

Environmental Protection Agency

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Subpart J—Copper, Lead, Zinc, Gold, Silver, and Molybdenum Ores Subcategory

§ 440.100 Applicability; description of the copper, lead, zinc, gold, silver, and molybdenum ores subcategory.

(a) The provisions of this subpart J are applicable to discharges from—

(1) Mines that produce copper, lead, zinc, gold, silver, or molybdenum bearing ores, or any combination of these ores from open-pit or underground operations other than placer deposits;

(2) Mills that use the froth-flotation process alone or in conjunction with other processes, for the beneficiation of copper, lead, zinc, gold, silver, or molybdenum ores, or any combination of these ores;

(3) Mines and mills that use dump, heap, in-situ leach, or vat-leach processes to extract copper from ores or ore waste materials; and

(4) Mills that use the cyanidation process to extract gold or silver.

(b) Discharge from mines or mines and mills that use gravity separation methods (including placer or dredge mining or concentrating operations, and hydraulic mining operations) to extract gold ores are regulated under subpart M.

(c) Discharge from mines (including placer or dredge mining, and hydraulic

mining operations) or mines and mills that use gravity separation methods to extract silver from placer ores are not covered under this part.

(d) The provisions of this subpart shall not apply to discharges from the Quartz Hill Molybdenum Project in the Tongass National Forest, Alaska.

[47 FR 54609, Dec. 3, 1982, as amended at 53 FR 18788, May 24, 1988]

§ 440.101 [Reserved]

§ 440.102 Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology (BPT).

Except as provided in subpart L of this part and 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

(a) The concentration of pollutants discharged in mine drainage from mines operated to obtain copper bearing ores, lead bearing ores, zinc bearing ores, gold bearing ores, or silver bearing ores, or any combination of these ores open-pit or underground operations other than placer deposits shall not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30	20
Cu	.30	.15
Zn	1.5	.75
Pb	.6	.3
Hg	.002	.001
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

(b) The concentration of pollutants discharged from mills which employ the froth flotation process alone or in conjunction with other processes, for the beneficiation of copper ores, lead ores, zinc ores, gold ores, or silver ores, or any combination of these ores shall not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30	20
Cu	.30	.15
Zn	1.0	.5
Pb	.6	.3
Hg	.002	.001
Cd	.10	.05
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

(c)(1) Except as provided in paragraph (c) of this section, there shall be no discharge of process wastewater to navigable water from mines and mills which employ dump, heap, in situ leach or vat leach processes for the extraction of copper from ores or ore waste materials. The Agency recognizes that the elimination of the discharge of pollutants to navigable waters may result in an increase in discharges of some pollutants to other media. The Agency has considered these impacts and has addressed them in the preamble published on December 3, 1982.

(2) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equivalent to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in paragraph (a) of this section.

(d)(1) Except as provided in paragraph (d) of this section, there shall be no discharge of process wastewater to navigable waters from mills which extract gold or silver by use of the cyanidation process. The Agency recognizes that the elimination of the discharge of pollutants to navigable waters may result in an increase in discharges of some pollutants to other media. The Agency has considered these impacts and has addressed them in the preamble published on December 3, 1982.

(2) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment

facility exceeds the annual evaporation, a volume of water equivalent to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in paragraph (a) of this section.

(e) The concentration of pollutants discharged in mine drainage from mines producing 5,000 metric tons (5,512 short tons) or more of molybdenum bearing ores per year shall not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30	20
Cd	.10	.05
Cu	.3	.15
Zn	1.0	.5
Pb	.6	.3
As	1.0	.5
pH	(¹)	(¹)

¹ Within the range of 6.0 to 9.0

(f) The concentration of pollutants discharged in mine drainage from mines producing less than 5,000 metric tons (5,512 short tons) or discharged from mills processing less than 5,000 metric tons (5,512 short tons) of molybdenum ores per year by methods other than ore leaching shall not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	50	30
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

(g) The concentration of pollutants discharged from mills processing 5,000 metric tons (5,512 short tons) or more of molybdenum ores per year by purely physical methods including ore crushing, washing, jigging, heavy media separation shall not exceed:

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Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily value for 30 consecutive days
	Milligrams per liter	
TSS	30	20
Cd	.10	.05
Cu	.30	.15
Zn	1.0	.5
As	1.0	.5
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0

(h) The concentration of pollutants discharged from mills processing 5,000 metric tons (5,512 short tons) or more of molybdenum ores per year by froth flotation methods shall not exceed:

Effluent characteristics	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
TSS	30	20
Cd	.10	.05
Cu	.30	.15
Zn	1.0	.5
As	1.0	.5
pH	(¹)	(¹)

¹ Within the range 6.0 to 9.0.

[47 FR 54609, Dec. 3, 1982, as amended at 53 FR 18788, May 24, 1988]

§ 440.103 Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT).

Except as provided in subpart L of this part and 40 CFR 125.30 through 125.32, any existing point source subject to this subpart must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

(a) The concentration of pollutants discharged in mine drainage from mines that produce copper, lead, zinc, gold, silver, or molybdenum bearing ores or any combination of these ores from open-pit or underground operations other than placer deposits shall not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Cu	0.30	0.15
Zn	1.5	0.75
Pb	0.6	0.3
Hg	0.002	0.001
Cd	0.10	0.05

(b) The concentration of pollutants discharged from mills that use the froth-flotation process alone, or in conjunction with other processes, for the beneficiation of copper, lead, zinc, gold, silver, or molybdenum ores or any combination of these ores shall not exceed:

Effluent characteristic	Effluent limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Milligrams per liter	
Cu	0.30	0.15
Zn	1.0	0.5
Pb	0.6	0.3
Hg	0.002	0.001
Cd	0.10	0.05

(c)(1) Except as provided in paragraph (c) of this section, there shall be no discharge of process wastewater to navigable waters from mine areas and mills processes and areas that use dump, heap, in situ leach or vat-leach processes to extract copper from ores or ore waste materials. The Agency recognizes that the elimination of the discharge of pollutants to navigable waters may result in an increase in discharges of some pollutants to other media. The Agency has considered these impacts and has addressed them in the preamble published on December 3, 1982.

(2) In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equal to the difference between annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility