

Executive Summary 5 Year ROD Review Koppers Industries, Inc., Oroville, CA

12/22/97

Type Review: OSWER 1A (simplest) - Ongoing remedial actions

Conclusion: ROD, ESD and ROD Amendment#1 are protective of human health & environment

Issues:

- 1) MCL since ROD for pentachlorophenol (PCP) 1.0 ppb. Existing ROD treatment action level for PCP of 2.2 ppb is within lifetime excess cancer risk for a drinking water site of 4E-6. No change in action level required.
- 2) Ecological risk assessment review criteria developed since the site ROD. Review of site data substantiates ecological risk assessment not required.

Review Approvals: Concurrence obtained prior to this routing.

- 1) Technical Support Team
Risk - Gerald Hiatt
Ecological - Clarence Callahan
- 2) Office of Regional Counsel
Jeannie Cervera
- 3) Community Involvement
Jackie Lane

MAIL CODE	SFD 7-2	SFD-7-2	SFD 3	SFD RB	CRC-3	SFD 73
SURNAME	ESD	llho	Joan	Hiatt	Maldonado	Adams
DATE	12/23/97	12/23/97	12/23/97	12/23/97	12-23-97	12-23-97

U.S. EPA CONCURRENCES

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**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IX
HAZARDOUS WASTE MANAGEMENT DIVISION
FIVE-YEAR REVIEW (TYPE 1A)
KOPPERS INDUSTRIES, INC.
OROVILLE, CA**

December 22, 1997

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IX
HAZARDOUS WASTE MANAGEMENT DIVISION
FIVE-YEAR REVIEW (TYPE 1A)
KOPPERS INDUSTRIES, INC.
OROVILLE, CA

1.0 Introduction

Authority Statement. Purpose. The Koppers Industries, Inc. (the KII site), an active wood treater located in Oroville, California, was placed on the National Priorities List in September 01, 1984. The U.S. Environmental Protection Agency (EPA) has been conducting response actions at the site since that time to provide protection of human health and the environment. The EPA Region IX conducted this review pursuant to CERCLA Section 121(c), 42 U.S.C. § 9621(c), NCP Section 300-400 (f) (4) (ii), and OSWER Directives 9355.7-02 (March 23, 1991) and 9355.7-02A (July 26, 1994). It is a statutory review, required 5 years after initiation of implementation of the first operable unit at KII.

The purpose of this five-year review is to document that the remedial actions specified for the KII site remain protective of public health and the environment and are functioning as designed. This document will become a part of the Site File. This is a “Type IA” review, as defined in OSWER Directive 9355.7-02A and is applicable to the KII site as remedial actions are currently ongoing.

The Five-Year Review report consists of five sections, including this Introduction. Section 2.0, Remedial Objectives, contains a discussion of the remedial objectives identified in the Record of Decision (ROD). The work being performed to fulfill these objectives, and the current status of these activities, will be included in Section 2.0. Section 3.0, Recommendations, will present EPA’s plans for deed restrictions. Section 4.0, Statement on Protectiveness, will present certification of the remedies selected for the site remain protective. The final section, Section 5.0, Next Five-Year Review, will provide a schedule for the next review.

1.1 Background

Site Characteristics. The KII site is an active wood treating site adjacent to the city of Oroville, California (Figure 1-1 - Appendix A). The 200-acre site is bounded by Louisiana-Pacific Corporation property on the West, Georgia Pacific Way on the North and Bagget Marysville Road on the South and East.

The site has been used for wood treating operations since 1948. Koppers Company, Inc. purchased the site in 1955. Preservatives are injected under pressure into wood products such as railroad ties and telephone poles to prevent deterioration by insects and fungi. Fires, wood treatment operations, product and chemical handling methods, and wastewater handling procedures have contaminated soil on-property and ground water on and off-property. In December, 1983 contaminated ground water was found in residential wells over one mile south of KII. The site was placed on the National Priority List in September 1984 and a Record of Decision (ROD) for the site was issued September 1989 (Page 4 - ROD Summary - Appendix B). An Explanation of Significant Difference was issued January 1991 (Page 9 - Description of Significant Differences - Appendix B) and ROD Amendment #1 was issued August 1996 (Pages 1 and 2 Description of the Selected Remedy - Appendix B). The term “operable unit” refers to a discrete action taken at a Superfund site to address specific site problems. At KII soil and ground water represent the site’s only operable unit 001.

2.0 Remedial Objectives

The remedial objectives operable unit 001 ground water and soils are provided below.

2.1 Ground Water

The ground water remedial objective is restoration of ground water for drinking water use. Koppers provided bottled water to residents with contaminated drinking water wells beginning March 1984 and an alternative domestic water supply was provided to residents March 1986. An off-property 600 gpm pump and treat facility was installed approximately 2 miles south of KII and began operation April 1993 to contain the toe of plume and treat off-property contaminated ground water (Figure 1-1 - Appendix A). An on-property 400 gpm pump and treat facility was installed and began operation February 1994 (Figure 1-1 - Appendix A). The off-property ground water contamination has been significantly reduced and the plume reduced to a residual cell that is no longer connected to the on-property plume (Figure 1-2 - Appendix A and Monthly Pentachlorophenol Monitoring Results - Appendix B). Because the off-property treatment facility was no longer removing contaminant the facility was taken off line December 1995 and placed in reserve. The residual plume is being monitored through monthly sampling. Off-property drinking water will continue to be supplied to residents with contaminated drinking water wells until monitoring for a year shows pentachlorophenol (PCP) below 1.1 ppb. The on-property treatment facility remains in operation and the quarterly monitoring reports show boundary containment to be effective.

2.2 Soils

The ROD set residential use as the remedial objective for soils. An ESD was issued January 1991 reducing the cleanup objective to the top five feet of soil. Two concrete drip pads were installed in the process area in 1992 to prevent treated product from contaminating the soil. Under the original ROD fifteen thousand cubic yards of dioxin contaminated soil was landfilled onsite in Cell #1 August 1995 (Figure 1-3 - Appendix A). The ROD listed the use of various soil treatments for selected areas of the site. During remedial design it was determined that dioxin contamination was not confined which made the ROD listed soil treatments unfeasible. ROD Amendment #1 was issued August 1996 which changed the final remedy for soils to onsite landfilling. The ROD Amendment #1 also changed the soil cleanup level from residential to industrial and required deed restriction to prevent future residential use. Onsite landfill Cell #2 has a capacity of 145,000 cubic yards and as of November 1997 has received 109,000 cubic yards of contaminated soil and been capped (Figure 1-3 - Appendix A). The ROD allows the remaining contaminated soil which resides in the process area to remain until the process equipment is replaced or when wood treating operation ceases. The remaining capacity of Cell #2 is reserved for the process area soil. A completion date for the removal of the remaining estimated 20,000 cubic yards of process area soil is unknown.

3.0 Recommendations

Ecological risk assessment review criteria has developed since the site ROD was signed. After review, EPA has determined that an ecological risk assessment is not warranted for the KII site. EPA's assessment is based on a review of site data, lack of biological receptors, continued industrial use and the data supporting the 1997 renewal of the site's State of CA Waste Discharge Permit 97-076.

Since the site ROD, a drinking water Maximum Contaminant Level (MCL) has been developed for pentachlorophenol (PCP) of 1 ppb. The ROD treatment action level set for PCP is 2.2 ppb. and the criteria for ending the alternative water supply subsidy for contaminated drinking water wells is a year below 1.1 ppb. After review, EPA has determined that the ROD action level for PCP is protective. EPA's assessment is based on a lifetime excess cancer risk for people of drinking site water of 4E-6, well within the Superfund target risk range.

As part of the approvals of the areas of the onsite soil remediation, EPA will require 1) the deed restriction for KII site property remain industrial property be in place and 2) property bounded by landfill Cell's #1 and 2 be deeded to remain the responsibility of the potential responsible party.

4.0 Statement of Protectiveness

EPA finds the response actions contained in the ROD, ESD and ROD Amendment #1 remain effective in protecting human health and the environment.

5.0 Next Five-Year Review

The next five-year review will be conducted by January 2003 and review the status of off-property ground water plume degradation, effectiveness of on-property ground water containment and available access to the process area contaminated soil. Any questions may be directed to Charles Berrey, Remedial Project Manager for the site.

Approved by: Keith Takata —

Date: 12-29-97

Keith Takata, Director
Superfund Division
Region 9

APPENDIX A

FIGURES

Figure 1-1 Site Location Map and Treatment Plant Locations

Figure 1-2 Plume Site Plan Pentachlorophenol 1997

Figure 1-3 Onsite Soil Disposal Cells #1 and #2

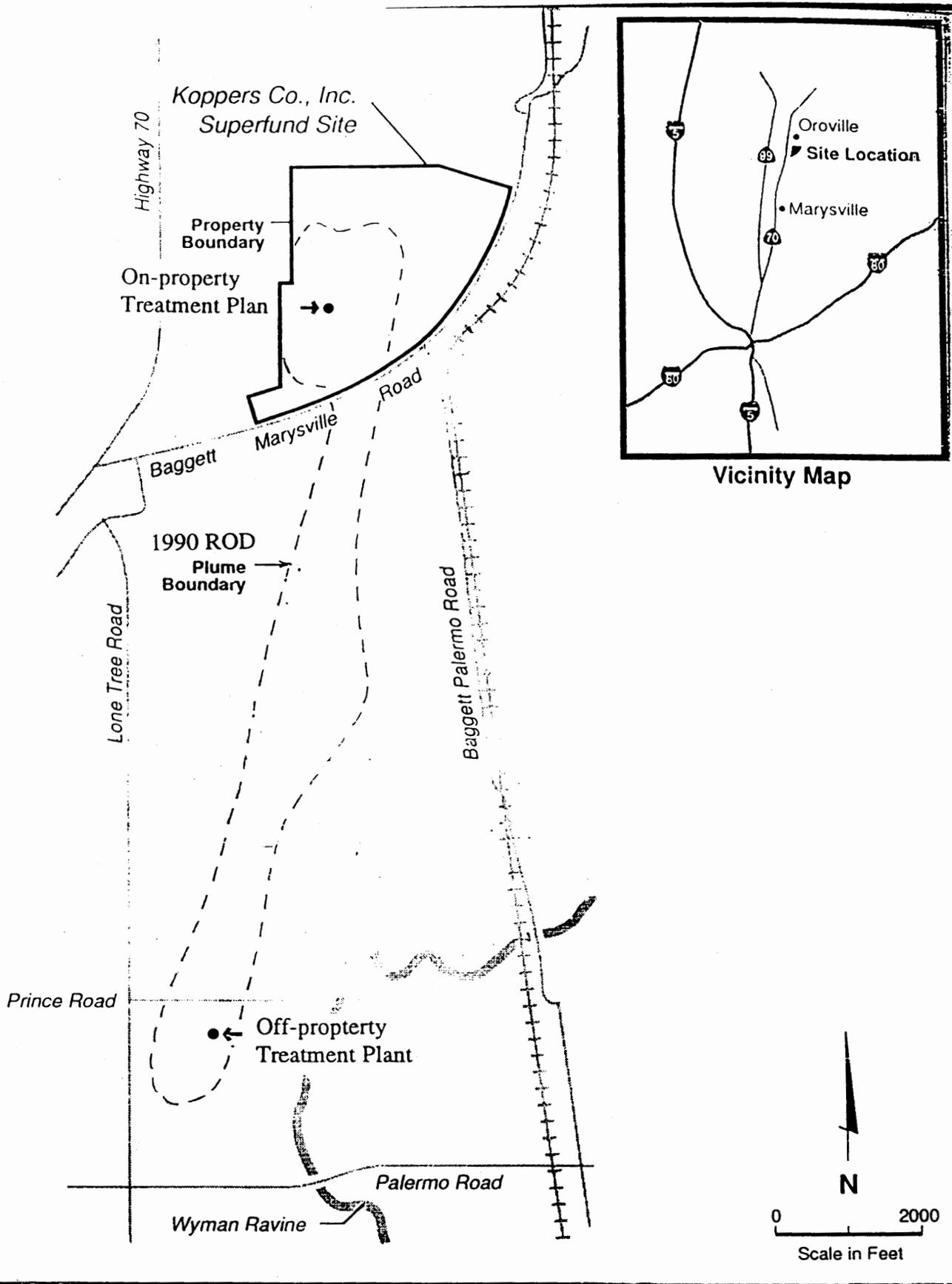
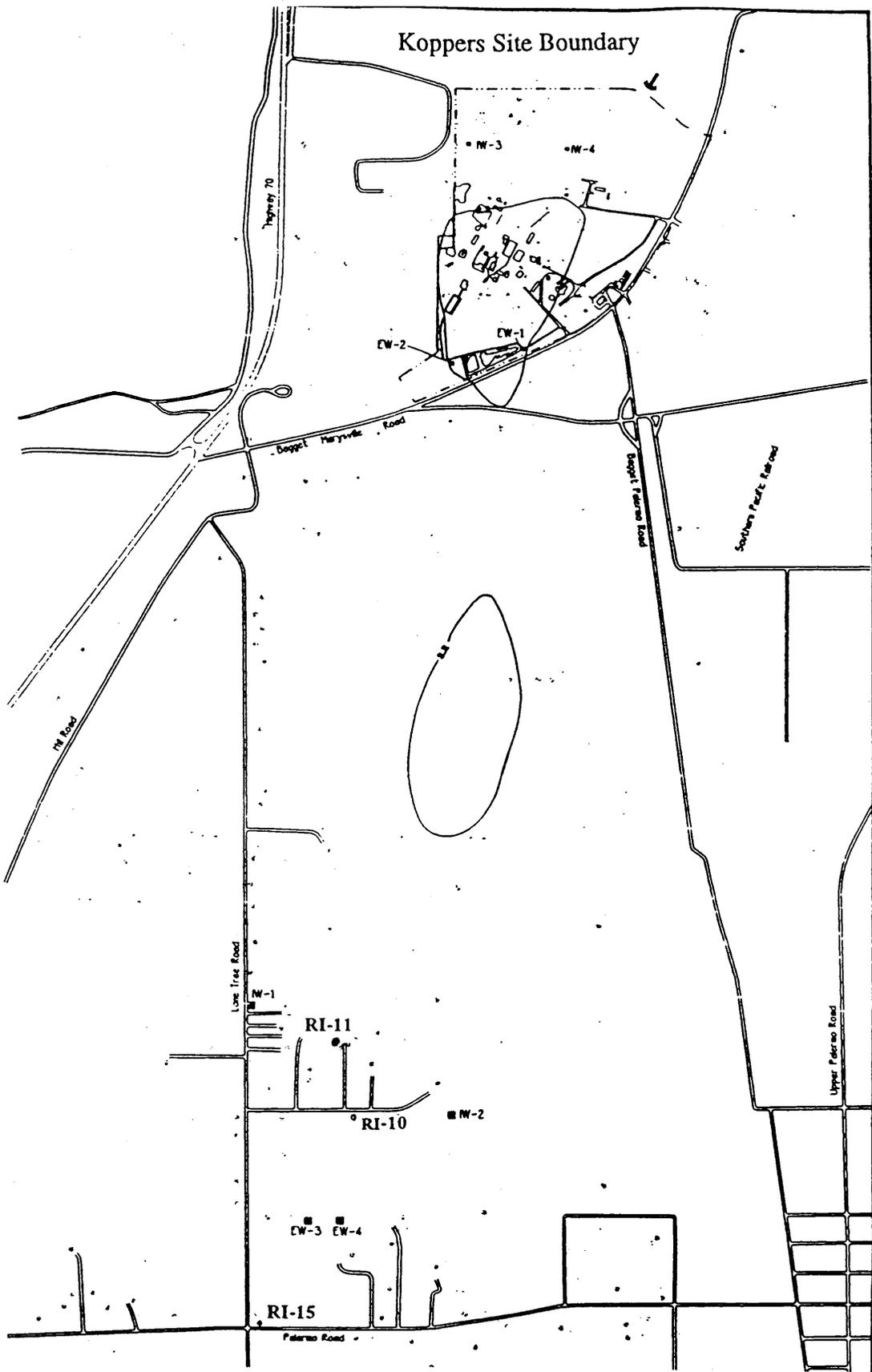


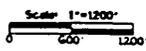
Figure 1-1 Site Location Map and Treatment Plant Locations

Koppers Site Boundary

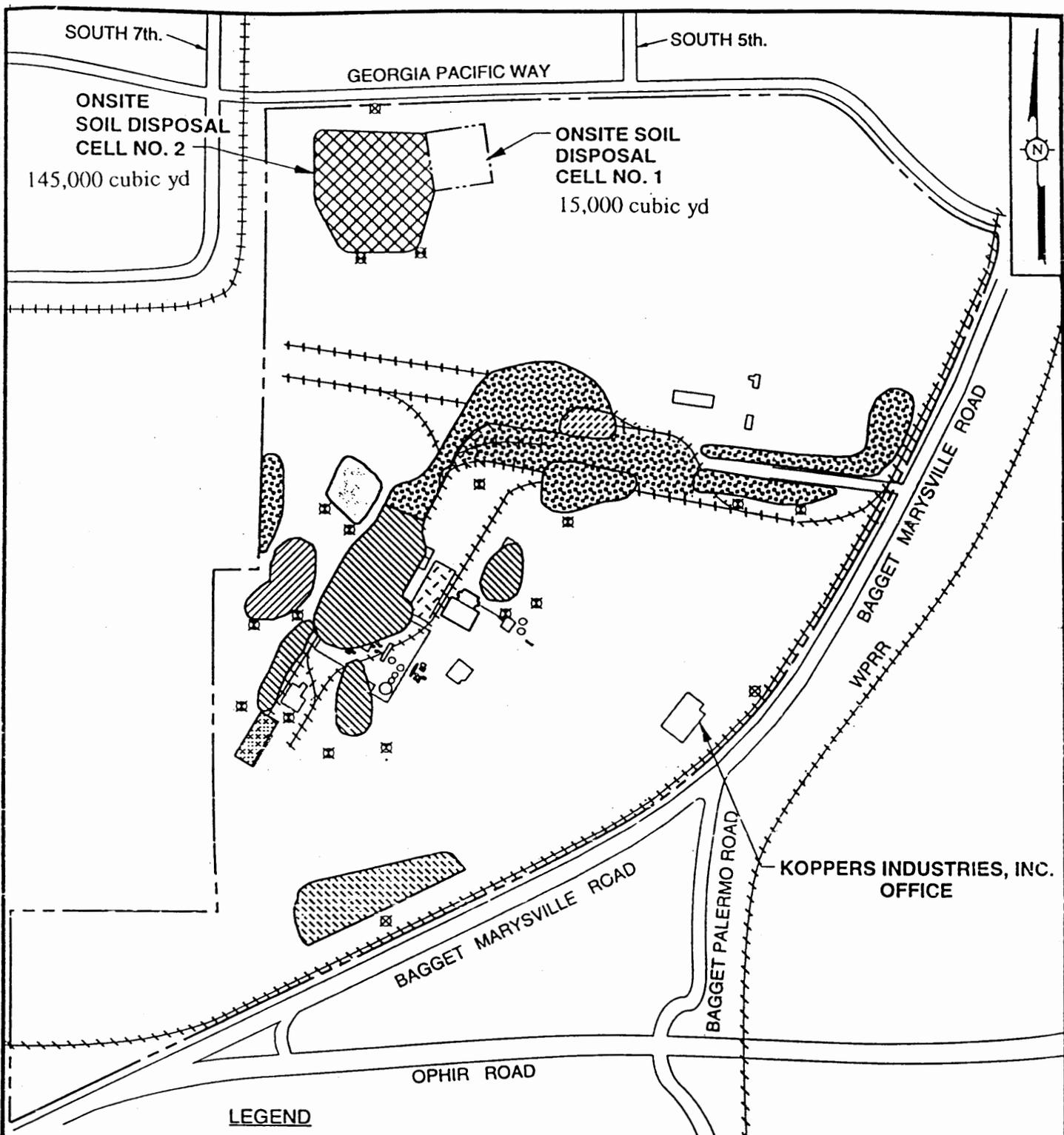


EXPLANATION

- Domestic Wells
- ◆ Industrial Wells
- ◇ Irrigation and Stock Wells
- Unused Wells
- ▲ Monitoring, Test and Remedial Investigation Wells
- △ Surface Water Gauge
- Extraction and Injection Wells
- - - Property Boundary
- - - PCP Concentration in Groundwater
January/February 1997



Koppers Company, Inc. Monitoring 1996	DATE: 07-02-97
<h2>Figure 1.2 Plume Site Plan</h2> <h3>Pentachlorophenol 1997</h3>	



LEGEND

- | | | | |
|--|--|--|--------------------------------------|
| | SOIL STORAGE BUILDING | | FIRE SAFETY WATER POND |
| | FORMER LOG DRYING AREA | | SITE PERIMETER |
| | FORMER DRIP TRACK AREA | | EXCLUSION ZONE DUST MONITORING POINT |
| | PROCESS AREA | | DISPOSAL CELL DUST MONITORING POINT |
| | FORMER CREOSOTE POND AND CELL ON BLOWDOWN AREA | | SITE PERIMETER DUST MONITORING POINT |
| | FORMER POLE WASHER AREA | | METEOROLOGICAL MONITORING STATION |
| | FORMER BIOLOGICAL TREATMENT UNIT | | |
| | FIRE CONTAMINATED EQUIPMENT STORAGE AREA | | |
| | ONSITE SOIL DISPOSAL CELL NO. 2 | | |

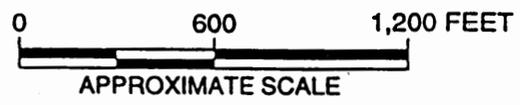


Figure 1.3
 Onsite Soil Disposal Cells #1 and #2
 KOPPERS COMPANY, INC. SUPERFUND SITE
 FEATHER RIVER PLANT
 TRC ENVIRONMENTAL SOLUTIONS, INC.

APPENDIX B
SUPPORTING DOCUMENTATION

ROD Septempber 1989	Page 4
ESD January 1991	Page 9
ROD Amendment #1 August 1996	Pages 1 and 2
Monthly Pentachlorophenol Monitoring Results 01/29/96 - 10/27/97	Page 1

KOPPERS SUPERFUND SITE
OROVILLE, CALIFORNIA

OPERABLE UNIT RECORD OF DECISION

United States Environmental Protection Agency
Region IX - San Francisco, California
September, 1989

Decision Summary

1.0 Site Name, Location, Description

The Koppers Company site is located in Butte County just south of the city limits of Oroville, California. (See Figure 1-1, Site Location Map) The facility is a 200-acre operating wood treating plant. The Koppers site is bordered on the west by the Louisiana-Pacific Corporation facility, which is also on EPA's Superfund National Priorities List.

The western boundary of the Koppers site is about 3000 feet east of the Feather River. The site lies in the Feather River flood plain, which is approximately 2.7 miles wide near the site. The site lies about 145 feet above sea level, while the Feather river is about 130 feet above sea level. Gold mining dredge operations occurred in the early 1900's in the area of the Koppers site. Tailing piles from this dredging remain on the northern part of the site. These piles rise 150 feet above sea level. To the east and southeast of the plant are hills which rise 250 to 300 feet above sea level.

Surface water runoff flows from the Koppers site to the west onto the neighboring Louisiana-Pacific facility. This water flows primarily in a ditch between the two sites, and through a channel which traverses the Koppers site's spray fields in a generally northeast to southwest direction.

The geology underlying the site consists of gravels, sands, and clays that were deposited by the Feather and ancestral Feather River systems. Several interconnected aquifer zones have been defined on and off the site. The regional ground water flow is generally to the south, with upper aquifers demonstrating some southwesterly components.

Land use in the vicinity of the site is mixed agricultural, residential, commercial, and industrial. One- to five-acre farms exist, and much of the produce and livestock is raised for home use and not sold commercially. Residential areas are located to the south, southeast, west, and northeast of the site. Three schools are located within a two-mile radius of the site.

The ROD also noted that institutional actions, such as site access and groundwater use restrictions, would be implemented for all alternatives.

III. Description of Significant Differences

This ESD modifies certain portions of EPA's ROD issued on April 4, 1990. To the extent that this ESD differs from the ROD, the ESD supersedes the ROD. As explained in greater detail below, this ESD addresses the following issues:

1. The existing remedial objectives for soil remain in effect for surface soils down to a depth of five feet.
2. EPA will establish cleanup standards for subsurface soil to provide for protection of groundwater.
3. Institutional actions will be included as interim measures as part of the remedies for soil and groundwater.

A. Remedial Objectives for Surface Soil

The existing remedial objectives for soil are based on the health risks from direct exposure to such soils, either through ingestion, dermal contact or inhalation of dust. The depth of cleanup should be adequate to assure that future residential development and use of the plant property will not expose residents to soil exceeding the "direct exposure" cleanup objectives.

KOPPERS SUPERFUND SITE
OROVILLE, CALIFORNIA

EXPLANATION OF SIGNIFICANT DIFFERENCES

U.S. Environmental Protection Agency
Region IX - San Francisco, California
January 1991

AMENDMENT #1

to the

RECORD OF DECISION

for the

SOIL AND GROUND WATER OPERABLE UNIT

KOPPERS COMPANY, INC. SUPERFUND SITE
OROVILLE, CALIFORNIA

U.S. Environmental Protection Agency
Region 9
San Francisco, California

August 1996

I. DECLARATION

SITE NAME AND LOCATION

Koppers Company, Inc.
Oroville, California

STATEMENT OF BASIS AND PURPOSE

This decision document presents the revised selected remedial action for contaminated soils at the Koppers Company, Inc. (Koppers) site in Oroville, California, which was chosen in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision is based on the administrative record for this site.

The State of California concurs with the selected remedy.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Record of Decision (ROD), may present an imminent and substantial endangerment to public health, welfare, or the environment.

DESCRIPTION OF THE SELECTED REMEDY

This Record of Decision (ROD) amends the previously selected remedy for soils at the Koppers site. The revisions affect both the cleanup standards and the cleanup technologies selected in the 1989 ROD for this site. The major components of the revised soil remedy are:

- Cleanup standards based on continued industrial use of the site;
- Excavation of contaminated surface soils and placement in a new on-site landfill;

- Excavation of subsurface soils in the former pole washer and creosote pond areas (including a small volume of principal threat waste) and placement of these soils in a new on-site landfill;
- Excavation of the former soil filtration bed and placement in a new on-site landfill;
- Backfilling and grading the excavated areas; and
- Deed restrictions to prohibit future residential development (and other inappropriate uses) of the site.

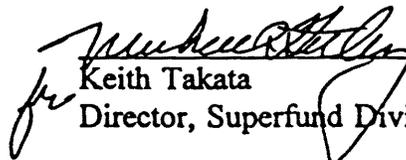
This remedy addresses the risks to human health and the environment posed by the contaminated soils and debris at the site. As provided in the 1989 ROD, the cap in the process area will remain as an interim remedy for that area of the site so that the Koppers plant can continue to operate without major disruption. When soils beneath the capped area are accessible, this contaminated soil will be remediated to achieve the same cleanup standards selected in this ROD.

The excavation of subsurface soil in the former pole washer area will also enhance the ongoing ground water remedy by facilitating the removal of a significant volume of highly contaminated perched ground water.

STATUTORY DETERMINATIONS

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate, and is cost-effective. This revised soil remedy utilizes containment rather than treatment technologies to address the wastes at the site. Because this remedy will result in hazardous substances remaining on-site above health-based levels, EPA shall conduct a review pursuant to Section 121(c) of CERCLA, 42 U.S.C. §9621, within five years after commencement of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment.

8/29/96
Date


for Keith Takata
Director, Superfund Division

MONTHLY PENTACHLOROPHENOL MONITORING RESULTS
 DURING SUSPENSION OF
 OFF-PROPERTY REMEDIATION SYSTEM
 KOPPERS COMPANY, INC. SUPERFUND SITE
 OROVILLE, CALIFORNIA

2nd sample taken
 + did not contain
 3.5 ppb.

DATE	EW-3	EW-4	RI-10	RI-11	RI-15
01/29/96	<0.2	<0.2	<0.2 (1)	<0.2	<0.2
02/22/96	<0.2	<0.2	<0.2	3.5	<0.2
02/22/96 DUP				<0.2	<0.2
03/25/96	<0.2	<0.2	<0.2	<0.2	<0.2
03/25/96 DUP		<0.2			
04/30/96	<0.2	<0.2	<0.2	<0.2	<0.2
04/30/96 DUP				<0.2	
05/30/96	<0.2	<0.2	<0.2	<0.2	<0.2
05/30/96 DUP					<0.2
06/27/96	<0.2	<0.2	<0.2	<0.2	0.7
07/29/96	<0.2	<0.2	<0.2	<0.2 (2)	<0.2
08/28/96 (3)	<0.5	<0.5	<0.5	<0.5	<0.5
08/28/96 DUP					<0.5
09/23/96	<0.5	0.9	<0.5	<0.5	<0.5
10/31/96	<0.5	<0.5	1.3	<0.5	<0.5
11/20/96	<0.5	<0.5	<0.5	0.8	<0.5
01/02/97 (4)	<0.5	<0.5			
01/03/97 (4)			<0.5	<0.5	<0.5
01/27/97	<0.5	<0.5			
01/28/97			<0.5	<0.5	<0.5
01/28/97 DUP				<0.5	
02/26/97	<0.5	<0.5	<0.5	<0.5	<0.5
03/26/97	<0.5	<0.5	<0.5	0.6	<0.5
04/28/97	<0.5	<0.5	<0.5	0.5	<0.5
04/28/97 DUP			<0.5		
05/27/97	<0.5	<0.5	<0.5	0.7	<0.5
05/27/97 DUP				1.0	
06/26/97	<0.5	<0.5	<0.5	1.3	<0.5
07/31/97	<0.5	<0.5	<0.5	1.8	<0.5 (5)
07/31/97 DUP				1.9	
08/26/97	<0.5	<0.5	<0.5	3.6	<0.5
08/26/97 DUP				3.5	
09/24/97	<0.5	<0.5	<0.5	4.3	<0.5
09/24/97 DUP				2.6	
10/29/97	<0.5	<0.5	<0.5	3.4	<0.5
10/27/97 DUP				3.2	

Notes:

All concentrations in µg/L

- (1) Sample RI-10 collected 1/29/96 broke in transit to analytical laboratory. Well was resampled on 2/01/96.
- (2) Sample RI-11 collected 7/29/96 broke in transit to analytical laboratory. Well was resampled on 7/31/96.
- (3) The method reporting limit for pentachlorophenol has been raised to 0.5 µg/L, in accordance with August 2, 1996 letter from the RWQCB to the EPA.
- (4) Wells EW-3, EW-4, RI-10, RI-11, and RI-15 were not sampled in December 1996 due to extremely heavy rains in northern California at the time. This was reported by letter to the EPA on January 20, 1997.
- (5) Sample RI-15 collected 7/31/97 broke in transit to analytical laboratory. Well was resampled on 8/5/97.