



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105-3901



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August 23, 1995

MEMORANDUM

SUBJECT: MGM Superfund Site Explanation of Significant Differences (ESD)

FROM: Nancy Lindsay, Chief   
Enforcement Response Branch

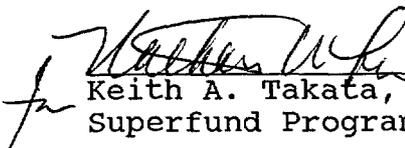
TO: Keith Takata, Director  
Superfund Programs

Attached for your signature is the Explanation of Significant Differences (ESD) for the MGM Brakes Superfund site final remedy Record of Decision (ROD).

The 1988 Record of Decision for the MGM Brakes site selected excavation and offsite disposal of PCB contaminated soils above 10 ppm. The ROD also called for further investigation of VOC groundwater contamination and remediation to MCLs or a  $10^{-6}$  risk level; the specific groundwater cleanup option was to be determined as part of the remedial design. The PRPs have been implementing the remedy pursuant to the 1990 Consent Decree.

The ESD modifies the 1988 ROD by leaving certain PCB-contaminated soils in place, imposing land use restrictions in those areas, and identifying natural attenuation as the groundwater cleanup option. A Voluntary Covenant imposing the land use restrictions has been entered into between TBG, Inc. (PRP and current site owner) and the California Department of Toxic Substances Control, and was recorded in July 1995. DTSC and the North Coast Regional Water Quality Control Board have both concurred with the ESD, as described in Section V.

Please indicate your concurrence by signing below. Please let me know if you have any questions or would like additional information.

  
Keith A. Takata, Director  
Superfund Programs

8.25.95  
Date

**MGM Brakes Superfund Site  
Cloverdale, California**

**EXPLANATION OF SIGNIFICANT DIFFERENCES  
August 14, 1995**

**I. Introduction**

On September 29, 1988, the United States Environmental Protection Agency (EPA) signed a Record of Decision (ROD) for the MGM Brakes Superfund Site in Cloverdale, California. The purpose of this Explanation of Significant Differences (ESD) is to explain the significant differences between the remedial action originally selected in the 1988 ROD and the remedial action activities which have been and will be implemented at the Site.

Under Section 117 (c) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendment and Reauthorization Act of 1986, 42 U.S.C. Section 9617, and pursuant to 40 C.F.R. Section 300.435 (c)(2)(i) (55 Fed. Reg. 8666,8852 (March 8, 1990)), the EPA is required to publish an ESD when significant changes are made to a final remedial action plan as described in a ROD.

This document provides a brief background of the MGM site, a summary of the remedy selected in the 1988 ROD, a summary of remedial action implementation to date, a description of the changes the EPA is making to the ROD, and an explanation of why the EPA is making these changes. The EPA is issuing this ESD as a result of technical data received after the ROD was signed that affects the soil and groundwater remedies described in the 1988 ROD.

As required by 40 C.F.R. Section 300.825(a)(2), this ESD and all documents that form the basis for the ESD will become part of the MGM Brakes Administrative Record File. This File is available for public review at the following locations:

Cloverdale Regional Library  
401 N. Cloverdale Blvd.  
Cloverdale, CA  
(707)894-5271

U.S. EPA, Region 9  
Superfund Records Center  
95 Hawthorne Street, 4th Floor  
San Francisco, CA  
(415)536-2000

## II. Background

### 1. Site Description and Background

The MGM Brakes site is located in Cloverdale, California, a northern California community in the Alexander Valley approximately 80 miles north of San Francisco. The MGM Brakes facilities, a portion of which comprise the MGM Brakes Superfund Site, are located at the southern edge of Cloverdale.

From 1965 to 1972, manufacturing operations at what is now the MGM Brakes Superfund Site led to contamination of soil with hazardous substances, primarily polychlorinated biphenyls (PCBs). In 1981, the Regional Water Quality Control Board (RWQCB) discovered the contamination during a routine inspection.

The site was added to the Superfund National Priorities List (NPL) in 1983. In 1985, the EPA became the lead agency for the site. The RWQCB has been working closely with EPA and continues to provide support for the MGM Site. Also, the Department of Toxic Substances Control (DTSC) has provided support to EPA on site related issues.

In 1986, volatile organic compounds (VOCs) (including Trichloroethane (TCE), Vinyl Chloride, Benzene, 1,1-Dichloroethene (1,1-DCE), 1,4-Dichlorobenzene (1,4-DCB), chlorobenzene, 1,1,1-Trichloroethane (TCA), and cis-1,2-Dichloroethene (cis-1,2-DCE)) were detected in the groundwater beneath the site.

### 2. Selected Remedy in the September 29, 1988 ROD

The selected remedy for the PCB contaminated soils was excavation and off-site disposal of soils above 10 ppm PCB. Soils would be excavated to a depth of at least five feet for most of the contaminated portions of the site, with limited areas being excavated to 29 feet. Soil excavation below five feet would encounter groundwater and require dewatering. Groundwater pumped from the excavation would be treated to remove suspended sediment, PCBs, and VOCs. Excavated areas would be backfilled with clean soil containing less than 1 ppm PCBs.<sup>1</sup> No land use restrictions or institutional controls would be needed. In addition, the ROD required demolition of the Casting Plant and decontamination of PCB-contaminated equipment and materials.

(Footnote 1) The EPA selected the 10 ppm soil cleanup level based on a national PCB Spill Cleanup Policy (40 C.F.R. Section 761.120 Subpart G)). The Spill Policy establishes a 10 ppm cleanup level in residential and commercial areas, when a 10 inch cap of clean soil (defined as <1 ppm PCB) is placed over the residual PCBs.

The groundwater remedy in the 1988 ROD included activities to locate the source of VOCs, installation of additional wells to evaluate the extent of VOC contamination, and groundwater monitoring for VOCs and PCBs. The ROD provided for development and implementation of additional remedial measures, if warranted, to ensure that groundwater is restored to MCLs or a 10<sup>-6</sup> risk level.

### 3. Remedial Action Activities Completed

Remedial activities for the MGM Superfund site are divided into three parts: Demolition Work, Excavation Work, and Groundwater Work.

Demolition Work: The Demolition Work was completed in the fall of 1992. This work included demolition of site structures, including the casting building. (The Draft Prefinal Inspection Report for the Building Demolition Work, dated January 26, 1993 provides a detailed report).

Excavation Work: This work was completed in July 1994. It included removal of soil, concrete and debris containing PCBs above established cleanup levels. (The Final Prefinal Inspection Report for the Excavation Work, dated July 1994, and the Prefinal Inspection Report #2, dated October 1994 provides more detailed information).

Groundwater Work: Groundwater monitoring for VOCs, PCBs, and SVOCs has been conducted to determine the levels and extent of the VOC groundwater contamination, and additional monitoring wells have been installed. Although three separate investigations were performed (in 1988, 1989, and 1991) to locate the source of VOCs, no source has been located. (Technical Memorandum #3, dated November 1994 and Final VOC GW Monitoring Plan, dated April 17, 1995 provides more detailed information).

The evaluation and recommendation of a preferred alternative was completed in Technical Memorandum #3, dated November 1994. The recommended alternative was natural attenuation<sup>2</sup> with monitoring. Implementation of the recommended alternative included installation of 6 additional monitoring wells in 1994. Construction activities have been completed, and the only activity remaining at this site is long-term monitoring as described below.

(Footnote:) The term "natural attenuation" is used here in its broadest sense. EPA has determined that this alternative is appropriate for the MGM Brakes site based on certain site-specific criteria described below.

### III. Summary of Significant Differences

This ESD modifies and clarifies certain aspects of the remedy set forth in the 1988 ROD. To the extent that the ESD differs from the ROD, this ESD supersedes the ROD.

#### 1. Remaining PCBs in the Soil above 10 ppm

During the excavation of PCB-contaminated soils, the PRPs conducting the work were unable to complete excavation activities as planned due to the presence of bedrock encountered at depths greater than 15 feet in certain areas.

Due to the difficulty associated with excavation of bedrock, the PRPs proposed a modification to the excavation component of the remedy which would leave in place bedrock which: 1) contained less than 100 ppm PCB, and 2) was at least 15 feet below ground surface. Based on this criteria, only eleven out of more than 900 square grid areas would be left in place. A map detailing the grid areas, and remaining PCB concentrations can be found in the "Proposed Final Prefinal Inspection Report for the Excavation Work", Volume 1 of 9, Figure 8, dated July 1, 1994. The elevations for each grid area can be found in Table 3 of the same document.

EPA has determined that the modified remedy is protective of human health and the environment. This determination is supported by the fact that the remaining PCB material is greater than 15 feet deep resulting in no significant exposure pathways. Protectiveness will be ensured through land use restrictions that will pertain to soils located beneath 15 feet. These restrictions are described below.

#### 2. Land Use Restrictions

The EPA, the State of California, and the property owner have agreed on land use restrictions (contained in a "Voluntary Covenant") that will pertain to soils located beneath 15 feet below ground surface in eleven grid areas of the MGM site where PCBs still remain. The Voluntary Covenant outlines precautions that property owners are required to follow if they conduct excavation activities in the specified areas, including regulatory notification, sampling, dust control procedures, proper disposal of excavated soils and backfilling with clean soil. The Voluntary Covenant will be recorded as required by California state law, and will be binding on all current and future owners and occupants of the property.

### 3. Groundwater Remedy

The original ROD specified that groundwater cleanup would achieve MCLs or other health-based standards and a  $10^{-6}$  risk level to the site boundary, but left the design alternatives to be determined in the future, following additional groundwater monitoring. Seven sampling rounds were conducted in 1994/1995 at eleven monitoring wells. Five of the eleven wells showed detectable VOC concentrations, but only TCE was detected above its MCL (5 ppb). Three of the wells contained concentrations of TCE above MCLs during March 1994 through April 1995. Detected groundwater concentrations of TCE over the last seven sampling rounds are listed below:

Well	March	April	May	June
B-45R	25	13	22	23
B-50	28	11	16	14
B-73	27	18	23	19
B-31	2	<1.0	2	2
B-71-1	2	<1.0	1	1

**Table 1. TCE Concentrations (ppb), March-June 1994  
Based on EPA duplicate samples collected.**

Well	September	January	April
B-45R	22	22	22
B-50	22	13	11
B-73	20	21	19
B-31	2.9	.58	2.4
B-71-1	1.2	1.1	1.9
B-77-A	not analyzed	3.0	1.7
B-77-B	<0.5	<0.5	.60

**TABLE 2 TCE CONCENTRATIONS (ppb), September 94 - April 95  
Based on EKI results.**

The EPA has chosen natural attenuation as the design alternative to implement the groundwater remedy. As part of the remedy, the EPA established federal MCLs as the cleanup levels for the contaminants which must be achieved within the established boundary line (Point of Compliance) (See Figure 3). The MCL for each contaminant must be reached at all sampling points within the contamination plume and at the Point of Compliance before the EPA will consider the groundwater remedy complete. Since TCE is the only VOC that still exceeds the MCL, the only cleanup standard not yet achieved is the MCL for TCE (5 ppb).

The EPA has established a long-term monitoring plan to track progress and verify the effectiveness of the remedy. (See Final VOC Groundwater Monitoring Plan, dated April 1995). Quarterly monitoring will continue until levels are at or below the MCLs for six consecutive quarters, followed by annual monitoring showing levels at or below MCLs for five consecutive years to confirm that MCLs have been achieved inside the Point of Compliance.

In addition, EPA has notified the Sonoma County Department of Health and advised the County not to approve permits for domestic wells in areas where the groundwater contamination plume is still above MCLs.

The EPA selected natural attenuation to the Point of Compliance boundary with continued groundwater monitoring from a number of options incorporating several technologies or approaches. Following a screening level evaluation of alternatives, five alternatives were analyzed in greater detail and evaluated against the nine criteria set forth in the National Contingency Plan (NCP), 40 C.F.R. Section 300.430(e)(9)(iii). The five analyzed alternatives and associated costs and cleanup times are shown in Table 3.

Design Alternative	Lifetime Cost	Estimated Cleanup Time
No Action	See Note 1	See Note 1
No Further Action (natural attenuation with no further monitoring and confirmation)	See Note 1	See Note 1
Natural Attenuation to Point of Compliance, continued monitoring	\$385,000 (2)	7 years
Groundwater Treatment using GAC adsorption	\$765,000(2)	4 years
Groundwater Treatment using air stripping	\$778,000(2)	4 years

**Table 3. Remedial Design Alternatives for Groundwater**

Notes:

1) Not evaluated because MCLs could not be achieved and therefore the alternative would not be protective of human health and the environment.

2) Expressed in 1994 dollars without adjustment for inflation or present worth discounting.

The EPA ultimately chose natural attenuation for the following reasons:

1) Groundwater monitoring at the site since 1986 shows that VOC concentrations, which were relatively low to begin with, have been declining naturally over time. On the basis of the observed trend of decreasing VOC concentrations, EPA estimates that natural attenuation will achieve cleanup levels within the Point of Compliance, after approximately seven years.

2) The extent of the contaminated the plume is small (Approximately 600 feet by 100 feet). The sustained yield is low, therefore it would be technically difficult to design and construct an effective treatment system. In addition, the contaminated aquifer is not currently being used as a drinking water source.

3) The cost of natural attenuation is half the cost of the treatment options evaluated, and would take only a few years longer to achieve MCLs.

A more detailed description and analysis of groundwater remedial design alternatives can be found in the Final Technical Memorandum No. 3: Evaluation of Remedial Design Alternatives for Groundwater VOCs, November 22, 1994.

#### **IV. Five Year Review**

The 1988 ROD stated that because the remedy would not result in hazardous substances remaining on site above health-based levels, no five-year review would be required.

CERCLA Section 121(c) and the NCP require five-year reviews of remedial actions that result in hazardous substances remaining at the site above levels that allow for unlimited use and unrestricted exposure, to ensure that the remedy remains protective. EPA guidance also provides that five-year reviews will be conducted for long-term Remedial Actions where the cleanup levels specified in the ROD will take five or more years to attain. (40 CFR Section 300.430(F)(4)(ii); Structure and Components of Five-Year Reviews, OSWER Directive 9355.7-02, May 23, 1991).

With respect to the remaining PCB soils, if excavation is conducted in any of the eleven Restricted Areas of the Property, as defined by the Voluntary Covenant, then the five-year review requirement will be triggered. With respect to the VOC groundwater cleanup, which is estimated to take seven years to reach MCLs, a five-year review will be conducted in accordance with EPA guidance prior to achieving MCLs.

#### **V. Support Agency Comments**

##### *North Coast Regional Water Quality Control Board*

The North Coast RWQCB concur with EPA's decisions to leave in place the remaining PCB-contaminated soils, to impose land use restrictions to ensure that the remedy remains protective, and to use natural attenuation for groundwater cleanup.

The RWQCB provided draft comments to EPA on the draft ESD. The Board commented that the applicability of the State's Basin Plan (which establishes water quality objectives including State MCLs) as an ARAR should be clarified in the ESD, but acknowledged that the issue is moot because TCE is the only VOC in groundwater that exceeds its MCL of 5 ppb, and the federal and State MCL for TCE are the same. The RWQCB asked for clarification on the relationship between the ESD and the Consent Decree. The Board also noted confusing language regarding the areas where PCBs will remain in place, and concurred with the statement of when

groundwater remediation would be considered complete.

EPA agrees with the Board that the only cleanup standard not yet achieved is the MCL for TCE. Consequently EPA believes that additional evaluation of ARARs is not needed for this ESD. Although the ESD modifies certain aspects of the 1988 ROD, the ESD does not alter the PRPs' obligations required by the Consent Decree. The language about areas where PCBs remain has been clarified.

#### *Department of Toxic Substances Control*

The Department of Toxic Substances Control has reviewed and concurs with this ESD.

### **VI. Affirmation of the Statutory Determinants**

Considering the new information that has been developed and the changes that have been made to the selected soil and groundwater remedies, the EPA believes that the MGM Brakes Superfund Site remedy as modified by this ESD remains protective of human health and the environment, complies with all State and Federal requirements that are applicable or relevant and appropriate to this remedial action, and is cost effective. In addition, the revised remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this site.

### **VI. Public Participation Activities**

EPA released the Proposed Plan for the site in May 1988, at the same time making the Administrative Record available in the information repository maintained at the Cloverdale Regional Library. EPA also mailed the Proposed Plan to interested individuals on the mailing list and held a thirty-day comment period. During the public comment period, EPA conducted a public meeting on held May 18, 1988 in Cloverdale, CA. At this meeting, representatives from EPA presented the Proposed Plan, answered questions about the site and the remedial alternatives under consideration, and accepted comments from the public. The notice of availability of the Remedial Investigation report, Feasibility Study, Proposed Plan, and the rest of the administrative record was published before the start of the comment period and the scheduled public meeting.

The Cloverdale community has been informed of all major site-related activities since field work began in 1991. One fact sheet discussed the additional studies for the soil and groundwater (Spring 1991), a second fact sheet discussed building demolition activities (April 1992), and a third fact sheet

discussed completion of soil remediation and upcoming groundwater sampling (March 1994). EPA also gave a presentation to the Friends of Cloverdale, a local citizen's group, in June 1992. The RWQCB held a public hearing on a NPDES Permit for the groundwater pump and treat activities in December 1992. EPA held a community meeting on May 5, 1993 to discuss soil removal activities. In January 1994, EPA met with the Friends of Cloverdale to discuss concerns regarding site activities. As a follow up to that meeting, EPA held a public meeting on March 8, 1994 to discuss soil excavation activities and upcoming groundwater sampling activities. In addition, EPA held a public meeting on August 9, 1994 to discuss groundwater sampling results which were collected after PCB-contaminated soil had been removed, and to announce natural attenuation as the proposed groundwater remedy. Written comments were solicited during this meeting, however no comments were received from the community regarding the proposed option. In December 1994, EPA also released a fact sheet describing the groundwater remedy.