SFUND RECORDS CTR
1652-00154

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, Ca. 94105

SFUND RECORDS CTR
SDMS# 54153
AR2134

May 10, 1991

California Regional Water Quality
Control Board
415 Knollcrest Dr.
Redding, CA 96002

Shasta County Library
1855 Shasta St.
Redding, CA 96002

Re: Iron Mountain Mine Superfund Site Repository

Dear Repository Coordinator:

Please find enclosed two documents to be added to the file you are maintaining with respect to the above cited site. One is entitled "Explanation of Significant Differences," dated April 1991 and the second is a collection of five letters from the U.S. Department of Commerce, the U.S. Department of the Interior, the California Regional Water Quality Control Board-Central Valley Region, the California Department of Health Services and the California Department of Fish and Game, all commenting on the Explanation of Significant Differences. A public notice is scheduled to appear in the May 22, 1991 edition of the **Redding Record Searchlight** announcing the availability of these documents to the public in your Repository.

On behalf of the Environmental Protection Agency, I wish to express our gratitude to your agency for maintaining the Repository for this Superfund site.

Sincerely,

Fraser Felter
Community Relations Coordinator
H-1-1

cc: Rick Sugarek

Printed on Recycled Paper

IRON MOUNTAIN MINE
NATIONAL PRIORITIES LIST SITE
SHASTA COUNTY, CALIFORNIA

EXPLANATION OF SIGNIFICANT DIFFERENCES

United States Environmental Protection Agency
Region IX -- San Francisco, California
April, 1991

Iron Mountain Mine
National Priorities List Site
Shasta County, California

EXPLANATION OF SIGNIFICANT DIFFERENCES

I. INTRODUCTION

The purpose of this document is to notify responsible parties and members of the public of a change in the implementation of the remedial action at the Iron Mountain Mine site ("IMM" or "the Site"), as selected in the Environmental Protection Agency's October 3, 1986 Record of Decision ("ROD") for the Site. This change will allow the Agency to ensure a more comprehensive response to the environmental problems posed by acid mine drainage at Iron Mountain Mine.

Under Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. § 9617(c), and 40 C.F.R. § 300.435(c)(2), EPA is required to publish an Explanation of Significant Differences ("ESD") whenever a significant, but non-fundamental, change is made to a final remedial action plan. This document provides a brief background on the IMM Site, describes the change and explains the manner in which this change affects the ongoing response at the Site.

By publishing notice of this action, EPA is informing the public that the IMM site is no longer eligible for the "fund-balancing" waiver EPA employed in the 1986 ROD. Under the 1985 National Contingency Plan ("NCP") in effect at the time the 1986 ROD was signed, EPA used the fund-balancing waiver when the cost of a response "that attain[s] or exceed[s] applicable or relevant and appropriate Federal requirements is outweighed by the need for action at other sites that may present a threat to the public health or welfare or the environment, considering the amount of money available in the Fund." Such a waiver could only have been used for Fund-financed actions. The October 3, 1986 Record of Decision assumed that there were no viable responsible parties who could conduct the response action at the Site and that the remedy would be entirely Fund-financed. Due to the use of the Fund-balancing waiver, only limited response actions were planned for the site.

This past year, acting under a unilateral order issued by EPA, representatives of one of the responsible parties at the site completed a major component of the limited response action selected in the ROD.[1] Accordingly, EPA can no longer assume that

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1. In Order No. 89-18 and Order 90-08, EPA identified Iron Mountain Mine, Inc., T.W. Arman and Rhone-Poulenc Basic Chemicals,

all costs of response will be borne by the Agency and the fund-balancing waiver of ARARs should no longer be available. This ESD announces the withdrawal of the ARARs waiver and EPA's intention to select a response action that attains all ARARs, or utilizes another waiver that is appropriate under CERCLA § 121(d)(4).

EPA is not at this time formally amending any of the response actions selected in the October 3, 1986 ROD. The actions selected and implemented to date remain part of a comprehensive approach to cleanup of the Site. EPA is currently completing an RI/FS which will help the Agency select some of the additional actions which are necessary to comply with the statute's remedy selection requirements, including selection of a remedy that is protective of human health and the environment and that does not use the fund-balancing waiver provision. EPA will also ensure that studies required to select further response actions at the Site will be conducted. Among the matters to be included in such further studies are the sediments/sludge in Keswick Reservoir, and other concerns which have been identified by State and federal natural resource agencies.

II. SITE BACKGROUND

A. Site description

Iron Mountain Mine ("IMM" or "the Site") is located in the southeastern foothills of the Klamath Mountains, approximately nine miles northwest of the City of Redding. Between the 1860's and 1963, IMM was periodically mined for metals including copper, zinc, pyrite, silver and gold. The mine area is located on 4,400 acres of property that includes an open pit mine, underground workings, waste rock dumps and tailings piles.

IMM is drained by Boulder Creek to the north, and Slickrock Creek to the south of the mine. Boulder Creek, a perennial stream, receives a portion of its flows from the Lawson and Richmond adits via their mine portals. Slickrock Creek, an intermittent stream, receives discharges from underground seepage and surface flows from the Brick Flat Pit area. A debris slide diverted the original Slickrock Creek drainage and buried adits from which acid mine drainage is emanating.

Slickrock Creek and Boulder Creek flow southeastward into Spring Creek, which flows into the Spring Creek Reservoir, created by the construction in 1963 of the Spring Creek Debris Dam, a unit of the Central Valley Project. Releases from Spring Creek drain into Keswick Reservoir, where they mix with releases of water from Shasta Dam.

Co. as liable persons under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

B. Identification of Lead and Support Agencies

EPA is the lead agency for selection and implementation of response action at IMM. Support agencies include the National Oceanic and Atmospheric Administration, the Department of Interior (including the United States Fish and Wildlife Service and the United States Bureau of Reclamation), the California Department of Health Services, the Regional Water Quality Control Board, and the California Department of Fish and Game.

C. Statement Regarding the Administrative Record.

This ESD will become a part of the Administrative Record file located at:

U.S. Environmental Protection Agency, Region IX
Superfund Records Center
75 Hawthorne Street
San Francisco, CA 94105
Hours: Monday through Friday 8:00 a.m. - 4:30 p.m.,

California Regional Water Quality Control Board
415 Knoll Crest Dr.
Redding, CA 96002
Hours: Monday through Friday 8:00 a.m. - 4:30 p.m.,

Shasta County Public Library
Redding, CA 96002
Hours: Monday and Tuesday 11:00 a.m. - 8:00 p.m. and
Wednesday and Thursday 11:00 a.m. - 6:00 p.m.

D. Summary of history

1. Ownership history

IMM was first secured for mining purposes in 1865. Limited mining began in 1879 for the recovery of silver and gold. In 1895, IMM was sold to Mountain Mining Co., Ltd., following discovery of massive copper sulfide deposits. Mining continued under their ownership until 1897 when the property was transferred to Mountain Copper Co., Ltd. of London, England. Mountain Copper Co., Ltd., conducted extensive mining operations at the site during the first half of the twentieth century. In 1956, underground mining of the Richmond ore body ceased. Open pit mining of the Brick Flat Pit continued until 1962.

In 1967, Stauffer Chemical Co. acquired all of the shares of Mountain Copper Co., Ltd. In 1969, Mountain Copper Co., Ltd., sold the properties comprising Iron Mountain Mine to Mountain Copper, Ltd.'s sole shareholder, Stauffer Chemical Co. Stauffer Chemical Co. subsequently liquidated Mountain Copper Co., Ltd.

Acid mine drainage continued to be formed during Stauffer's ownership and the release of hazardous substances into the environment at IMM continued during this period. On November 5, 1976, the Regional Water Quality Control Board, Central Valley Region ("Regional Board") issued Stauffer an order requiring Stauffer to take corrective measures to reduce the discharge of heavy metals into the Sacramento River.

In December 1976, Stauffer transferred thirty one parcels of the IMM property to Iron Mountain Mines, Inc. ("IMMI").[2] IMMI, a California corporation, is the current owner of IMM. IMMI has owned and operated the site since 1976. Since 1977, IMMI has sometimes operated two copper cementation plants to recover copper from the acid mine drainage from the Slickrock and Boulder Creek drainages.

Subsequent to the sale of the IMM property, Stauffer was itself the subject of several transactions. Stauffer Chemical Co. is currently Rhone-Poulenc Basic Chemicals Co., a Delaware corporation, having changed its name September 18, 1989 from Stauffer Chemical Co., a Division of Rhone-Poulenc, Inc.

2. Summary of enforcement proceeding

During the 1970's and early 1980's, IMM was frequently the subject of cleanup and abatement orders and other compliance orders issued by the Regional Water Quality Control Board.

In 1982, EPA became active in connection with the Site and on April 5, 1982, EPA issued general notices of potential liability to Stauffer and IMMI for the past and continuing threatened releases of hazardous substances from IMM and the resulting damage to and destruction of natural resources.

On September 8, 1983, IMM was included on the EPA National Priorities List of the nation's most contaminated sites. That month, EPA commenced a Remedial Investigation and Feasibility Study ("RI/FS") to study and evaluate potential remedies for the Site.

The RI identified five major sources as responsible for approximately seventy-two percent of the copper and eighty-six percent of the zinc and cadmium being discharged from the Site during the sampling period. These sources were: the Richmond portal, the Lawson portal, Old Mine/No. 8 seep, Big Seep, and the Brick Flat Pit By-Pass. In addition to the five major sources, EPA identified numerous other sources of releases of metals and acid mine drainage at the Site. The studies completed by EPA in 1983 show that the flow of acid mine drainage through tailings piles on the IMM property is also contributing to metals contamination.

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2. Five parcels were transferred to IMMI in December, 1980.

On October 3, 1986, Assistant Administrator J. Winston Porter approved a Record of Decision for the Site based substantially upon the information developed under the RI/FS. Pursuant to 40 C.F.R. § 300.68(i)(5)(ii)(1985)(now 40 C.F.R. § 300.430(f)(1)(ii)(C)(1990)), the remedy selected did not meet all applicable or relevant and appropriate federal requirements because the need for action at other sites outweighed the need to attain applicable or relevant and appropriate federal requirements at IMM. Consequently the Iron Mountain Mine ROD did not address all sources of contamination at the Site or the means to correct all releases.

The ROD approved for the Site authorized the following operable units: the construction of a cap over the Richmond mineral deposit to reduce infiltration into this source of acid mine drainage; diversion of clean surface water from the Upper Spring Creek watershed before it reaches the portion of the basin affected by IMM; diversion of clean water from the South Fork of Spring Creek; diversion of clean water from Upper Slickrock Creek; enlargement of the Spring Creek Debris Dam; installation of necessary perimeter controls; and completion of a study to better define the use of low density cellular concrete to minimize the formation of acid mine drainage.

3. Subsequent to the selection of the Fund-balanced remedy in 1986, EPA began construction of the remedial actions identified in that ROD.

On July 19, 1988, EPA initiated construction of the partial cap over the Richmond mineralized zone. As part of that construction, EPA utilized tailings materials from the Minnesota Flats area as well as selected other tailings piles which contained relatively high concentrations of copper, cadmium, and zinc.

EPA began design of the stream diversion structures in September, 1987. EPA began construction of the Slickrock Creek diversion in July, 1989.

In January, 1989, the Bureau of Reclamation, working under an interagency agreement with the EPA, completed a thirty per cent design for the Upper Spring Creek diversion and a thirty per cent design for the South Fork Spring Creek diversion. On October 3, 1989, EPA notified responsible parties that it would be inviting them to take over the construction, operation and maintenance of the diversion structures. On January 26, 1990, EPA formally invited the responsible parties to participate in negotiation of a Consent Decree whereby they could assume responsibility for construction of the diversions. The responsible parties failed to submit an offer to do so.

On March 28, 1990 EPA issued Rhone-Poulenc, IMMI and T.W.Arman Order No. 90-08, requiring that they construct designed diversion structures for Upper Spring Creek and South Fork Spring Creek. EPA subsequently suspended construction of the South Fork Spring Creek diversion. The order also required operation and maintenance of the structures, and operation and maintenance of the site roads. The Upper Spring Creek diversion was constructed during 1990 and completed in early 1991.

EPA is currently working on an RI/FS to examine possible source controls for releases from the Richmond mineralized zone and the Boulder Creek drainage to help achieve the ARARs previously the subject of the Fund-balancing waiver. Further studies will also be necessary to select appropriate response actions for other releases and sources, including the sediments/sludge in Keswick Reservoir.

E. Summary of contamination problems

Historic mining activity at IMM has fractured the mountain increasing access of surface water, rain water and oxygen to the mineralized zones within the mine. Precipitation and surface water infiltrating the mountain form sulfuric acid in the presence of oxygen due to the oxidation of the pyrite. The sulfuric acid is drained by the mine workings and leaches out copper, cadmium, zinc and other metals. This heavy metal laden acid mine drainage flows out of the mine portals and seeps.

Much of the metals bearing acid mine drainage is ultimately channeled by the creeks into the Spring Creek Reservoir. The Bureau of Reclamation periodically releases the stored acid mine drainage impounded behind Spring Creek Debris Dam into Keswick Reservoir. These planned releases of acid mine drainage are adjusted to coincide with water releases from Shasta Reservoir. Even though the coincident releases from Shasta Reservoir mitigate the toxicity of the releases from Spring Creek, the target concentrations of this mixture are nevertheless approximately twice the Central Valley Regional Water Quality Control Board's Basin Plan standards for copper and zinc.

On occasion, during periods of large flows down Spring Creek, Spring Creek Reservoir has filled rapidly, causing Spring Creek Dam to spill, resulting in the release of harmful quantities of metals into the Sacramento River. These releases have not always been accompanied by commensurate increased releases from Shasta Dam. In addition, over time there has been an accumulation of metals-bearing sediments in the Spring Creek and Keswick Reservoirs and in the Sacramento River.

The run-off of metals bearing acid mine drainage has impacted the fishery resources of the Sacramento River. The major fishery resources of the Sacramento River below Keswick Dam include migratory populations of salmon and steelhead, and resident populations of wild trout. The adult salmon and steelhead

migrate from the ocean to the river where they reproduce. The young remain in the river through the juvenile life stage or sometimes longer in the case of steelhead. Due to the winter rains, metal laden discharges from the Spring Creek Basin frequently occur during January through March which is a time of year that salmonoid life stages most sensitive to metal toxicity are abundant in the river. These sensitive life stages include egg incubation and the rearing of the fall run, egg incubation of the late fall run, the end of the rearing of the winter run, and some egg incubation and rearing of the spring run.

The monetary value of the chinook salmon and steelhead trout runs produced upstream from the Red Bluff Diversion dam has been estimated to be $33.7 million annually. The economic value of these fishery resources, once restored, is expected to increase to $72 million annually. As these estimates were made at the time of the 1986 ROD, it is expected that current estimates would be higher.

The metals from IMM have contributed to fish kills as well as incidents of sublethal toxicity which reduce the overall productivity of the population, including effects such as reduced growth rates, physiological problems, and diminished immune response.

The release of metals from IMM has contributed to a steady decline in the fisheries population in the Sacramento River. California Fish and Game has estimated that the fall run of chinook salmon in the upper Sacramento River has ranged from an estimated high of 400,000 in 1953 to a low of 20,000 with an average decline of 87 percent in the last 20 years. The average run of salmon has declined from 275,000 to 75,000 salmon. The upper Sacramento River once produced half of the state's chinook salmon.

IMM has been responsible for numerous fish kills in the Sacramento River. There have been thirty nine documented fish kills near Redding since 1940. In February, 1964 an estimated 100,000 fish were killed in a single incident. A fish kill in January-February, 1967 killed over 47,000 trout. In 1969, a significant fish kill that destroyed the salmon fry in the Redding area, occurred when the Spring Creek Debris Dam overflowed. During overflow of the debris dam in January, 1978, there was a documented loss of 37 percent of the salmon fry in the Redding area. In January, 1979, a release of contaminated water made necessary by IMMI's violation of its Regional Board order led to another significant fish kill.

In addition to these fish kills, releases from IMM have affected water supplies. An accidental release of IMM sediments impounded behind the Keswick Dam occurred in the Fall of 1988, resulting in a plume of heavy metal laden sediments flowing down the Sacramento River, causing the City of Redding to close its

municipal water intake wells. This release occurred due to a power drawdown experiment conducted by the Bureau of Reclamation at the request of the City of Redding.

In a letter from the California Department of Fish and Game requesting EPA assistance with the impending fish emergency for the winter of 1989-90, the Department stated that "It is well documented that drainage from Iron Mountain Mine contains concentrations of metals and acid toxic to fish and other aquatic life. Fishery resources vulnerable to destruction include four races of chinook salmon, steelhead, and rainbow trout. The chinook salmon include: the winter-run chinook, which has been listed in an emergency listing as a State endangered species and is a threatened species under the Endangered Species Act; spring-run and late fall-run chinook, which are both at low population levels; and the fall-run chinook, which is the stock that supports California's important sport and commercial salmon fishery. Last year the spawning grounds that were protected from fish kills from Iron Mountain Mine produced over 30 million dollars worth of salmon. Historic fish kills have destroyed fish that are life stages between embryo and adult in as little as a 48-hour exposure period. Fish kills impact the sport and commercial salmon fisheries in future years."

F. Description of the October 3, 1986 ROD

1. In general

On October 3, 1986, Assistant Administrator J. Winston Porter approved a Record of Decision for the Site based substantially upon the information developed under the RI/FS.

The ROD approved for the Site authorized the following activities: the construction of a cap over the Richmond mineral deposit to reduce infiltration into this source of acid mine drainage; diversion of clean surface water from the Upper Spring Creek watershed before it reaches the portion of the basin affected by IMM; diversion of clean water from the South Fork of Spring Creek; diversion of clean water from Upper Slickrock Creek; enlargement of the Spring Creek Debris Dam; installation of necessary perimeter controls; and a study to better define the use of low density cellular concrete to minimize the formation of acid mine drainage.

2. Fund-balancing issue

Pursuant to 40 C.F.R. § 300.68(i)(5)(ii)(1985)(now 40 C.F.R. § 300.430(f)(1)(ii)(C)(1990)), the remedy selected did not meet all applicable or relevant and appropriate Federal requirements because the need to use Fund moneys to perform actions at other sites posing a threat to public health or welfare or the environment outweighed the need to achieve or exceed the requirements at

IMM. Consequently the Iron Mountain Mine ROD did not address all sources of contamination at the Site or the means to correct all releases.

III. Comments by Interested Agencies

On March 13, 1991, EPA distributed a draft copy of this Explanation of Significant Differences to State and federal agencies, including the California Department of Fish and Game, the California Department of Health Services, the Regional Water Quality Control Board (Central Valley Region), the United States Bureau of Reclamation, the United States Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, the Department of Interior and the National Marine Fisheries Service. Comments were received by the California Department of Fish and Game, the Department of Health Services, the Regional Water Quality Control Board, the National Oceanic and Atmospheric Administration and the United States Bureau of Reclamation. The Department of Health Services, the Regional Water Quality Control Board, the California Department of Fish and Game, and the National Oceanic and Atmospheric Administration all expressed support for the action.

In addition to the support for the action, the commenters suggested several technical corrections and additions, which have been incorporated in this final document.

Copies of the comments are attached to this document and will be included in the administrative record file for the Site.

A. Comments of National Oceanic and Atmospheric Administration

The National Oceanic and Atmospheric Administration requested that EPA explain that it is planning to conduct RI/FS activities to assist in selecting operable units for "the sludge in Keswick Reservoir and other natural resource concerns." This change has been made in the suggested portions of the text.

B. Comments of the United States Bureau of Reclamation

The United States Bureau of Reclamation ("USBR") suggested several clarifications of the text regarding the manner in which releases occur from Spring Creek Debris Dam, the time of year discharges occur, and a more complete description of the 1988 release caused by the power drawdown experiment. The USBR also identified two specific changes, a typographic error and an explanation of the relationship of the USBR and the Fish and Wildlife Service to the Department of Interior. These changes have all been made in the text.

C. Comments of the Regional Water Quality Control Board

The Regional Water Quality Control Board concurred in the withdrawal of the fund-balancing waiver. The Regional Board made further observations on a recommended course of action for further remedy selections at IMM. These comments will be taken into consideration at the time of remedy selection and are repeated here for informational purposes:

> "In taking this action...it is timely to refocus on the declared objectives of the Superfund program. The previously stated position of the Regional Board is that the program objective should be achievement of State adopted water quality standards for selected metals at Keswick Dam. In achieving this objective, it is recognized that the quality of upstream waters (i.e. Keswick Reservoir, Spring Creek, Boulder Creek, and Slickrock Creek) will be substantially improved, and there will be some measure of beneficial use restoration. It would not be appropriate to target remedial actions to achieve State adopted metal objectives in these upstream waters, given the extensive past disturbance in the watershed and the impractability of removing all pollution sources."

D. Comments of the Department of Health Services

The Department of Health Services ("DHS") stated that it agreed that "retracting the Fund-balance waiver is an appropriate action." DHS noted that its position is "based on and parallels EPA's efforts to have all future investigative and remedial work necessary for the IMM site performed by the potentially responsible parties."

DHS also suggested a point of clarification with respect to compliance with EPA's orders requiring construction and operation of the treatment plant and the Upper Spring Creek Diversion. As DHS notes "It is our understanding the treatment plant and diversion were constructed (and are operated) solely by ICI-Americas." EPA has made a textual change to indicate that Rhone-Poulenc, on whose behalf ICI has been conducting work, was the party which conducted the work under the orders.

E. Comments of the California Department of Fish and Game

The Department of Fish and Game concurred in EPA's proposed action in withdrawing the fund balancing waiver. The Department of Fish and Game also included a discussion of its view of the goals of the cleanup and identified several statutes which it believes to be most important for protecting and restoring the biological resources in the Sacramento River. EPA intends to include these statutes in its discussion of ARARs in the RI/FS currently being prepared.

In addition, the Department of Fish and Game recommended EPA explain more fully the types of actions needed to achieve the final remedy and identified two areas in the text in which it recommended clarification. EPA has included a fuller discussion of the types of actions needed in the text, and has revised language in the text to clarify the other issues commented on. The Department wished to make clear that even "controlled" releases of acid mine drainage from the Spring Creek Debris Dam may be deleterious to aquatic species, and to clarify that cost estimates of the value of the fishery are no longer current.

IV. EXPLANATION OF SIGNIFICANT DIFFERENCES

A. Rejection of Fund-balancing Approach

EPA is no longer using the fund-balancing approach to IMM since the Site is no longer being cleaned up using only Fund moneys. Instead, significant portions of the response are and have been implemented by persons determined to be responsible parties under CERCLA § 107. As stated in 40 C.F.R. § 300.68(i)(5)(ii)(1985), the Fund-balancing waiver is available for "Fund-financed responses only." The preamble explained that it is not available in enforcement actions because "the Fund-balancing exception by its terms can only apply to the conservation of Fund money." 50 Fed.Reg. 47912, 47920 (Nov. 20, 1985).[3]

The October 3, 1986 ROD does not discuss the availability of private funding, but discusses in detail the possible impacts on the Superfund's ability to fund other sites if the fund-balanced waiver is not invoked. See October 3, 1986 Record of Decision at 50-52.

On August 17, 1989, EPA issued Order No. 89-18 to T.W. Arman, IMMI and Stauffer Chemical requiring implementation of a removal action. On March 28, 1990, EPA issued Order No. 90-08 to T.W. Arman, IMMI and Rhone-Poulenc, the successors to Stauffer.

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3. The current NCP is in agreement. The preamble to the 1990 NCP provides that "[the fund-balancing] waiver may be used for Fund-financed CERCLA actions under CERCLA section 104 only." 55 Fed.Reg. 8666, 8750 (March 8, 1990). The waiver may not even be used for other federal cleanups. As stated in the preamble,

> "In response to comments on use of this waiver by federal agencies other than EPA and by PRPs, EPA notes that CERCLA section 121(d)(4)(F) clearly restricts use of this waiver to response actions conducted under CERCLA section 104 using the Fund, i.e., financed by the Hazardous Substance Superfund. Therefore, this waiver is unavailable for other federal agencies."

55 Fed.Reg. 8666, 8751 (March 8, 1990).

In response to these orders, Rhone-Poulenc constructed and operated a treatment plant, and constructed the Upper Spring Creek diversion, provided for in the ROD. Since the fund-balancing waiver may not be used for a site at which responsible parties are conducting the response action, EPA may no longer use the fund-balancing waiver at IMM. On January 2, 1991, EPA issued the responsible parties Order No. 91-7, requiring, among other matters, operation and maintenance activities for the completed remedial actions.

B. Future Changes to the Selected Remedy

The response actions implemented to date under the 1986 ROD remain important components of a response action regardless of whether the remedy relies upon fund-balancing. EPA is not, therefore, formally amending the ROD at this time, but rather will evaluate possible supplemental actions which may be taken to achieve compliance with ARARs or justify use of other waiver provisions. EPA has undertaken a further RI/FS for source control in the Boulder Creek drainage, and is planning to conduct further studies with respect to other sources at the Site. EPA anticipates that it will seek public comment on a preferred alternative for the source control in the Boulder Creek drainage later this year. The Record of Decision for that source control remedy will not use the fund-balancing waiver.

for Harry Crooglian

Daniel W. McGovern
Regional Administrator

4/26/91
Dated

Attachments

1652-00154

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

Office of General Counsel
Southwest Regional Office
300 S. Ferry Street - Room 2013
Terminal Island, CA 90731
Telephone (213) 514-6154
FTS 795-6154

April 1, 1991

Rick Sugarek
Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105

SUBJECT: Comments on Explanation of Significant Difference for the Iron Mountain Mine Superfund Site

Dear Rick:

On behalf of NOAA General Counsel, I am glad to see the above referenced document, which appears to address the natural resource trustees' concerns about ARARs. In particular, section III B., on page 9 of the document, provides for further studies, which I assume refers to future operable units that will address the sludge in Keswick Reservoir and other natural resource concerns.

I would, however, like to see the following items included in the document:

- Page 2, first full paragraph: This should state that in addition to the current RI/FS that EPA is completing, EPA also plans to prepare at least one additional RI/FS to deal with remaining concerns and affects on natural resources.

- Page 6, second full paragraph: Same comment as for page 2.

- Page 7: Please check with Harry Recktenwald, CDFG, to make sure all of this information is accurate and up-to-date.

Please let me know if you have any questions.

Very truly yours,

Robin S. Kohn
Staff Attorney

cc:

Roger Wolcott, NMFS
Ralph Mihan, DOI

United States Department of the Interior

BUREAU OF RECLAMATION
MID-PACIFIC REGIONAL OFFICE
2800 COTTAGE WAY
SACRAMENTO, CALIFORNIA 95825-1898

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

MP-405
ENV-5.00

APR 5 1991

Mr. Rick Sugarek
Environmental Protection Agency
75 Hawthorne Street
San Francisco CA 94105

Subject: Response to Comments on Draft "Explanation of Significant Differences" for the Iron Mountain Mine Superfund Site (Your Memorandum Dated March 11, 1991) (Superfund)

Dear Mr. Sugarek:

We appreciate the opportunity to review your draft document "Explanation of Significant Differences" for the Iron Mountain Mine Superfund Site. Our comments are as follows:

1. Page 3, II. SITE BACKGROUND, B. Identification of Lead and Support Agencies: The Department of Interior includes both the Bureau of Reclamation and the Fish and Wildlife Service.

2. Page 6, II. SITE BACKGROUND, D. Summary of Contamination Problems: should be E. Summary of Contamination Problems.

3. Page 6, II. SITE BACKGROUND, E. Summary of Contamination Problems, first paragraph: The sentence which reads "On occasion, unplanned spills. . ." should read, "On occasion, during periods of large flows down Spring Creek, Spring Creek Reservoir has filled rapidly, causing Spring Creek Debris Dam to spill, resulting in the unavoidable release of. . . ."

4. Page 6, II. SITE BACKGROUND, E. Summary of Contamination Problems, second paragraph: The last sentence should clarify at what time of the year the discharges occur, why they occur, and at what time of the year the salmonoid are most sensitive.

5. Page 7, II. SITE BACKGROUND, E. Summary of Contamination Problems, fifth paragraph: The last sentence should clarify that the release was a result of a power drawdown experiment requested by the City of Redding. Also, if any fish were killed as a result of the experiment, that should also be stated.

Please contact Kris Doebbler at FTS 460-5046 if you have any questions.

Sincerely,

James N. Moore

Regional Supervisor of Water
and Power Resources Management

STATE OF CALIFORNIA PETE WILSON, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
CENTRAL VALLEY REGION
SHASTA CASCADE WATERSHED BRANCH OFFICE:
415 KNOLLCREST DRIVE
REDDING, CA 96002
PHONE: (916) 224-4845
FAX: (916) 224-4857

2 April 1991

Mr. Rick Sugarek, Remedial Project Manager
Region IX - Superfund Programs
U. S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

EXPLANATION OF SIGNIFICANT DIFFERENCES (ESD) REPORT

We have reviewed the draft ESD Report for Iron Mt. Mine and have the following comments. We concur with EPA's intention to withdraw the ARARs waiver (as provided in the 3 October 1986 Record of Decision) and to select a response action that attains all ARARs or utilizes another waiver that is appropriate under CERCLA.

In taking this action (revoking the ARARs and fund-balancing waiver) it is timely to refocus on the declared objectives of the IMM Superfund program. The previously stated position of the Regional Board is that the program objective should be achievement of State adopted water quality standards for selected metals at Keswick Dam. In achieving this objective, it is recognized that the quality of upstream waters (i.e. Keswick Reservoir, Spring Creek, Boulder Creek, and Slickrock Creek) will be substantially improved, and there will be some measure of beneficial use restoration. It would not be appropriate to target remedial actions to achieve State adopted metal objectives in these upstream waters, given the extensive past disturbance in the watershed and the impractability of removing all pollution sources.

James C. Pedri, P.E.
Supervising Engineer

DRH:tch

cc: Kris Doebbler, Bureau of Reclamation, Sacramento
Jim Austreng, Department of Health Services, Sacramento
Harry Rectenwald, Department of Fish and Game, Region 1, Redding

STATE OF CALIFORNIA—HEALTH AND WELFARE AGENCY

PETE WILSON, Governor

DEPARTMENT OF HEALTH SERVICES
TOXIC SUBSTANCES CONTROL PROGRAM
REGION 1
10151 CROYDON WAY, SUITE 3
SACRAMENTO, CA 95827-2106
(916) 855-7700

April 2, 1991

Mr. Rick Sugarek
U.S. Environmental Protection Agency, H-6-2
75 Hawthorne Street
San Francisco, CA 94105

Dear Mr. Sugarek:

COMMENTS ON EXPLANATION OF SIGNIFICANT DIFFERENCES DATED MARCH 13, 1991

Thank you for providing the Department of Health Services (Department) with a copy of the Explanation of Significant Differences (ESD) for the Iron Mountain Mine (IMM) site. From the information presented, the Department agrees retracting the Fund-balance waiver is an appropriate action. It should be noted our position is based on and parallels EPA's efforts to have all future investigative and remedial work necessary for the IMM site performed by the potential responsible parties (PRPs). Additionally, we feel the proposed ESD action is supported by ICI-Americas' aggressive approach to mitigate the IMM acid mine drainage situation and the understanding that negotiations are ongoing for other PRPs to perform water management and stream channel investigative work. We recognize the point that if progress is suspended, re-instatement and use of Fund monies would become necessary.

One point of possible clarification regarding the text of the ESD should be mentioned. On page nine, second paragraph, the discussion seems to imply all PRPs have participated in the construction and operation of the treatment plant and the Upper Spring Creek Diversion. It is our understanding the treatment plant and diversion were constructed (and are operated) solely by ICI-Americas. Re-wording to preclude any misunderstanding should be considered.

The Department again thanks EPA for the ESD notification. If any questions arise regarding the above, please call me or Jim Austreng at (916) 855-7857.

Sincerely,

Donn L. Diebert, P.E., Chief
National Priority List Unit
Site Mitigation Branch

cc: see next page

cc: Ms. Sara Russell, Esq.
Department of Justice
2101 Webster Street, 12th Floor
Oakland, CA 94612

Mr. Dennis Heiman
Regional Water Quality Control Board
415 Knollcrest Drive
Redding, CA 96002

Mr. Harry Rectenwald
California Department of Fish & Game
601 Locust Street
Redding, CA 96001

STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, Governor

DEPARTMENT OF FISH AND GAME
601 LOCUST STREET
REDDING, CA 96001
(916) 225-2300

April 12, 1991

Mr. Rick Sugarek, Remedial Project Manger
Environmental Protection Agency
Superfund Program
75 Hawthorne Street
San Francisco, CA 94105

Dear Mr. Sugarek:

The Department of Fish and Game has reviewed the Environmental Protection Agency's (EPA) draft explanation of significant differences for the Iron Mountain Mine Superfund Site. We understand that EPA can no longer assume that all costs of response will be borne by EPA because there is a responsible party implementing some of the remedies at the site. Therefore, EPA is required to withdraw the fund balancing approach. We concur with this action and assume that if the situation changes superfund financing can be used to implement a timely remedy at the site.

The document also indicates that EPA intends to select a response action that either attains all applicable or relevant and appropriate requirements (ARAR) or utilizes another waiver that is appropriate under superfund laws. We recommend that the response actions considered by EPA continue to place the highest priority on selecting the remedy system that reliably attains all the ARARs necessary to restore and protect the biological resources of the Sacramento River below Keswick Dam. These resources include one of the most important anadromous fishery resources in the State, both from an economic and natural heritage standpoint. The declines in this resource over the past decade have made it the focus of various legislatively mandated restoration programs.

The ARAR's we believe are most important for protecting and restoring biological resources in the Sacramento River include: the Central Valley Regional Water Quality Control Board's site specific objectives for metals, Fish and Game Code Section 2090 et seq. (requiring protection and enhancement habitat critical to survival endangered species such as winter-run chinook), Fish and Game Code 5650 (controlling release of substances deleterious to fish) and Fish and Game Code Section 1505 (protection of prime spawning areas), Fish and Game Code Section 1600 et seq. (pertaining to alteration of lake beds and streambeds) and Fish and Game Code Section 5937 (regarding release of water from dams necessary to keep fish in good condition). In addition, there are other Fish and Game Code sections to be considered in maintaining productivity of fish and wildlife habitat (2601, 1301, 2761, 2762, 2765, 5900, 6902 and 1400). California Water Code Section 1243 also establishes the intent to preserve fish and wildlife resources in natural systems.

We recognize considering waivers for ARARs pertinent to the portions of the site above Keswick Dam is another matter. This is because of the engineering feasibility and reliability factors involved with controlling such an enormous amount of pollution in a relatively small stream system. If remedies can be developed to restore aquatic life to the destroyed portions of the Spring Creek drainage, we recommend considering how pursuing such actions may influence achieving the best possible remedy for protection of the Sacramento River resources.

We concur with EPA's acknowledgment that further studies and actions are needed to achieve a final remedy at the site that would attain ARARs. We request that the document state those further studies and remedial investigations being contemplated at the site including those more recently described as operable unit number three.

Because only partial source control is expected to be accomplished in the watershed above Spring Creek Debris Dam, there will still be a need to manage significant releases of toxic substances from the site. Actions needed to achieve the final remedy include controlling discharge of metal sludge deposits from Keswick Reservoir to the river, developing a system for accurate mixing hazardous wastes released from Spring Creek Debris Dam with the water released from Shasta and Whiskeytown reservoirs and future availability of those clean water releases from Bureau of Reclamation water supply reservoirs that are needed to attain ARARs.

We have some minor comments on some of the details in the document included in the attachment.

Thank you for providing us the opportunity to comment on this draft document. If there are any questions regarding our comments please contact Mr. Harry Rectenwald at (916) 225-2365.

Sincerely,

John M. Hayes
for Banky E. Curtis
Regional Manager
Region 1

cc: Robin Kohn, NOAA, Southwest Regional Office
Terminal Island
Jim Pedri, CVRWQCB, Redding
Don Diebert, CDHS, Sacramento

ATTACHMENT for EPA's Document on Expalantion of Significant Differances

Page 6, Paragraph 4, Sentence 6. Under normal operations the Bureau of Reclamation mixes acid mine drainage from Spring Creek Debris Dam with the amount of water scheduled for release from Keswick Dam. The target concentrations of this mixture exceeds, by at least a factor of two, the EPA criteria for copper and zinc as well as the Central Valley Regional Water Quality Control Board's basin plan standards for these metals. Targeting safe levels with the existing partial remedy would greatly increase the probability of an uncontrolled spill of waste from the debris dam. Even with the aggressive discharge of stored waste, spills occasionally occur. Some spills at the debris dam are accompanied by large releases of clean water from the upstream reservoirs and catastrophic fish kills are avoided. Massive fish kills occurred with spills that were not accompanied by proportional increases in releases from upstream reservoirs.

Page 7, Paragraph 1. The monetary value of chinook salmon here is based on a past estimate, current estimates would differ from this amount. If the purpose of stating a value is to show the relative value of the fishery a past estimate is sufficient.