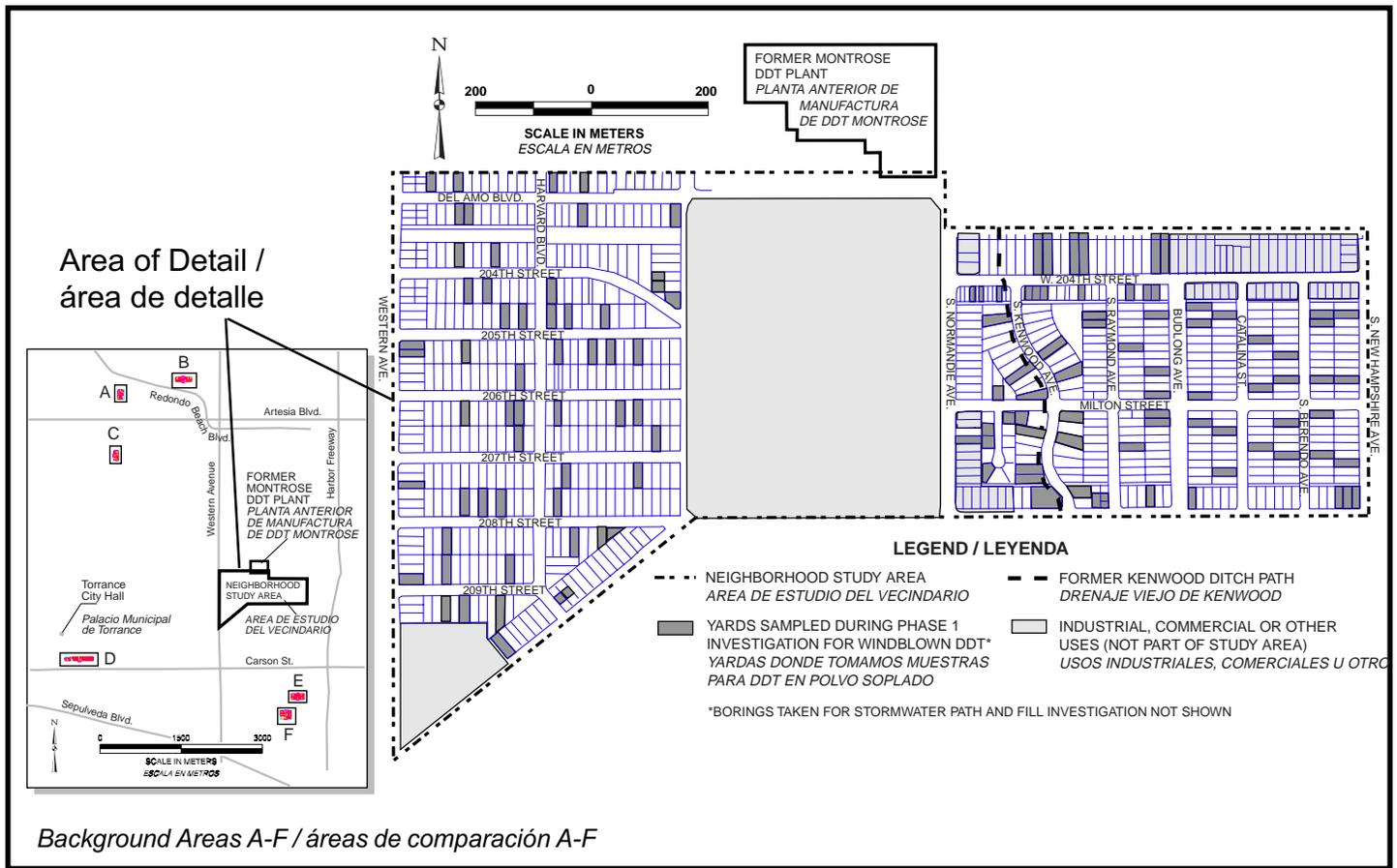


Figure 1: Montrose Neighborhood Study Area  
 La figura 1: Área de muestreo del vecindario Montrose

# EPA Sampled for Four Things

EPA's sampling was designed to check three possible ways that DDT could have gotten into neighborhoods in the past from the Montrose plant: (1) carried by wind, (2) in storm water runoff, and (3) in fill materials that were used at various times to fill in depressions in the land before homes were built. EPA has also checked whether home-grown fruits and vegetables contain DDT.

## 1 What EPA Found About Historic Wind-Blown DDT

EPA has been sampling to see whether DDT and DDT dust may have been picked up by wind and blown off the former Montrose plant in the past. The DDT then could have settled out of the air in neighborhood areas. EPA calls this *aerial dispersion*. To evaluate this possibility, EPA collected 363 shallow soil samples from 120 yards over a 30-block area.

EPA found that DDT is present in all samples that were collected from the neighborhood study area. However, in almost all yards, the levels of DDT are very low and do not pose an unacceptable health threat over the

short or long term (for instance, many years or decades). In a small number of yards, the levels of DDT were significantly higher than the average. The levels of DDT that EPA found in soils in these yards still are not high enough to pose an unacceptable long-term health threat, but EPA plans to take more samples to make sure we know the size of the area that is affected by DDT and also what the highest levels of DDT are. EPA will inform you of the additional sample results when they are available and will discuss whether the results imply any changes in the general conclusions we have provided in this fact sheet.

EPA also took samples from six separate areas that are not likely to be affected by DDT from the former Montrose DDT plant (to the north, west, and south of the neighborhood). These are called background areas. EPA compares the sampling results in background areas with the results from the neighborhood study area. This assists EPA in determining whether DDT in soils in the neighborhood originated from the former Montrose plant. EPA collected 72 shallow soil samples

| Area Sampled             | Number of Samples | Average DDT Concentration | Highest Sample | Lowest Sample |
|--------------------------|-------------------|---------------------------|----------------|---------------|
| Neighborhood Study Area* | 346               | 1.8 ppm                   | 30 ppm         | 0.05 ppm      |
| Background Areas         | 74                | 1.3 ppm                   | 9.1 ppm        | 0.02 ppm      |

\*Only samples clearly related to aerial dispersion (wind-blown dust) are included in the table.

from 24 yards in the background areas and found DDT at low levels in virtually all (91%) samples. These levels were slightly lower on average, but very similar to those found in the vast majority of samples in the neighborhood study area.

DDT may be present in background areas because DDT was used in agriculture for many years before it was banned for use in the United States in 1972. DDT can, in fact, be detected at low levels in soils today in many areas of the United States.

The average level of DDT in samples collected in the neighborhood study area and the background area is shown in the table. *ppm* means “parts per million” and is a measure of how much DDT is in soil.

## 2 What EPA Found in Storm Water Runoff Areas

DDT may have been carried in **storm water runoff** that flowed through neighborhood areas. From the early 1940s to the early 1970s, storm water, mixed with wastes from the Montrose plant, occasionally flowed along a ditch that crossed 204th Street and ran along the west side of Kenwood Avenue near the street. This ditch was removed and buried by the mid-1970s when the storm drain was built for the area. In order to evaluate this area, EPA collected and analyzed many surface soil and boring samples. A boring is a small hole in the ground from which samples are taken at two or more depths below the ground surface.

EPA found higher levels of DDT than average on the west side of Kenwood Avenue. With the exception of levels found at one house, these levels do not pose an unacceptable threat of health effects over the long term. However, EPA plans to take extensive additional samples along Kenwood Avenue to further evaluate the levels of DDT in the storm water pathway.



One house on the west side of Kenwood Avenue is in an area where storm water would pond during heavy rains. The levels of DDT in this yard were not high enough to pose an immediate health threat, but EPA is concerned about the possibility of health threats over the long term if persons are in contact with the soil. EPA has placed a temporary cover over the soils in this yard to prevent persons from making contact with the soils in that yard. EPA will determine what final actions to take there after the second round of sampling.

## 3 No DDT Fill Materials Found

In 1993, EPA found technical grade (more than 70% pure) DDT in fill in a former ravine on 204th Street where there are now yards. EPA believes that this fill material originated on the former Montrose plant property. EPA has since removed that contaminated fill material. This summer, EPA checked to see whether there is DDT in fill material in other nearby residential areas where other historically low-lying areas were filled in. EPA collected and sampled about 80 borings for this purpose.

EPA found no evidence of DDT-contaminated fill in any of these areas.

## 4 No DDT in Fruits and Vegetables

EPA sampled more than 40 pieces of home-grown produce in both the background and the neighborhood study area, to find out whether DDT from the former Montrose plant may be present in home-grown **fruits or vegetables**. No DDT was detected in any of the samples in the neighborhood study area.

EPA also sampled three eggs from home-raised chickens kept in the area. EPA will present a separate fact sheet on chicken eggs.

**EPA didn't sample my yard. How does EPA know about the DDT in my yard?**

*Wind-blown dust from the Montrose plant would have blown up into the air and settled out over an area like a blanket. It would not, for instance, blow all to one house and leave the one next door with nothing. EPA has not sampled every yard but has taken enough samples to know with good certainty what is the average amount of DDT in the soil in the area, and the highest and lowest values. If EPA finds evidence of unusual values somewhere, it returns and takes many more samples. In general, though, the results in yards where we do take samples allow us to make reasonable predictions for the soils in yards where we don't take samples, and provide enough data for EPA to do a risk assessment.*

*Storm water flow along a ditch on the west side of Kenwood Avenue is another way that DDT may have gotten into the neighborhood. EPA is taking many more samples along this storm water path than in the rest of the neighborhood because the DDT may have settled out of stormwater differently than with wind blown dust.*

**Risk Assessment: A Tool To Protect Your Health**

EPA is performing a *risk assessment*, a comprehensive study of the various ways persons might be in contact with DDT and whether DDT poses a health threat over the long-term (for instance, a period of many years or decades). The risk assessment will consider information from both phases of sampling, including the soil results from all the yards we sampled in the neighborhood study area and background areas, and also the amount of DDT that may be present in free-range chicken eggs and home-grown fruits and vegetables. When completed, it will allow EPA to evaluate in detail the potential future health effects of DDT in the neighborhood and to determine whether any cleanup actions are needed for DDT. EPA is planning workshops where you will be given an opportunity to participate in the risk assessment process.

**What Levels of DDT Can Pose a Threat To Health?**

In order for DDT in soil to pose any threat to health, you must be in *contact* with the soil. This is because DDT must get into the body to cause health problems (such as changes in liver function or cancer). The amount of contact you have with soil (such as eating or breathing it into your mouth and then swallowing it) is just as important as the amount of DDT in the soil. EPA will consider these factors when it performs its risk assessment.

The table at the right gives information to help residents understand the levels of DDT in yards prior to EPA completing its risk assessment. The risk assessment will be more detailed than these general statements and may identify risks that cannot be reflected in this discussion.

There is a range of concentrations of DDT in soil that EPA may consider safe, depending on the circumstances. In general, studies and policy indicate the following for persons in contact with exposed soils with DDT:

| DDT Level in Soil             | What Studies and Policy Indicate...   |
|-------------------------------|---|
| DDT below 1.7 ppm             | Does not pose an unacceptable health risk for persons in contact with the soil, either in the short or long term.   |
| DDT between 1.7 ppm & 170 ppm | EPA may also find that DDT in soil in this range is safe, depending on the more complex findings of the risk assessment.  |
| DDT above 170 ppm             | Poses an increased potential for health effects over the long term (for example, many years or decades) for persons in contact with the soils. DDT in soil is generally not considered to cause <i>immediate</i> (short term) health impacts to persons in contact with the soil unless the DDT levels are at least 1000 ppm. |

The calculations that lead to these numbers are based on very health-protective assumptions (see discussion in the box). They assume that a person is exposed to a significant amount of soil, which may or may not be the case for you.

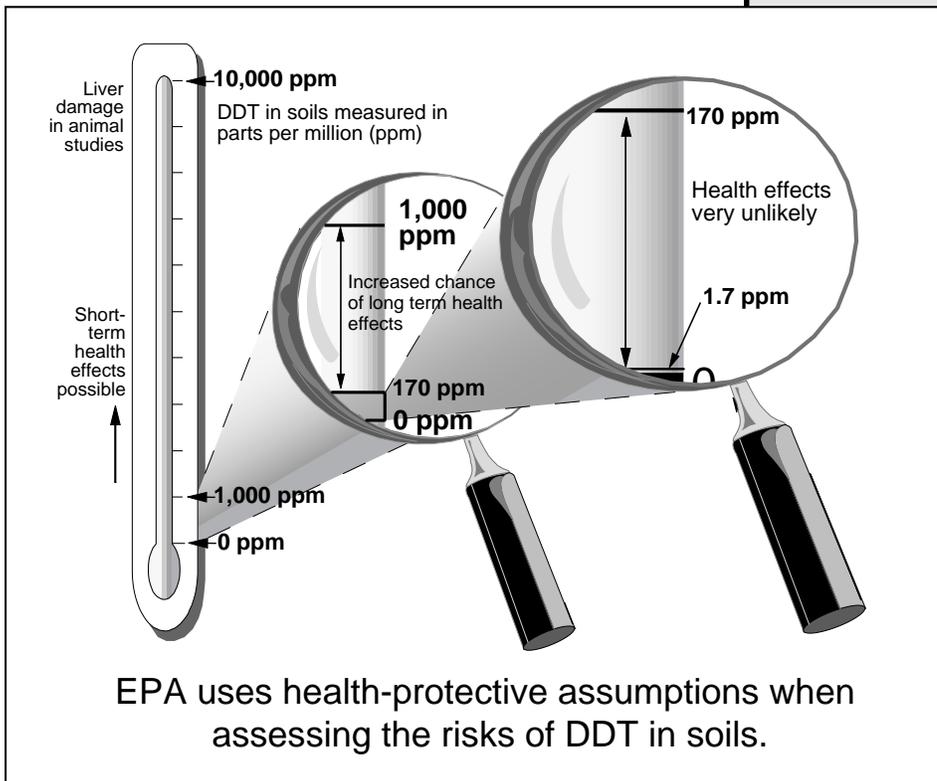
As you can see, the average DDT levels in the neighborhood are very near the lowest (safer) end of the range shown in the table. Again, EPA needs to complete the risk assessment in order to fully evaluate the potential effects of DDT on your neighborhood.

## How is EPA careful to protect health when it calculates health risk?

*There is a substantial margin of safety in EPA's risk calculations. For example, we assume that you eat 200 mg of soil or dust every day for 30 years. In your real life, you probably do not eat this much soil or dust and will not be eating it in the same place for so long a period. For many health effects, EPA also assumes that a chemical is hundreds or thousands of times more toxic than studies have shown it to be.*

## Why are you showing a range of DDT values? Isn't there a single value for DDT that is safe?

*Health effects usually do not behave as if there are "magic numbers." There is no one level of a chemical in soil below which health effects will never occur, but above which suddenly many health effects occur. Rather, the chances of health effects occurring over time gradually go up the more of a chemical you are exposed to. At very low levels, the chances of health effects become exceedingly tiny. If persons are exposed to soils below 1.7 ppm for DDT, the chances of health effects are so remote that EPA generally considers the soil safe. In the range 1.7 ppm to 170 ppm, the chances for health effects are still very small, especially at the low end of the range. But, at these levels EPA depends on the comprehensive risk assessment to help it evaluate whether actions may be appropriate to clean up the DDT. The risk assessment considers all ways that the chemical may enter the body. After performing the risk assessment, EPA may still conclude that the chances of health effects are so remote that no cleanup action is required. Or, EPA may conclude that some cleanup action should be taken.*



## Second Phase of Sampling

The first phase of sampling provided a wealth of information. At the same time, it identified places where additional samples are required in order for EPA to complete its neighborhood investigation. EPA will perform a second phase of sampling sometime in the next three to four months. In the second phase, samples will be collected from borings at several depths in the following locations:

- Along the west side of Kenwood Avenue where the former storm water ditch was located;
- In the few yards where higher-than-usual levels of DDT were detected in the first phase.

In Phase 2, EPA also plans to collect and analyze more home-grown root vegetables such as carrots, radishes, and potatoes. EPA also would like to plant, grow, harvest and sample some of these vegetables in residential yards within the neighborhood study area. If you are willing to grow a few such plants in your garden for EPA, please contact EPA at the numbers at the bottom of this fact sheet.

At the conclusion of Phase 2, EPA will have sufficient information to complete the risk assessment and begin to consider what cleanup actions, if any, will be necessary and appropriate for the study area.

## For More Information...

If you have questions or concerns about the Montrose & Del Amo Superfund sites, or would like to be added to the mailing list, please contact:

**Jeff Dhont**, Project Manager or  
**Andy Bain**, Community Involvement Coordinator  
**Sophia Serda**, Ph.D., Toxicologist  
c/o US EPA  
75 Hawthorne St.  
San Francisco, CA 94105  
(800) 231-3075

### A Different Perspective?

If you are interested in speaking with a local non-profit about the sites:

Del Amo Action Committee  
**Cynthia Babich**, Technical Assistance Grant Recipient  
1225 190<sup>th</sup> St.  
Gardena, CA 90248  
(310) 769-4813

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## Information Repositories

The EPA has two information repositories for the Montrose Chemical and Del Amo Superfund sites at the public libraries listed below. The EPA also houses the administrative record for this cleanup action at these libraries on microfilm. The EPA also maintains the administrative record, and all site file documents, at its offices in San Francisco. Please call the following libraries about their hours:

### Torrance Civic Center Library

3301 Torrance Blvd.  
Torrance, CA  
(310) 618-5959

### Carson Public Library

151 E. Carson St.  
Carson, CA  
(310) 830-0901

**Web page:** Information about the site is also available on EPA's webpage at: [www.epa.gov/region09/waste](http://www.epa.gov/region09/waste). Click on the Del Amo site information button.



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75 Hawthorne Street (SFD-3)  
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Attn: Andy Bain

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