UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
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DENVER, COLORADO 80202-2466

December 22, 1993

Ref: 8WM-C

Dan Fraser, Chief
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Re: NPDES Permit Issues
Hard Rock Mines

Dear Mr. Fraser:

This letter is in response to your request that EPA clarify its position on several key issues relating to the permitting of hard rock mines under Section 402 of the Clean Water Act (CWA). The following paragraphs explain EPA Region VIII's policy on the following issues: (1) point sources at hard rock mines; (1.a) historic mine adits; (1.b) ground water hydrologically connected to surface water; (2) regulation of historic mining areas; (3) storm water vs. traditional NPDES; and (4) maintaining water quality after mining.

1. **Point Sources at Hard Rock Mines**

1.a **Historic Adits**

Mine adits are quite clearly point sources as defined under Section 502(14) of the CWA, 33 U.S.C. § 1362(14). The CWA defines the term "point source" as any discernable confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft from which pollutants are or may be discharged. Following this definition, discharges from mine adits at historic or active mines are point sources and are required to have an NPDES permit if pollutants are being discharged to waters of the United States. However, as discussed in paragraph 2 below, abandoned or long-term inactive mines have not been a top priority for permitting.

1.b Ground Water Hydrologically Connected to Surface Water (including seeps)

For the past several years EPA, Region VIII, has been more closely evaluating NPDES compliance at mines. Although we found that substantial progress has been made in controlling surface water pollution from obvious discharge points, we still found serious water quality problems at some mines. Environmental data collected around these mining sites confirmed that the CWA goals of fishable and swimmable surface water were still not being achieved. In searching for this source of surface water pollution, EPA and the States found that pollutants from some mining sites are moving into the ground water and then into nearby surface water.

Upon determining that significant pollutants were being discharged from mines via ground water or less obvious points sources, EPA and the States began reevaluating mines. We found some mines had seeps or other ground water discharges to surface water which were not authorized in the facility's NPDES permit. There were also some mines without an NPDES permit which had claimed to be "non-discharging". However, upon inspection, these facilities were found to be discharging through seeps and water control structures. These facilities are now being required to obtain NPDES permits covering all outfalls including ground water discharges determined to be hydrologically connected to surface water.

As a result of these permit and enforcement actions, EPA has been reevaluating the definition of "point source" to require NPDES discharge permits for seeps and other less obvious discharges. It is therefore, EPA's position that seeps and other ground water discharges hydrologically connected to surface water from mines, either active or abandoned, are discharges from point sources and are subject to regulation through an NPDES permit. Current EPA policy, as augmented by several lawsuits, indicates that it is more the mine or the facility itself that is subject to NPDES regulations. Therefore, any seeps coming from identifiable sources of pollution (i.e., mine workings, land application sites, ponds, pits, etc.,) would need to be regulated by discharge permits. One important case is United States v. Earth Sciences, Inc., 599 F.2d 368 (10th Cir. 1979). This case concluded that the facility from which the contamination came was itself a point source. Another important court case is McClellan Ecological Seepage Situation v. Weinberger, 707 F.Supp. 1182 (E.D. Cal. 1988) where the court found that Congress intended to limit discharges of pollutants that could affect surface water and that NPDES permits could be required, where the ground water

is hydrologically connected to the surface water. Additionally, the preamble to the November 16, 1990 Storm Water Regulations states that EPA "intends to embrace the broadest possible definition of point source consistent with the legislative intent of the CWA." (55 Federal Register 47990, 47997/1, November 16, 1990.) The preamble also states that the requirements for point source dischargers are not applicable to the discharges to ground water unless there is a hydrological connection between the ground water and a nearby surface water. (See 55 Federal Register 47990, 47997/3.)

2. **Historic Mining**

Clearly, as discussed in 1.a above, discharges from abandoned mine adits are point sources which require a traditional (rather than a storm water) NPDES permit. However, Region VIII has not made these permits a high priority because of limited EPA and State resources. EPA's current permit writing practices and priorities incorporate historic mine drainage into NPDES permits for active mines if the active mine influences the pollution discharged from the historic area. In addition, if the active mine owns or has control over an adjacent historic mining area, the active mine must also apply for an NPDES permit to control the discharge from the inactive area. Factors which increase our priority for requiring NPDES permits at abandoned mines are: active exploration, construction, plans for re-mining, viable ownership, and water quality impacts. The enclosed table outlines the Region's priorities for writing permits and the basis for effluent limitations.

In Region VIII, there are several active mines which have permits for historic discharges. One example is Cripple Creek and Victor Gold (CCVG), which maintains the permit for the Carlton Tunnel (CO-0024562) in Colorado. This historic tunnel drains most of the Cripple Creek and Victor Mining District. CCVG is currently mining only on the surface. Although the company's operations do not seem to be affecting historic mine drainage, the Company must continue to comply with NPDES requirements because CCVG and its affiliates own or control most of the historic area. Further, the potential for connections between current and historic workings also necessitate a permit.

Region VIII has several permits that exclusively regulate drainage from abandoned mines, such as the Leadville Mine Drainage Tunnel owned by the Bureau of Reclamation (CO-0021717) and the site of the former Climax Urad Mine and Mill (CO-0041467). The Leadville Tunnel drains part of historic Leadville Mining District. The Urad site is a

previously reclaimed tailings area that Climax is remediating to collect ground water seeps and provide treatment to meet water quality based limits.

3. **Storm Water v. "Traditional" NPDES**

It is our position that any point source discharge of pollutants to waters of the United States, not directly associated with a precipitation or snow melt event, (i.e., dry weather flows), must be permitted under a "traditional" NPDES permit. This means that any dry weather flow from mine adits, seeps, french drains and culverts are mine drainage or process wastewater, and cannot be covered by a storm water permit. A "traditional" permit must be written for these discharges including both technology based and water quality standard based requirements where applicable. [Water diverted around the mine without contacting any disturbed area, and does not mix with mine or process water may not require an NPDES permit.] Also during wet weather flows, most of the areas at an active mine must be covered by "traditional" NPDES requirements because storm water was included in developing the effluent guidelines regulations. Only wet weather surface runoff from some ancillary areas of active mines and inactive areas would fall under the storm water program. It is also important to note that these discharges can be covered by storm water requirements only if they do not combine with "traditional" sources prior to discharge. Therefore, we recommend that the State combine both the storm water and traditional NPDES requirements into one permit at all active mines. There is too much overlap between storm water and dry weather flow, and active and inactive portions of the mine to write separate permits. We have attached the most recent version of the table (September 13, 1993) describing the applicability of storm water at mining sites.

4. **Maintaining Water Quality (Financial Guarantee)**

It is of increasing importance to financially guarantee compliance with environmental performance at all phases of the mining operation including post-closure. This has been mentioned by both Region VIII and EPA Headquarters' staff during discussions of environmental impact statements and NPDES permits for new mines. Clearly, the public's financial costs of Summitville is also a strong argument for financial guarantees. We think that this is an area where the State, through its mining program, has substantial regulatory ability. We will continue to look into this issue on a federal level, but we hope that the State will be able to resolve this problem through its authorities by requiring post-closure financial assurance.

If you wish to request a conference call to further discuss these issues or if you have any other comments please contact me.

Sincerely,

/S/

Max H. Dodson, Director
Water Management Division

Enclosure

cc: Kevin Keenan, MT
Tom Reed, MT
Crown Butte
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Greater Yellowstone Coalition
Fred Pehrson, UT
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John Wagner, WY
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NPDES Priorities at Historic Mines and Applicable Effluent Limits				
Priority	Situation	Basis of NPDES Limits		Storm Water Permit
		Technology	WQS	
High	Historic sources influenced by active mining.	ELG - 40 CFR 440 BPT, BAT or NSPS	Yes[1]	Yes, combine with trad. permit
High	Historic sources influenced by current activities (**significant** exploration, construction etc.)	BPJ - usually equivalent to BAT	Yes[1]	Yes[4]
High	Historic sources influenced by current activities (**minor** exploration, construction etc.)	BPJ	Yes[1]	Yes[4]
Medium	Inactive sources created since 1972 owned by current operator.	BPJ	Yes[1]	Yes[4]
Medium	Historic sources owned by operator with nearby active mining operations.	BPJ	Yes[1]	Yes[4]
Medium	Inactive sources owned by someone with activity[3] in an area, but not mining.	BPJ[2]	Yes[1]	Yes[4]
Low	Inactive sources owned by someone with no activity in the area.	BPJ[2]	Yes[1]	Yes[4]

1 Permit must include WQS based limits for all WQS enacted by the State for receiving waters. The applicable WQS vary greatly from state to state and stream to stream. Possible WQS range from no applicable WQS to no degradation of water quality. The most common WQS based effluent limits are for protecting aquatic life.

2 BPJ - The cost and feasibility of treatment (i.e., availability of electricity, site access, personnel on site) become increasingly important factors in determining the appropriate BPJ limits. At some sites (without significant WQS issues), passive treatment or BMP performance levels may be determined to be BPJ limits.

3 Activity - i.e., land development, industrial, business activity.

4 We strongly recommend that the storm water and "traditional" NPDES permits be combined at active mines. It may also be advantageous to combine storm water and "traditional" permits at inactive mines if the mine is complex or if the storm water and "traditional" permits cover the same area.

BAT - Best Available Technology from ELG

BPT - Best Practicable Control Technology from ELG

NSPS - New Source Performance Standards Technology from ELG

ELG - Effluent Guidelines for Ore Mining and Dressing 40 CFR 440

BPJ - Best Professional Judgement 40 CFR 125

BMP - Best Management Practices

Applicability of 40 CFR Part 440 Effluent Limitations Guidelines to Storm Water Runoff from Active Ore (Metal) Mining and Dressing Sites		
Discharge/Source of discharge	Applicable ELG, if any (see key)	Note/comment
Land application area run-off	MD	PW-if Process fluids present
Crusher area	MD	PW-if Process fluids present
Piles (seepage and/or runoff)		
Spent ore	MD	PW-if Process fluids present
Surge/Ore	MD	PW-if Process fluids present
Waste rock/overburden	MD	
Topsoil	SW	
Drainage		
Pit drainage (unpumped)	MD	
Pit drainage (removed by pumping)	MD	
Mine water from underground mines (unpumped), adit discharges	MD	
Mine water from underground mines (pumped)	MD	
Seeps/French drains	MD	PW-if Process fluids present
Roads constructed of waste rock or spent ore		
On-site haul roads	MD	
Off-site haul/access roads	SW	(if off Active Area)
Roads not constructed of waste rock or spent ore		
On-site haul roads	SW	MD-if dust control with MD water
Off-site haul/access roads	SW	
Milling/concentrating		
Tailings impoundment/pile	PW	
Run-off from tailings dams/dikes when constructed of waste rock/tailings	MD	PW-if Process fluids present
Run-off from tailings dams/dikes when not constructed of waste rock/tailings	SW	PW-if Process fluids present
Heap leach pile runoff/seepage	PW	

Applicability of 40 CFR Part 440 Effluent Limitations Guidelines to Storm Water Runoff from Active Ore (Metal) Mining and Dressing Sites		
Discharge/Source of discharge	Applicable ELG, if any (see key)	Note/Comment
Pregnant pond (barren and surge ponds also)	PW	
Polishing pond	PW	
Concentration building	SW	If storm water only, and no contact with piles
Concentrate pile (product storage)	PW	
Mill site	SW	Same as concentration bldg.
Ancillary areas		
Office/administrative building and housing	UC	Unless mixed with SW from industrial area, then SW
Chemical storage area	SW	
Docking facility	SW	Excessive contact with waste product could constitute MD
Explosive storage	SW	
Fuel storage (oil tanks/coal piles)	SW	
Vehicle/equipment maintenance area/building	SW	
Parking lots	SW	UC if only employee and visitor type parking
Power plant	SW	
Truck wash area	SW	Excessive contact with waste product could constitute MD
Reclamation-related areas		
Any disturbed area (unreclaimed)	MD	SW if inactive area
Reclaimed areas released from reclamation bonds after Dec. 17 1990	UC	
Reclaimed areas released from reclamation bonds prior to Dec. 17 1990	SW	
Partially/inadequately reclaimed areas or areas not released from reclamation bond	SW	

KEY: UC - Unclassified: Not Subject to Storm Water Program or 40 CFR Part 440 Effluent Limitations Guidelines (ELG)

MD - Subject to 40 CFR Part 440 ELG for mine drainage

PW - Subject to 40 CFR Part 440 ELG for mill discharge or process (including zero discharge ELG).

SW - Storm water runoff from these sources are subject to the Storm Water Program, but are not subject to 40 CFR Part 440 ELG unless mixed with discharges subject to the 40 CFR Part 440 ELG that are not regulated by another permit prior to mixing. Non-storm water discharges from these sources are subject to NPDES permitting requirements and may be subject to the 40 CFR Part 440 ELG.

Applicability of 40 CFR Part 440 Effluent Limitations Guidelines

to Storm Water Runoff from Active Ore (Metal) Mining and Dressing Sites

Yellow highlight denotes additions to the table in Max Dodson's 1993 Memo following the NMA Lawsuit.

Discharge/Source of Discharge	Applicable ELG, if any (see key)	Note/comment
Land application area runoff	MD	PW if Process fluids are present
Crusher area	MD	PW if Process fluids are present
Piles (seepage and/or runoff)		
Spent ore	MD	PW if Process fluids are present
Surge/Ore	MD	PW if Process fluids are present
Waste rock/overburden	SW or MD See Note below	SW if composed entirely of storm water and not combining with "mine drainage." See Note below
Topsoil	SW	
Drainage		
Pit drainage (unpumped)	MD	
Pit drainage (removed by pumping)	MD	
Mine water from underground mines (unpumped), adit discharges	MD	
Mine water from underground mines (pumped)	MD	
Seeps/French drains	MD	PW if process fluids are present
Roads constructed of waste rock or spent ore		
Onsite haul roads	SW or MD See Note below	SW if composed entirely of storm water and not combining with "mine drainage." See Note below
Offsite haul/access roads	SW	SW if not in Active Area. See above
Roads not constructed of waste rock or spent ore		
Onsite haul roads	SW	MD if "mine drainage" is used for dust control
Offsite haul/access roads	SW	
Milling/concentrating		
Tailings impoundment/pile	PW	
Runoff from tailings dams/dikes when constructed of waste rock/tailings	SW or MD See Note below	SW - Except if process fluids are present and only if composed entirely of storm water and not combining with "mine drainage." See Note below
Runoff from tailings dams/dikes when not constructed of waste rock/tailings	SW	SW - Except if process fluids are present. PW if process fluids are present
Heap leach pile runoff/seepage	PW	
Pregnant pond (barren and surge ponds also)	PW	
Polishing pond	PW	
Concentration building	SW	SW if storm water only and no contact with piles
Concentrate pile (product storage)	PW	

Discharge/Source of Discharge	Applicable ELG, if any (see key)	Note/comment
Mill site	SW	SW if storm water only and no contact with piles
Ancillary areas		
Office/administrative building and housing	UC	SW if mixed with SW from industrial area.
Chemical storage area	SW	
Docking facility	SW	MD if excessive contact with waste product that would otherwise constitute "mine drainage"
Explosive storage	SW	
Fuel storage (oil tanks/coal piles)	SW	
Vehicle/equipment maintenance area/building	SW	
Parking areas	SW	UC if only employee and visitor type parking
Power plant	SW	
Truck wash area	SW	MD if excessive contact with waste product that would otherwise constitute "mine drainage"
Reclamation-related areas		
Any disturbed area (unreclaimed)	MD	SW only if not in active mining area
Reclaimed areas released from reclamation bonds after Dec. 17 1990	UC	
Reclaimed areas released from reclamation bonds prior to Dec. 17 1990	SW	
Partially/inadequately reclaimed areas or areas not released from reclamation bond	SW	

Key:
UC - Unclassified; Not Subject to Storm Water Program or 40 CFR Part 440 Effluent Limitations Guidelines.
MD - Mine Drainage; Subject to 40 CFR Part 440 for "mine drainage."
PW - Process Wastewater; Subject to 40 CFR Part 440 for mill discharge or process (including zero discharge).
SW - Storm water runoff from these sources are subject to the NPDES program for storm water unless mixed with discharges subject to the 40 CFR Part 440 that are not regulated by another permit prior to mixing. Non-storm water discharges from these sources are subject to NPDES permitting and may be subject to the effluent limitation guidelines under 40 CFR Part 440.

Note: Discharges from overburden/waste rock and overburden/waste rock-related areas are not subject to 40 CFR Part 440 unless: (1) it drains naturally (or is intentionally diverted) to a point source; and (2) combines with "mine drainage" that is otherwise regulated under the Part 440 regulations. For such sources outside the active mining area, coverage under EPA's Multi-Sector General Storm Water Permit Sector G (Metal Mining) would be available if the discharge is composed entirely of storm water and not subject to 40 CFR Part 440, as well as meeting other eligibility criteria contained in Part I.B. of the permit. Permit applicants bear the initial responsibility for determining the applicable technology-based standard for such discharges. EPA recommends that permit applicants contact the relevant NPDES permit issuance authority for assistance to determine the nature and scope of the "active mining area" on a mine-by-mine basis, as well as to determine the appropriate permitting mechanism for authorizing such discharges.