



Del Norte County Pesticide Storage Area Superfund Site

United States Environmental Protection Agency • Region 9 • February 2000

EPA PROPOSES PLAN TO SELECT AN ALTERNATE CLEANUP REMEDY

Introduction

The U.S. Environmental Protection Agency (EPA) is requesting public comment on this Proposed Plan which proposes an alternate remedy for the Del Norte County Pesticide Storage Area Superfund Site (Site) in Del Norte County, CA (see Figure 1). Two different treatment technologies used at the Site have reduced groundwater contamination by more than 50%. Concentrations of contaminants have been lowered from initial levels of 2000 **parts per billion (ppb)*** to current maximum levels of 38 **ppb**. For the past four years the contaminant levels have stayed the same, even when no treatment technology is being used. Based on seven years of groundwater remediation, monitoring, additional sampling, and evaluations, EPA has concluded that the previously selected groundwater cleanup remedy cannot achieve the existing cleanup objective.

EPA is the lead agency at the Site; we are supported by the State in proposing containment, biannual groundwater monitoring, land use restrictions, and a waiver of the groundwater cleanup level as an alternate remedy. The alternate remedy is based on the fact that currently available technology is unable to achieve the cleanup objective. The contaminants are staying in the same place, and their concentrations are in a slow natural decline. This Proposed Plan highlights key information about the progress of remediation, the current extent of contamination and the revised cleanup objectives.

In accordance with section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, EPA announces a Proposed Plan to solicit public input. The community is encouraged to participate in EPA's remedy selection process by commenting on this alternate remedy. Information received from the community, if warranted, could change EPA's decision on the remedy. Comments may be made at the community meeting on March 9, 2000 and/or in writing prior to the close of the public comment period on March 31, 2000.

More detailed information about the Site can be found in the Remedial Investigation/ Feasibility Study, the **Record of Decision (ROD)**, Explanation of Significant Differences (ESD) and other documents in the **Administrative Record**. The public is invited to review the Administrative Record for the Del Norte Site which is located at the information repository listed on page 7.

If selected, the alternate remedy will be documented in a **ROD Amendment**. A summary of public comments and EPA's responses to comments will be included as an attachment to the **ROD Amendment**. After completion of the **ROD Amendment** during 2000, the EPA intends to negotiate with one of the potentially responsible parties (Del Norte County) to continue operation and maintenance (O&M) of the alternate remedy and to implement the appropriate land use restrictions associated with the alternate remedy.

* Words in **bold** are defined in the **Glossary** at the end of this fact sheet.

OPPORTUNITIES for COMMUNITY INVOLVEMENT

PUBLIC COMMENT PERIOD March 1, 2000 - March 31, 2000

During the public comment period, you are encouraged to comment on this Proposed Plan. Comments may be submitted verbally or in writing during the community meeting, or written comments may be sent to:

Beatriz Bofill (SFD-7-2)
U.S. EPA, 75 Hawthorne St.
San Francisco, CA 94105

Written comments should be postmarked no later than
March 31, 2000

COMMUNITY MEETING March 9, 2000 at 6:00 p.m.

You are encouraged to attend an upcoming meeting regarding this proposed plan for the site. The meeting will be held at:

Del Norte High School
1301 El Dorado Street
Crescent City, CA 95531
(707) 464-0260



Source: USGS Digital Raster Graphics, USGS National Atlas, 1988
 M. Norelli, Indus Corp., 2/25/00

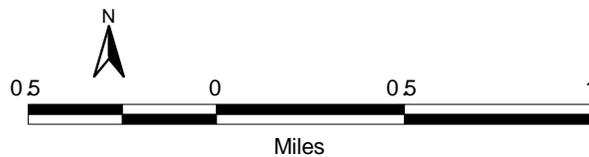


Figure 1: Site Map

Site Background

The Del Norte County Pesticide Storage Area Site is located one mile northwest of Crescent City on undeveloped land. Both the 200 ft by 100 ft Site and approximately 480 acres surrounding the Site are owned by Del Norte County. From 1970 to 1981 the Site was operated by the County as a repository for storage of pesticide and herbicide containers generated by the local agriculture and forestry industry. Pesticide containers stored at the Site were improperly handled which resulted in pesticide contamination of the soil and groundwater. The main contaminants of concern in the soil and groundwater identified at the Site were the herbicide 2,4-dichlorophenoxyacetic acid (2,4-D) and the pesticide 1,2-Dichloropropane (1,2-DCP). Chromium found at the Site was eliminated as a contaminant of concern because it occurs naturally in soil in the vicinity of the Site. Contamination from the soil migrated into the groundwater and created a plume of contaminated groundwater which initially extended 170 feet to the southeast. Sampling of wells off-site has shown no evidence of contamination from the Del Norte Site.

In 1981, following a Site inspection by the Regional Water Quality Control Board, the County ceased accepting deliveries of containers. By 1982, all containers had been removed from the Site. The Site was subsequently placed on the National Priorities List in 1984. This list identifies the highest priority hazardous waste sites in the United States. Studies were conducted by the EPA to determine the extent and nature of the contamination. In 1985, A **Record of Decision** was issued which documented the EPA's remedy for cleaning up contaminated soil and groundwater. Approximately 290 cubic yards of contaminated soil were removed from the Site. The soil acted as a source of contamination of groundwater and upon removal in 1987, groundwater levels of contaminants greatly decreased. The principal threat to human health and the environment was removed in 1987 when the soil was excavated.

By 1989, the amount of 2,4-D in the groundwater had reached a safe level for drinking water but 1,2-DCP concentrations were still a concern. In 1989, the remedy selected in the **ROD** to cleanup the contaminated groundwater was modified to a technology known as air stripping, an effective treatment for removing 1,2 DCP. In the first four years of operation, the air stripping was successful at significantly decreasing the concentration of 1,2-DCP, but the rate of decrease leveled off. The amount of 1,2-DCP in the groundwater decreased from 2000 **ppb** in 1985 to 600 **ppb** in 1990. The extent of the plume in 1990 was approximately 12,000 square feet. At the end of 1998 the highest level of 1,2-DCP was 38 **ppb** and the extent of the plume had been reduced over 50% to approximately 5000 square feet (see Figure 2).

The EPA and the State of California Department of Toxic Substances Control (DTSC) entered into an Administrative Order on Consent in March 1998 with 13 private parties and one federal party for the recovery of past costs in the amount of \$430,000 associated with cleaning up the Site. DTSC is the representative agency for the State.

The community has been informed of the activities at the Site through fact sheets and has had access to the **Administrative Record** at the information repository.

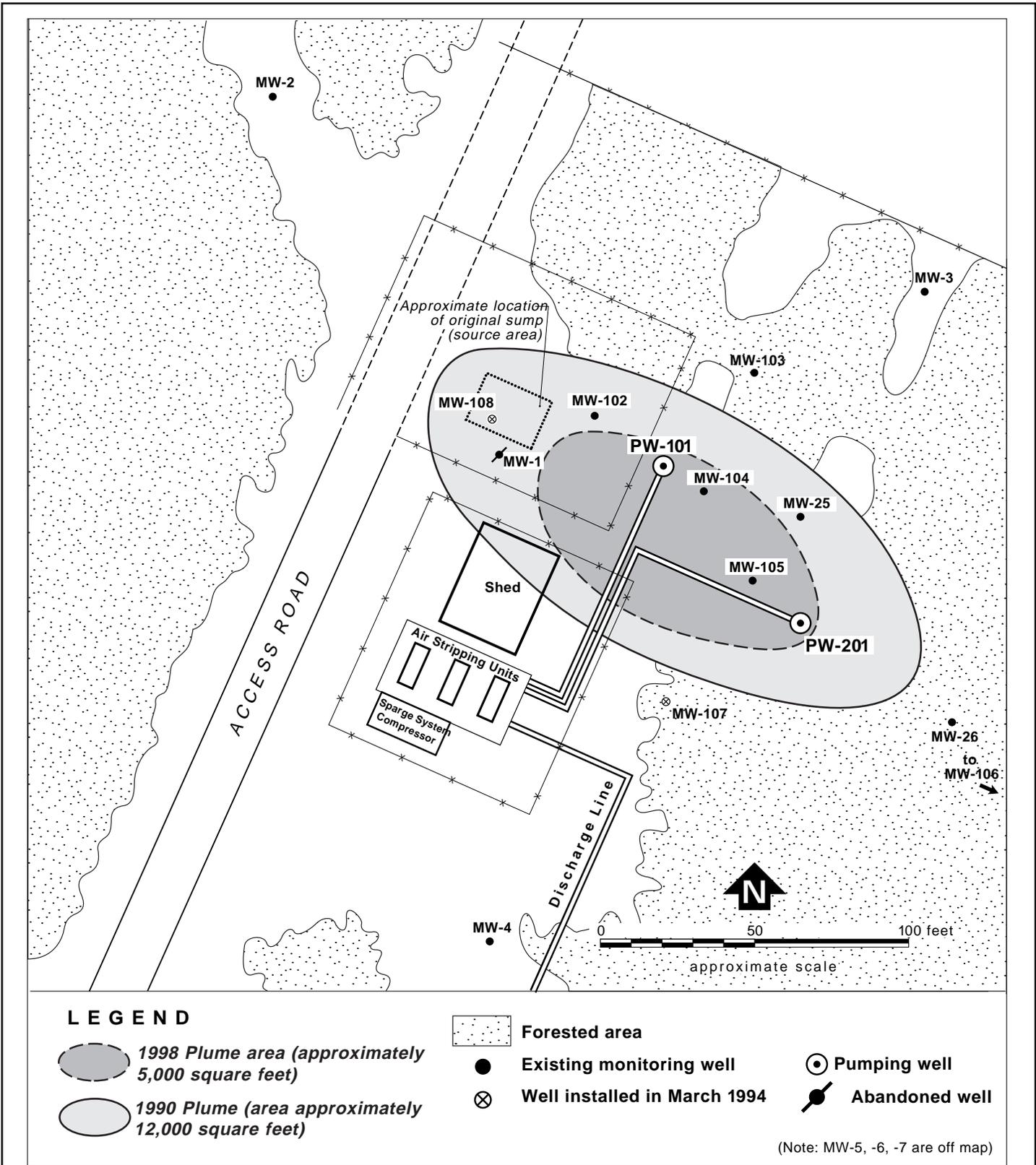


Figure 2
Areal Extent of 1,2 DCP Concentrations > 5 ppb
 Del Norte Pesticides NPL Site
 Crescent City, California

Comparison of the Original and Proposed Alternate Remedy

Original Remedy

- Installation of a groundwater pumping and treatment system using air stripping to remove the 1,2-DCP to the cleanup level of 10ppb
- Discharge of treated water to a public sewer

- O&M Cost: \$25,000 per year
- Capital Cost: \$2.7 million
- Total Remediation Cost: \$4.2 million

Proposed Alternate Remedy

- Containment of the contaminated groundwater through natural processes
- Waiver of the **Maximum Contaminant Level** because it is technically impracticable to achieve.
- Biannual groundwater monitoring.
- Land use restrictions to prevent exposure to contaminated groundwater.
- Five year review every five years to insure the remedy continues to be protective of human health and the environment

- Projected Cost Estimate
5 years: \$35,426
10 years: \$60,684

Justification for a Technical Impracticability Waiver

The **Maximum Contaminant Level (MCL)** for 1,2-DCP is considered an **Applicable or Relevant and Appropriate Requirement (ARAR)** for cleanup of the groundwater at the Site. Superfund regulations require that all cleanups meet **ARARs** or justify a waiver of the **ARAR**. The technology used to remove 1,2-DCP from the groundwater has reached a point where no more significant reduction in 1,2-DCP is expected to occur in the near future. Although the contamination in the groundwater has been significantly reduced, it is still above the **MCL** of 5 **ppb**. There is no technology currently available which could achieve further significant reduction of the contamination. For this reason EPA proposes to waive the **MCL** for 1,2-DCP since it is technically impracticable to reduce the 1,2-DCP to 5 **ppb**.

Between the start of treatment in 1990 until the end of 1994, the levels of 1,2-DCP in the groundwater decreased significantly from 2000 **ppb** to 38 **ppb**. After 1994, there was no further reduction of 1,2-DCP. The treatment system was turned off several times between December 1994 and October 1997. Analysis showed that whether the treatment system was on or off had no effect on the level of 1,2-DCP in the groundwater. EPA believes that the 1,2-DCP is sticking to the silts and clays in the soil and that the soil is slowly releasing the 1,2-DCP into the groundwater. At the same time the 1,2-DCP already in the groundwater is breaking down through natural physical, chemical or biological processes. It is believed that this breakdown of

1,2-DCP is occurring at a rate slightly greater than the rate that 1,2-DCP is being released into the groundwater. The balance between the release of contaminant and its destruction is sufficient to contain the contaminated groundwater plume.

Remedial Action Objectives

The remedial action objectives for the groundwater in the 1985 **ROD** were to:

- Minimize off-site contamination from the migration of contaminated groundwater, and
- Clean up the contaminated groundwater found on-site.

The remedial objective of cleaning up the groundwater found on-site will not be met because no technology exists that is capable of reaching drinking water quality under the conditions found at the Site.

The remedial action objectives for the proposed alternate remedy are to:

- Contain the contaminated ground water, and
- Prevent its use as drinking water for as long as contaminants remain above drinking water levels.

Five Year Review

EPA is required by law to review remedies every five years to ensure that they remain protective of human health and the environment. A Five Year Review is being performed concurrently with this proposed action for the Del Norte Site. This review will evaluate in detail the protectiveness of the original remedy, as amended by this proposed action.

Comparative Analysis

Evaluation Criteria	Original Remedy	Proposed Alternate Remedy
Overall Protectiveness of Human Health and the Environment	The original remedy, if successful, would be more protective than the alternate remedy because the treatment technology was expected to restore the groundwater to drinking water quality. However, seven years of treating the groundwater showed that the remedy could not reach the cleanup level.	The alternate remedy provides adequate protection because it will control the risk from the contaminated groundwater through containment of the groundwater plume by natural processes. Land use restrictions will prevent exposure to contaminated groundwater.
Compliance with State and Federal Requirements	The original remedy did not meet the cleanup level which was based on a health advisory for 1,2-DCP in drinking water.	The alternate remedy will not meet the cleanup standard for 1,2-DCP in drinking water. There is no technology currently available capable of further significant reduction of the contaminated groundwater beyond the level already achieved. For this reason, the MCL for 1,2-DCP will be waived because it is technically impractical to meet this standard.
Long-term Effectiveness	The remedy was expected to achieve the cleanup level permanently. Evidence has shown that the remedy is not capable of restoring the groundwater to drinking water quality.	Some removal of 1,2-DCP is expected to occur through natural processes but not at a rate that will restore the groundwater to drinking water quality. The contaminated groundwater will be monitored to confirm that the contamination is not increasing or migrating off-site. Because waste will remain on the Site above health-based levels, a review to assess the contamination will be done at least every five years.
Implementability	The remedy did not have implementation problems. The treatment equipment was readily available and the treatment technology had been used successfully to partially restore contaminated groundwater to drinking water quality.	No construction or special material are required. Since the Site is owned by Del Norte County land use restrictions are expected to be easy to implement.
Short-term Effectiveness	Construction period was brief with no release of contaminants or exposure during implementation	No construction is required and no impact over the short term is expected to the areas surrounding the Site.
Reduction of Toxicity, Mobility or Volume by Treatment	The remedy reduced the concentration of the groundwater contamination, but did not meet cleanup objectives. The pumping and treating system was effective in containing the plume and reduced the mobility of the contaminated groundwater plume. The volume of the contaminated groundwater was reduced by over 50%.	The alternative remedy does not include treatment. However, natural processes will continue to occur which reduce the mobility by containing the groundwater contamination and may also reduce the volume of contaminated groundwater. At this time, it is not possible to estimate whether or when the reduction will reach safe drinking water quality. No treatment of the groundwater will be employed since existing technology is not capable of meeting the cleanup level.
Present Worth Cost	\$4.2 million	Estimated 5 year cost \$35,426 10 year cost \$60,684
State Acceptance	The State of California concurred on the remedy	The State of California (DTSC) concurs on the proposed plan including the technical impracticability waiver.
Community Acceptance	The remedy was accepted by the community	Community acceptance of the proposed alternate remedy will be evaluated after the public comment period ends and will be described in the ROD Amendment

Glossary

Administrative Record: All documents which EPA considered or relied on in selecting the response action at a superfund site, culminating in the **Record of Decision** for remedial actions or, an Action Memorandum for removal actions.

Applicable or Relevant and Appropriate Requirements (ARARs): Any state or federal statute that pertain to protection of human life and the environment in addressing specific conditions or use of a particular cleanup technology at a Superfund Site.

Maximum Contaminant Level (MCL): The maximum permissible level of a contaminant in water delivered to any user of a public system. MCLs are enforceable standards.

Parts per billion (ppb): Units commonly used to express contamination rations, as in establishing the maximum permissible amount of a contaminant in water, land, or air.

Record of Decision (ROD): A public document that explains which cleanup alternative will be used at National Priorities List sites.

Administrative Record

The **Administrative Record** is a file which EPA based its decision for the Proposed Plan available for public review at:



contains all the documents and reports upon which at the site. Copies of the **Administrative Record** are

Crescent City Library
190 Price Mall
Crescent City, CA 95531
(707) 464-9793

Hours:

Mon. Tu. Th. Fri.	10:00 a.m. - 6:00 p.m.
Wednesday	10:00 a.m. - 8:00 p.m.
Saturday	10:00 a.m. - 2:00 p.m.
Sunday	Closed

You may access certain EPA documents electronically on the Internet:

EPA Website:	http://www.epa.gov
EPA Superfund Website:	http://www.epa.gov/superfund
Region 9 Website:	http://www.epa.gov/region09



For More Information

The Superfund program places a high value on community input in addressing hazardous waste cleanups. Your comments are invited and encouraged. If you have any questions or concerns about the cleanup activities at the Del Norte Superfund site, please contact the following EPA staff:

Angeles Herrera (SDF-3)
Community Involvement Coordinator
(415) 744-2185

Beatriz Bofill (SFD-7-2)
Remedial Project Manager
(415) 744-2235

U.S. EPA
75 Hawthorne St.
San Francisco, CA 94105

You may also leave a message on EPA's Toll-Free line: 1-800-231-3075 and we will return the call.

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