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ENHANCED CONTENT - TABLE OF CONTENTS

Title 40

PART 434 - COAL MINING POINT SOURCE CATEGORY BPT, BAT, BCT LIMITATIONS AND NEW SOURCE PERFORMANCE STANDARDS

Authority: 33 U.S.C. 1311 1314(b), (c), (e), and (g), 1316(b) and (c), 1317(b) and (c), and 1361.

Source: 50 FR 41305, Oct. 9, 1985, unless otherwise noted.

Subpart A - General Provisions

§ 434.10 Applicability.

This part applies to discharges from any coal mine at which the extraction of coal is taking place or is planned to be undertaken and to coal preparation plants and associated areas.

§ 434.11 General definitions.

(a) The term “acid or ferruginous mine drainage” means mine drainage which, before any treatment, either has a pH of less than 6.0 or a total iron concentration equal to or greater than 10 mg/l.

(b) The term “active mining area” means the area, on and beneath land, used or disturbed in activity related to the extraction, removal, or recovery of coal from its natural deposits. This term excludes coal preparation plants, coal preparation plant associated areas and post-mining areas.

(c) The term “alkaline, mine drainage” means mine drainage which, before any treatment, has a pH equal to or greater than 6.0 and total iron concentration of less than 10 mg/l.

(d) The term “bond release” means the time at which the appropriate regulatory authority returns a reclamation or performance bond based upon its determination that reclamation work (including, in the case of underground mines, mine sealing and abandonment procedures) has been satisfactorily completed.

(e) The term “coal preparation plant” means a facility where coal is subjected to cleaning, concentrating, or other processing or preparation in order to separate coal from its impurities and then is loaded for transit to a consuming facility.

(f) The term “coal preparation plant associated areas” means the coal preparation plant yards, immediate access roads, coal refuse piles and coal storage piles and facilities.

(g) The term “coal preparation plant water circuit” means all pipes, channels, basins, tanks, and all other structures and equipment that convey, contain, treat, or process any water that is used is coal preparation processes within a coal preparation plant.

(h) The term “mine drainage” means any drainage, and any water pumped or siphoned, from an active mining area or a post-mining area.

(i) The abbreviation “ml/l” means milliliters per liter.

(j)

(1) Notwithstanding any other provision of this Chapter, subject to paragraph (j)(2) of this section the term “new source coal mine” means a coal mine (excluding coal preparation plants and coal preparation plant associated areas) including an abandoned mine which is being re-mined.

(i) The construction of which is commenced after May 4, 1984; or

(ii) Which is determined by the EPA Regional Administrator to constitute a “major alteration”. In making this determination, the Regional Administrator shall take into account whether one or more of the following events resulting in a new, altered or increased discharge of pollutants has occurred after May 4, 1984 in connection with the mine for which the NPDES permit is being considered:

(A) Extraction of a coal seam not previously extracted by that mine;

(B) Discharge into a drainage area not previously affected by wastewater discharge from the mine;

(C) Extensive new surface disruption at the mining operation;

(D) A construction of a new shaft, slope, or drift; and

(E) Such other factors as the Regional Administrator deems relevant.

(2) No provision in this part shall be deemed to affect the classification as a new source of a facility which was classified as a new source coal mine under previous EPA regulations, but would not be classified as a new source under this section, as modified. Nor shall any provision in this part be deemed to affect the standards applicable to such facilities, except as provided in § 434.65 of this chapter.

(k) The term “post-mining area” means:

(1) A reclamation area or

(2) The underground workings of an underground coal mine after the extraction, removal, or recovery of coal from its natural deposit has ceased and prior to bond release.

(l) The term “reclamation area” means the surface area of a coal mine which has been returned to required contour and on which revegetation (specifically, seeding or planting) work has commenced.

(m) The term “settleable solids” is that matter measured by the volumetric method specified in § 434.64.

(n) The terms "1-year, 2-year, and 10-year, 24-hour precipitation events" means the maximum 24-hour precipitation event with a probable recurrence interval of once in one, two, and ten years respectively as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Altas of the U.S.," May 1961, or equivalent regional or rainfall probability information developed therefrom.

(o) The terms "treatment facility" and "treatment system" mean all structures which contain, convey, and as necessay, chemically or physically treat coal rine drainage, coal preparation plant process wastewater, or drainage from coal preparation plant associated areas, which remove pollutants regulated by this part from such waters. This includes all pipes, channels, ponds, basins, tanks and all other equipment serving such structures.

(p) The term "coal refuse disposal pile" means any coal refuse deposited on the earth and intended as permanent dispoal or long-term storage (greater than 180 days) of such material, but does not include coal refuse deposited within the active mining area or coal refuse never removed from the active mining area.

(q) The term "controlled surface mine drainage" means any surface mine drainage that is pumped or siphoned from the active mining area.

(r) The term "abandoned mine" means a mine where mining operations have occurred in the past and

(1) The applicable reclamation bond or financial assurance has been released or forfeited or

(2) If no reclamation bond or other financial assurance has been posted, no mining operations have occurred for five years or more.

(s) The term "1-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable recurrence interval of once in one year as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, or equivalent regional or rainfall probability information developed therefrom.

(t) The Term "2-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable recurrence interval of once in two years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S., "May 1961, or equivalent regional or rainfall probability information developed therefrom.

Subpart B - Coal Preparation Plants and Coal Preparation Plant Associated Areas

§ 434.20 Applicability.

The provisions of this subpart are applicable to discharges from coal preparation plants and coal preparation plant association areas, as indicated, including discharges which are pumped, siphoned, or drained from the coal preparation plant water circuit and coal storage, refuse storage, and ancillary areas related to the cleaning or beneficiation of coal of any rank including, but not limited to, bituminous, lignite, and anthracite.

§ 434.21 [Reserved]

§ 434.22 Effluent limitation guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT).

(a) Except as provided in 40 CFR 125.30-125.32, 40 CFR 401.17, and §§ 434.61, 434.62 and 434.63 of this part, the following limitations establish the concentration or quality of pollutants which may be discharged by any existing coal preparation plant and coal preparation plant associated areas subject to the provisions of this subpart after application of the best practicable control technology currently available if discharges from such point sources normally exhibit a pH of less than 6.0 prior to treatment:

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentration in mg/l	
Iron, total	7.0	3.5

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
Manganese, total	4.0	2.0
TSS	70	35
pH	[1]	[1]

[1] Within the range of 6.0 to 9.0 at all times.

(b) Except as provided in 40 CFR 125.30-125.32, 40 CFR 401.17 and §§ 434.61 and 434.63 of this part, the following limitations establish the concentration or quality of pollutants which may be discharged by any existing coal preparation plant and coal preparation plant associated areas subject to the provisions of this subpart after application of the best practicable control technology currently available if discharges from such point sources normally exhibit a pH equal to or greater than 6.0 prior to treatment:

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentration in mg/l	
Iron, total	7.0	3.5
TSS	70	35
pH	[1]	[1]

[1] Within the range of 6.0 to 9.0 at all times.

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

(a) Except as provided in 40 CFR 125.30-125.32, and §§ 434.61, 434.62 and 434.63 of this part, the following limitations establish the concentration or quality of pollutants which may be discharged by any existing coal preparation plant and coal preparation plant associated areas subject to the provisions of this subpart after application of the best available technology economically achievable if discharges from such point sources normally exhibit a pH of less than 6.0 prior to treatment:

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentration in mg/l	
Iron, total	7.0	3.5
Manganese, total	4.0	2.0

(b) Except as provided in 40 CFR 125.30-125.32, and §§ 434.61 and 434.63 of this part, the following limitations establish the concentration or quality of pollutants which may be discharged by any existing coal preparation plant and coal preparation plant associated areas subject to the provisions of this subpart after application of the best available

technology economically achievable if discharges from such point sources normally exhibit a pH equal to or greater than 6.0 prior to treatment:

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentration in mg/l	
Iron, total	7.0	3.5

§ 434.24 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

§ 434.25 New source performance standards (NSPS).

The following new source performance standards (NSPS) shall be achieved by any new source coal preparation plant and coal preparation plant associated areas, as indicated:

(a) Except as provided in 40 CFR 401.17 and §§ 434.61, 434.62 and 434.63 of this part, the following new source performance standards shall apply to discharges from new source coal preparation plants and new source coal preparation plant associated areas, if such discharges normally exhibit a pH of less than 6.0 prior to treatment:

NSPS Effluent Limitations (mg/l)

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
Iron, total	6.0	3.0
Manganese, total	4.0	2.0
TSS	70	35
pH	([1])	([1])

[1] 6.0-9.0 at all times.

(b) Except as provided in 40 CFR 401.17 and §§ 434.61, 434.62 and 434.63 of this part, the following new source performance standards shall apply to discharges from new source coal preparation plants and new source coal preparation plant associated areas, if such discharges normally exhibit a pH equal to or greater than 6.0 prior to treatment:

NSPS Effluent Limitations (mg/l)

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
Iron, total	6.0	3.0
TSS	70	35
pH	([1])	([1])

[1] 6.0-9.0 at all times.

Subpart C - Acid or Ferruginous Mine Drainage

§ 434.30 Applicability; description of the acid or ferruginous mine drainage subcategory.

The provisions of this subpart are applicable to acid or ferruginous mine drainage from an active mining area resulting from the mining of coal of any rank including, but not limited to, bituminous, lignite, and anthracite.

§ 434.31 [Reserved]

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

Except as provided in 40 CFR 125.30-125.32, 40 CFR 401.17, and §§ 434.61, 434.62 and 434.63 of this part, the following limitations establish the concentration or quality of pollutants which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentration in mg/l	
Iron, total	7.0	3.5
Manganese, total	4.0	2.0
TSS	70.0	35.0
pH	([1])	([1])

[1] Within the range 6.0 to 9.0 at all times.

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

Except as provided in 40 CFR 125.30-125.32, 40 CFR 401.17, and §§ 434.61, 434.62 and 434.63 of this part, the following limitations establish the concentration or quality of pollutants which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable:

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentration in mg/l	
Iron, total	7.0	3.5
Manganese, total	4.0	2.0

§ 434.34 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

§ 434.35 New source performance standards (NSPS).

Except as provided in 40 CFR 401.17, and §§ 434.61, 434.62 and 434.63 of this part, the following new source performance standards shall be achieved for any discharge from a new source subject to this subpart:

NSPS Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentration in mg/l	
Iron, total	6.0	3.0
Manganese, total	4.0	2.0
TSS	70.0	35.0
pH	([1])	([1])

[1] Within the range 6.0 to 9.0 at all times.

Subpart D - Alkaline Mine Drainage

§ 434.40 Applicability; description of the alkaline mine drainage subcategory.

The provisions of this subpart are applicable to alkaline mine drainage from an active mining area resulting from the mining of coal of any rank including, but not limited to, bituminous, lignite, and anthracite.

§ 434.41 [Reserved]

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

Except as provided in 40 CFR 125.30-125.32, 40 CFR 401.17, and §§ 434.61 and 434.63 of this part, the following limitations establish the concentration or quality of pollutants which may be discharged by a point source subject to the provisions of this subpart after application of the best practicable control technology currently available:

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentration in mg/l	
Iron, total	7.0	3.5
TSS	70.	35.
pH	([1])	([1])

[1] Within the range 6.0 to 9.0 at all times.

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

Except as provided in 40 CFR 125.30-125.32, and §§ 434.61 and 434.63 of this part, the following limitations establish the concentration or quality of pollutants which may be discharged by a point source subject to the provisions of this subpart after application of the best available technology economically achievable:

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentration in mg/l	
Iron, total	7.0	3.5

§ 434.44 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

§ 434.45 New source performance standards (NSPS).

Except as provided in 40 CFR 401.17 and §§ 434.61 and 434.63 of this part, the following new source performance standards shall be achieved for any discharge from a new source subject to this subpart:

NSPS Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentration in mg/l	
Iron, total	6.0	3.0
TSS	70.0	35.0
pH	([1])	([1])

[1] Within the range 6.0 to 9.0 at all times.

Subpart E - Post-Mining Areas

§ 434.50 Applicability.

The provisions of this subpart are applicable to discharges from post-mining areas, except as provided in subpart H - Western Alkaline Coal Mining of this part.

[67 FR 3406, Jan. 23, 2002]

§ 434.51 [Reserved]

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

(a) ***Reclamation areas.*** The limitations in this subsection apply to discharges from reclamation areas until the performance bond issued to the facility by the appropriate SMCRA authority has been released.

Except as provided in 40 CFR 125.30-125.32, 40 CFR 401.17 and §§ 434.61 and 434.63(d)(2) of this part, the following limitations establish the concentration or quality of pollutants which may be discharged by a point source subject to the provisions of this subsection after application of the best practicable control technology currently available:

BPT Effluent Limitations

Pollutant or pollutant property	Limitations
Settleable Solids	0.5 ml/l maximum not to be exceeded.
pH	([1])

[1] Within the range 6.0 to 9.0 at all times.

(b) ***Underground mine drainage.*** The limitations in this subsection apply to discharges from the underground workings of underground mines until SMCRA bond release.

(1) Except as provided in 40 CFR 125.30-125.32, 40 CFR 401.17 and §§ 434.61, 434.62 and 434.63 of this part, the following limitations establish the concentration of quality of pollutants in acid or ferruginous mine drainage subject to the provisions of this subsection after application of the best practicable control technology currently available:

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentration in mg/l	
Iron, total	7.0	3.5
Manganese, total	4.0	2.0
TSS	70.0	35.0
pH	([1])	([1])

[1] Within the range 6.0 to 9.0 at all times.

(2) Except as provided in 40 CFR 125.30-125.32, 40 CFR 401.17, and §§ 434.61 and 434.63 of this part, the following limitations establish the concentration or quality of pollutants in alkaline mine drainage subject to the provisions of this subsection after application of the best practicable control technology currently available:

BPT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentration in mg/l	
Iron, total	7.0	3.5
TSS	70.0	35.0
pH	([1])	([1])

[1] Within the range 6.0 to 9.0 at all times.

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

(a) ***Reclamation areas.*** The limitations of this subsection apply to discharges from reclamation areas until SMCRA bond release.

Except as provided in 40 CFR 125.30-125.32, and §§ 434.61 and 434.63(d)(2) of this part, the following limitations establish the concentration or quality of pollutants which may be discharged by a point source subject to the provisions of this subsection after application of the best available technology economically achievable:

BAT Effluent Limitations

Pollutant or pollutant property	Limitations
Settleable solids	0.5 ml/l maximum not to be exceeded.

(b) ***Underground mine drainage.*** The limitations in this subsection apply to discharges from the underground workings of underground mines until SMCRA bond release.

(1) Except as provided in 40 CFR 125.30-125.32, and §§ 434.61, 434.62, and 434.63 of this part, the following limitations establish the concentration or quality of pollutants in acid or ferruginous mine drainage subject to the provisions of this subsection after application of the best available technology economically achievable:

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentration in mg/l	
Iron, total	7.0	3.5
Manganese, total	4.0	2.0

(2) Except as provided in 40 CFR 125.30-125.32, and §§ 434.61, and 434.63 of this part, the following limitations establish the concentration or quality of pollutants in alkaline mine drainage subject to the provisions of this subsection after application of the best available technology economically achievable:

BAT Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentration in mg/l	
Iron, total	7.0	3.5

§ 434.54 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best conventional pollutant control technology (BCT). [Reserved]

§ 434.55 New source performance standards (NSPS).

The following new source performance standards shall apply to the post-mining areas of all new source coal mines:

(a) ***Reclamation areas.*** The standards of this subsection apply to discharges from reclamation areas at new source coal mines until SMCRA bond release.

Except as provided in 40 CFR 401.17 and §§ 434.61 and 434.63 (d)(2) of this part, the following new source performance standards shall be achieved for a discharge subject to the provisions of this subsection:

NSPS Effluent Limitations

Pollutant or pollutant property	Limitations
Settleable Solids	0.5 ml/1 maximum not to be exceeded.
pH	([1])

([1]) Within the range 6.0 to 9.0 at all times.

(b) ***Underground mine drainage.*** The standards in this subsection apply to discharges from the underground workings of new source underground mines until bond release.

(1) Except as provided in 40 CFR 401.17 and §§ 434.61, 434.62, and 434.63 of this part, the following new source performance standards shall be achieved for the discharge of any acid or ferruginous mine drainage subject to this subsection:

NSPS Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentrations in mg/1	
Iron, total	6.0	3.0
Manganese, total	4.0	2.0
TSS	70.0	35.0
pH	([1])	([1])

[1] Within the range 6.0 to 9.0 at all times.

(2) Except as provided in 40 CFR 401.17 and §§ 434.61 and 434.63 of this part, the following new source performance standards shall be achieved for the discharge of any alkaline mine drainage subject to this subsection:

NSPS Effluent Limitations

Pollutant or pollutant property	Maximum for any 1 day	Average of daily values for 30 consecutive days
	Concentrations in mg/1	
Iron, total	6.0	3.0
TSS	70.0	35.0
pH	([1])	([1])

[1] Within the range 6.0 to 9.0 at all times.

Subpart F - Miscellaneous Provisions

§ 434.60 Applicability.

The provisions of this subpart F apply to this part 434 as specified in subparts B, C, D, E and G of this part.

[67 FR 3406, Jan. 23, 2002]

§ 434.61 Commingling of waste streams.

Where waste streams from any facility covered by this part are combined for treatment or discharge with waste streams from another facility covered by this part, the concentration of each pollutant in the combined discharge may not exceed the most stringent limitations for that pollutant applicable to any component waste stream of the discharge.

§ 434.62 Alternate effluent limitation for pH.

Where the application of neutralization and sedimentation treatment technology results in inability to comply with the otherwise applicable manganese limitations, the permit issuer may allow the pH level in the final effluent to exceed 9.0 to a small extent in order that the manganese limitations can be achieved.

§ 434.63 Effluent limitations for precipitation events.

(a)

(1) The alternate limitations specified in paragraph (a)(2) of this section apply with respect to:

(i) All discharges of alkaline mine drainage except discharges from underground workings of underground mines that are not commingled with other discharges eligible for these alternate limitations;

(ii) All discharges from steep slope areas, (as defined in section 515(d)(4) of the Surface Mining Control and Reclamation Act of 1977, as amended (SMCRA)), and from mountaintop removal operations (conducted pursuant to section 515(c) of SMCRA);

(iii) Discharges from coal preparation plants and preparation plant associated areas (excluding acid or ferruginous mine drainage from coal refuse disposal piles).

(2) Any discharge or increase in the volume of a discharge caused by precipitation within any 24 hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) may comply with the following limitations instead of the otherwise applicable limitations:

Effluent Limitations During Precipitation

Pollutant or pollutant property	Effluent limitations
Settleable solids	0.5 ml/1 maximum not to be exceeded.
pH	6.0-9.0 at all times.

(b) The following alternate limitations apply with respect to acid or ferruginous drainage from coal refuse disposal piles:

Any discharge or increase in the volume of a discharge caused by precipitation within any 24 hour period greater than the 1-year, 24-hour precipitation event, but less than or equal to the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) may comply with the following limitations instead of the otherwise applicable limitations:

Effluent Limitations During Precipitation

Pollutant or pollutant property	Effluent limitations
Settleable solids	0.5 ml/1 maximum not to be exceeded.

Pollutant or pollutant property	Effluent limitations
pH	6.0-9.0 at all times.

(c) The following alternate limitations apply with respect to acid or ferruginous mine drainage, except for discharges addressed in paragraphs (a) (mountaintop removal and steep slope areas), (d) (controlled surface mine discharges) and (f) (discharges from underground workings of underground mines) of this section:

(1) Any discharge or increase in the volume of a discharge caused by precipitation within any 24 hour period less than or equal to the 2-year, 24-hour precipitation event (or snowmelt of equivalent volume) may comply with the following limitations instead of the otherwise applicable limitations:

Effluent Limitations During Precipitation

Pollutant or pollutant property	Effluent limitations
Iron, total	7.0 mg/l maximum for any 1 day.
Settleable solids	0.5 ml/l maximum not to be exceeded.
pH	6.0-9.0 at all times.

(2) Any discharge or increase in the volume of a discharge caused by precipitation within any 24 hour period greater than the 2-year, 24-hour precipitation event, but less than or equal to the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) may comply with the following limitations instead of the otherwise applicable limitations:

Effluent Limitations During Precipitation

Pollutant or pollutant property	Effluent limitations
Settleable solids	0.5 ml/l maximum not to be exceeded.
pH	6.0-9.0 at all times.

(d)

(1) The alternate limitations specified in paragraph (d)(2) of this section apply with respect to all discharges described in paragraphs (a), (b) and (c) of this section *and* to:

(i) Discharges of acid or ferruginous mine drainage from underground workings of underground mines which are commingled with other discharges eligible for these alternate limitations; and

(ii) Controlled acid or ferruginous surface mine discharges; and

(iii) Discharges from reclamation areas.

(2) Any discharge or increase in the volume of a discharge caused by precipitation within any 24 hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) may comply with the following limitations instead of the otherwise applicable limitations:

Effluent Limitations During Precipitation

Pollutant or pollutant property	Effluent limitations
pH	6.0-9.0 at all times.

(e) The operator shall have the burden of proof that the discharge or increase in discharge was caused by the applicable precipitation event described in paragraphs (a), (b), (c), and (d) of this section.

(f) Discharges of mine drainage from underground workings of underground mines which are not commingled with discharges eligible for alternate limitations set forth in this section shall in no event be eligible for the alternate limitations set forth in this section.

§ 434.64 Procedure and method detection limit for measurement of settleable solids.

For the purposes of this part, the following procedure shall be used to determine settleable solids: Fill an Imhoff cone to the one-liter mark with a thoroughly mixed sample. Allow to settle undisturbed for 45 minutes. Gently stir along the inside surface of the cone with a stirring rod. Allow to settle undisturbed for 15 minutes longer. Record the volume of settled material in the cone as milliliters per liter. Where a separation of settleable and floating materials occurs, do not include the floating material in the reading. Notwithstanding any provision of 40 CFR part 136, the method detection limit for measuring settleable solids under this part shall be 0.4 ml/l.

§ 434.65 Modification of NPDES permits for new sources.

Any coal mine or coal preparation plant which was considered a new source under previous EPA regulations may, notwithstanding § 122.62 of this chapter, apply to have its NPDES permit modified to incorporate the revised new source performance standards.

Subpart G - Coal Remining

Source: 67 FR 3406, Jan. 23, 2002, unless otherwise noted.

§ 434.70 Specialized definitions.

(a) The term *coal remining operation* means a coal mining operation at a site on which coal mining was previously conducted and where the site has been abandoned or the performance bond has been forfeited.

(b) The term *pollution abatement area* means the part of the permit area that is causing or contributing to the baseline pollution load of pre-existing discharges. The pollution abatement area must include, to the extent practicable, areas adjacent to and nearby the remining operation that also must be affected to reduce the pollution load of the pre-existing discharges and may include the immediate location of the pre-existing discharges.

(c) The term *pre-existing discharge* means any discharge resulting from mining activities that have been abandoned prior to the time of a remining permit application. This term shall include a pre-existing discharge that is relocated as a result of the implementation of best management practices (BMPs) contained in the Pollution Abatement Plan.

(d) The term *steep slope* means any slope above twenty degrees or such lesser slope as may be defined by the regulatory authority after consideration of soil, climate, and other characteristics of a region or State. This term does not apply to those situations in which an operator is mining on flat or gently rolling terrain, on which an occasional steep slope is encountered and through which the mining operation is to proceed, leaving a plain or predominantly flat area.

(e) The term *new source remining operation* means a remining operation at a coal mine where mining first commences after February 22, 2002 and subsequently becomes an abandoned mine.

§ 434.71 Applicability.

(a) This subpart applies to pre-existing discharges that are located within or are hydrologically connected to pollution abatement areas of a coal remining operation.

(b) A pre-existing discharge that is intercepted by active mining or that is commingled with waste streams from active mining areas for treatment is subject to the provisions of § 434.61 Commingling of waste streams. For the purposes of this subpart, § 434.61 requires compliance with applicable BPT, BAT, BCT, and NSPS effluent limitations in subparts C, D, and F of this part. Section 434.61 applies to the commingled waste stream only during the time when the pre-existing discharge is intercepted by active mining or is commingled with active mine wastewater for treatment or discharge. After commingling has ceased, the pre-existing discharge is subject to the provisions of this part.

(c) In situations where coal remining operations seek reissuance of an existing remining permit with BPJ limitations and the regulatory authority determines that it is not feasible for a remining operator to re-establish baseline pollutant levels in accordance with the statistical procedures contained in appendix B of this part, pre-existing discharge limitations at existing remining operations shall remain subject to baseline pollutant levels established during the original permit application.

(d) The effluent limitations in this subpart apply to pre-existing discharges until the appropriate SMCRA authority has authorized bond release.

§ 434.72 Effluent limitations attainable by the application of the best practicable control technology currently available (BPT).

(a) The operator must submit a site-specific Pollution Abatement Plan to the permitting authority for the pollution abatement area. The plan must be approved by the permitting authority and incorporated into the permit as an effluent limitation. The Pollution Abatement Plan must identify characteristics of the pollution abatement area and the pre-existing discharges. The Pollution Abatement Plan must be designed to reduce the pollution load from pre-existing discharges and must identify the selected best management practices (BMPs) to be used. The plan must describe the design specifications, construction specifications, maintenance schedules, criteria for monitoring and inspection, and expected performance of the BMPs. The BMPs must be implemented as specified in the plan.

(b)

(1) Except as provided in 40 CFR 125.30 through 125.32 and paragraph (b)(2) of this section, the following effluent limits apply to pre-existing discharges:

Effluent Limitations

Pollutant	Requirement
(i) Iron, total	May not exceed baseline loadings (as defined by appendix B of this part).
(ii) Manganese, total	May not exceed baseline loadings (as defined by appendix B of this part).
(iii) Acidity, net	May not exceed baseline loadings (as defined by appendix B of this part).
(iv) TSS	During remining and reclamation, may not exceed baseline loadings (as defined by appendix B of this part). Prior to bond release, the pre-existing discharge must meet the applicable standards for TSS or SS contained in subpart E.[1]

[1] A pre-existing discharge is exempt from meeting standards in subpart E of this part for TSS and SS when the permitting authority determines that subpart E standards are infeasible or impractical based on the site-specific conditions of soil, climate, topography, steep slopes, or other baseline conditions provided that the operator demonstrates that significant reductions of TSS and SS will be achieved through the incorporation of sediment control BMPs into the Pollution Abatement Plan as required by paragraph (a) of this section.

(2) If the permitting authority determines that it is infeasible to collect samples for establishing the baseline pollutant levels pursuant to paragraph (b)(1) of this section, and that remining will result in significant improvement that would not otherwise occur, then the numeric effluent limitations in paragraph (b)(1) of this section do not apply. Pre-existing discharges for which it is infeasible to collect samples for determination of baseline pollutant levels include, but are not limited to, discharges that exist as a diffuse groundwater flow that cannot be assessed via sample collection; a base flow to a receiving stream that cannot be monitored separate from the receiving stream; a discharge on a steep or hazardous slope that is inaccessible for sample collection; or, a number of pre-existing discharges so extensive that monitoring of individual discharges is infeasible.

§ 434.73 Effluent limitations attainable by application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30 through 125.32 and 434.72(b)(2), a pre-existing discharge must comply with the effluent limitations listed in § 434.72(b) for net acidity, iron and manganese. The operator must also submit and implement a Pollution Abatement Plan as required in § 434.72(a) .

§ 434.74 Effluent limitations attainable by application of the best conventional pollutant control technology (BCT).

Except as provided in 40 CFR 125.30 through 125.32 and 434.72(b)(2), a pre-existing discharge must comply with the effluent limitations listed in § 434.72(b) for total suspended solids. The operator must also submit and implement a Pollution Abatement Plan as required in § 434.72(a).

§ 434.75 New source performance standards (NSPS).

Except as provided in § 434.72(b)(2), a pre-existing discharge from a new source remining operation must comply with the effluent limitations listed in § 434.72(b) for iron, manganese, acidity and total suspended solids. The operator must also submit and implement a Pollution Abatement Plan as required in § 434.72(a).

Subpart H - Western Alkaline Coal Mining

Source: 67 FR 3407, Jan. 23, 2002, unless otherwise noted.

§ 434.80 Specialized definitions.

(a) The term *brushing and grubbing area* means the area where woody plant materials that would interfere with soil salvage operations have been removed or incorporated into the soil that is being salvaged.

(b) The term *regraded area* means the surface area of a coal mine that has been returned to required contour.

(c) The term *sediment* means undissolved organic and inorganic material transported or deposited by water.

(d) The term *sediment yield* means the sum of the soil losses from a surface minus deposition in macro-topographic depressions, at the toe of the hillslope, along field boundaries, or in terraces and channels sculpted into the hillslope.

(e) The term *topsoil stockpiling area* means the area outside the mined-out area where topsoil is temporarily stored for use in reclamation, including containment berms.

(f) The term *western coal mining operation* means a surface or underground coal mining operation located in the interior western United States, west of the 100th meridian west longitude, in an arid or semiarid environment with an average annual precipitation of 26.0 inches or less.

§ 434.81 Applicability.

(a) This subpart applies to alkaline mine drainage at western coal mining operations from reclamation areas, brushing and grubbing areas, topsoil stockpiling areas, and regraded areas.

(b) This subpart applies to drainage at western coal mining operations from reclamation areas, brushing and grubbing areas, topsoil stockpiling areas, and regraded areas where the discharge, before any treatment, meets all the following requirements:

(1) pH is equal to or greater than 6.0;

(2) Dissolved iron concentration is less than 10 mg/L; and

(3) Net alkalinity is greater than zero.

(c) The effluent limitations in this subpart apply until the appropriate SMCRA authority has authorized bond release.

§ 434.82 Effluent limitations attainable by the application of the best practicable control technology currently available (BPT).

Except as provided in 40 CFR 125.30 through 125.32, the following effluent limitations apply to mine drainage from applicable areas of western coal mining operations:

(a) The operator must submit a site-specific Sediment Control Plan to the permitting authority that is designed to prevent an increase in the average annual sediment yield from pre-mined, undisturbed conditions. The Sediment Control Plan must be approved by the permitting authority and be incorporated into the permit as an effluent limitation. The Sediment Control Plan must identify best management practices (BMPs) and also must describe design specifications, construction specifications, maintenance schedules, criteria for inspection, as well as expected performance and longevity of the best management practices.

(b) Using watershed models, the operator must demonstrate that implementation of the Sediment Control Plan will result in average annual sediment yields that will not be greater than the sediment yield levels from pre-mined, undisturbed conditions. The operator must use the same watershed model that was, or will be, used to acquire the SMCRA permit.

(c) The operator must design, implement, and maintain BMPs in the manner specified in the Sediment Control Plan.

§ 434.83 Effluent limitations attainable by application of the best available technology economically achievable (BAT).

Except as provided in 40 CFR 125.30 through 125.32, any existing western coal mining operation with drainage subject to this subpart must meet the effluent limitations in § 434.82.

§ 434.84 Effluent limitations attainable by application of the best conventional pollutant control technology (BCT). [Reserved]

§ 434.85 New source performance standards (NSPS).

Any new source western coal mining operation with drainage subject to this subpart must meet the effluent limitations in § 434.82.
40v32(5546): Appendix A to Part 430

Appendix A to Part 434 - Alternate Storm Limitations for Acid or Ferruginous Mine Drainage

Appendix B to Part 434 - Baseline Determination and Compliance Monitoring for Pre-existing Discharges at Remining Operations

I. General Procedure Requirements

a. This appendix presents the procedures to be used for establishing effluent limitations for pre-existing discharges at coal remining operations, in accordance with the requirements set forth in subpart G; Coal Remining. The requirements specify that pollutant loadings of total iron, total manganese, total suspended solids, and net acidity in pre-existing discharges shall not exceed baseline pollutant loadings. The procedures described in this appendix shall be used for determining site-specific, baseline pollutant loadings, and for determining whether discharge loadings during coal remining operations have exceeded the baseline loading. Both a monthly (single-observation) procedure and an annual procedure shall be applied, as described below.

b. In order to sufficiently characterize pollutant loadings during baseline determination and during each annual monitoring period, it is required that at least one sample result be obtained per month for a period of 12 months.

c. Calculations described in this appendix must be applied to pollutant loadings. Each loading value is calculated as the product of a flow measurement and pollutant concentration taken on the same date at the same discharge sampling point, using standard units of flow and concentration (to be determined by the permitting authority). For example, flow may be measured in cubic feet per second, concentration in milligrams per liter, and the pollutant loading could be calculated in pounds per year.

d. Accommodating Data Below the Maximum Daily Limit at subpart C of this part. In the event that a pollutant concentration in the data used to determine baseline is lower than the daily maximum limitation established in subpart C of this part for active mine wastewater, the statistical procedures should not establish a baseline more stringent than the BPT and BAT effluent standards established in subpart C of this part. Therefore, if the total iron concentration in a baseline sample is below 7.0 mg/L, or the total manganese concentration is below 4.0 mg/L, the baseline sample concentration may be replaced with 7.0 mg/L and 4.0 mg/L, respectively, for the purposes of some of the statistical calculations in this appendix B. The substituted values should be used for all methods in this appendix B with the exception of the calculation of the interquartile range (R) in Method 1 for the annual trigger (Step 3), and in Method 2 for the single observation trigger (Step 3). The interquartile range (R) is the difference between the quartiles M_{-1} and M_1; these values should be calculated using actual loadings (based on measured concentrations) when they are used to calculate R. This should be done in order to account for the full range of variability in the data.

II. Procedure for Calculating and Applying a Single-Observation (Monthly) Trigger

Two alternative methods are provided for calculating a single-observation trigger. One method must be selected and applied by the permitting authority for any given remining permit.

A. Method 1 for Calculating a Single Observation Trigger (L)

(1) Count the number of baseline observations taken for the pollutant of interest. Label this number n. In order to sufficiently characterize pollutant loadings during baseline determination and during each annual monitoring period, it is required that at least one sample result be obtained per month for a period of 12 months.

(2) Order all baseline loading observations from lowest to highest. Let the lowest number (minimum) be $x_{(1)}$, the next lowest be $x_{(2)}$, and so forth until the highest number (maximum) is $x_{(n)}$.

(3) If fewer than 17 baseline observations were obtained, then the single observation trigger (L) will equal the maximum of the baseline observations ($x_{(n)}$).

(4) If at least 17 baseline observations were obtained, calculate the median (M) of all baseline observations:

Instructions for calculation of a median of n observations:

If n is odd, then M equals $x_{(n/2 + 1/2)}$.

For example, if there are 17 observations, then M = $X_{(17/2 + 1/2)}$ = $x_{(9)}$, the 9th highest observation.

If n is even, then M equals 0.5 * ($x_{(n/2)}$ + $x_{(n/2 + 1)}$).

For example, if there are 18 observations, then M equals 0.5 multiplied by the sum of the 9th and 10th highest observations.

(a) Next, calculate M_1 as the median of the subset of observations that range from the calculated M to the maximum $x_{(n)}$; that is, calculate the median of all x larger than or equal to M.

(b) Next, calculate M_2 as the median of the subset of observations that range from the calculated M_1 to $x_{(n)}$; that is, calculate the median of all x larger than or equal to M_1.

(c) Next, calculate M_3 as the median of the subset of observations that range from the calculated M_2 to $x_{(n)}$; that is, calculate the median of all x larger than or equal to M_2.

(d) Finally, calculate the single observation trigger (L) as the median of the subset of observations that range from the calculated M_3 to $x_{(n)}$.

Note:
When subsetting the data for each of steps 3a-3d, the subset should include all observations greater than or equal to the median calculated in the previous step. If the median calculated in the previous step is not an actual observation, it is not included in the new subset of observations. The new median value will then be calculated using the median procedure, based on whether the number of points in the subset is odd or even.

(5) Method for applying the single observation trigger (L) to determine when the baseline level has been exceeded

If two successive monthly monitoring observations both exceed L, immediately begin weekly monitoring for four weeks (four weekly samples).

(a) If three or fewer of the weekly observations exceed L, resume monthly monitoring

(b) If all four weekly observations exceed L, the baseline pollution loading has been exceeded.

B. Method 2 for Calculating a Single Observation Trigger (L)

(1) Follow Method 1 above to obtain M_1 (the third quartile, that is, the 75th percentile).

(2) Calculate M_{-1} as the median of the baseline data which are less than or equal to the sample median M.

(3) Calculate interquartile range, R = (M_1 − M_{-1}).

(4) Calculate the single observation trigger L as

$L = M_1 + 3 * R$

(5) If two successive monthly monitoring observations both exceed L, immediately begin weekly monitoring for four weeks (four weekly samples).

(a) If three or fewer of the weekly observations exceed L, resume monthly monitoring

(b) If all four weekly observations exceed L, the baseline pollution loading has been exceeded.

III. Procedure for Calculating and Applying an Annual Trigger

A. Method 1 for Calculating and Applying an Annual Trigger (T)

(1) Calculate M and M_1 of the baseline loading data as described above under Method 1 for the single observation trigger.

(2) Calculate M_{-1} as the median of the baseline data which are less than or equal to the sample median M.

(3) Calculate the interquartile range, R = (M_1 − M_{-1}).

(4) The annual trigger for baseline (Tb) is calculated as:

where n is the number of baseline loading observations.

(5) To compare baseline loading data to observations from the annual monitoring period, repeat steps 1-3 for the set of monitoring observations. Label the results of the calculations M' and R'. Let m be the number of monitoring observations.

(6) The subtle trigger (Tm) of the monitoring data is calculated as:

(7) If Tm >Tb, the median loading of the monitoring observations has exceeded the baseline loading.

B. Method 2 for Calculating and Applying an Annual Trigger (T)

Method 2 applies the Wilcoxon-Mann-Whitney test to determine whether the median loading of the monitoring observations has exceeded the baseline median. No baseline value T is calculated.

(1) Steps for Conducting the Wilcoxon-Mann-Whitney Test

(a) Let n be the number of baseline loading observations taken, and let m be the number of monitoring loading observations taken. In order to sufficiently characterize pollutant loadings during baseline determination and during each annual monitoring period, it is required that at least one sample result be obtained per month for a period of 12 months.

(b) Order the combined baseline and monitoring observations from smallest to largest.

(c) Assign a rank to each observation based on the assigned order: the smallest observation will have rank 1, the next smallest will have rank 2, and so forth, up to the highest observation, which will have rank n + m.

(1) If two or more observations are tied (have the same value), then the average rank for those observations should be used. For example, suppose the following four values are being ranked:

3, 4, 6, 4

Since 3 is the lowest of the four numbers, it would be assigned a rank of 1. The highest of the four numbers is 6, and would be assigned a rank of 4. The other two numbers are both 4. Rather than assign one a rank of 2 and the other a rank of 3, the average of 2 and 3 (*i.e.,* 2.5) is given to both numbers.

(d) Sum all the assigned ranks of the n baseline observations, and let this sum be S_n.

(e) Obtain the critical value (C) from Table 1. When 12 monthly data are available for both baseline and monitoring (*i.e.,* n = 12 and m = 12), the critical value C is 99.

(f) Compare C to S_n. If S_n is less than C, then the monitoring loadings have exceeded the baseline loadings.

(2) Example Calculations for the Wilcoxon-Mann-Whitney Test

BASELINE DATA											
8.0	9.0	9.0	10.0	12.0	15.0	17.0	18.0	21.0	23.0	28.0	30.0
MONITORING DATA											
9.0	10.0	11.0	12.0	13.0	14.0	16.0	18.0	20.0	24.0	29.0	31.0
BASELINE RANKS											
1.0	3.0	3.0	5.5	8.5	12.0	14.0	15.5	18.0	19.0	21.0	23.0
MONITORING RANKS											
3.0	5.5	7.0	8.5	10.0	11.0	13.0	15.5	17.0	20.0	22.0	24.0

Sum of Ranks for Baseline is Sn = 143.5, critical value is $C_{n, m}$ = 99.

(3) Critical Values for the Wilcoxon-Mann-Whitney Test

(a) When n and m are less than 21, use Table 1.

In order to find the appropriate critical value, match column with correct n (number of baseline observations) to row with correct m (number of monitoring observations).*

Table 1 - Critical Values (C) of the Wilcoxon-Mann-Whitney Test

(for a one-sided test at the 0.001 significance level)

n m	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
10	66	79	93	109	125	142	160	179	199	220	243
11	68	82	96	112	128	145	164	183	204	225	248

n m	10	11	12	13	14	15	16	17	18	19	20
12	70	84	99	115	131	149	168	188	209	231	253
13	73	87	102	118	135	153	172	192	214	236	259
14	75	89	104	121	138	157	176	197	218	241	265
15	77	91	107	124	142	161	180	201	223	246	270
16	79	94	110	127	145	164	185	206	228	251	276
17	81	96	113	130	149	168	189	211	233	257	281
18	83	99	116	134	152	172	193	215	238	262	287
19	85	101	119	137	156	176	197	220	243	268	293
20	88	104	121	140	160	180	202	224	248	273	299

(b) When n or m is greater than 20 and there are few ties, calculate an approximate critical value using the following formula and round the result to the next larger integer. Let N = n + m.

For example, this calculation provides a result of 295.76 for n = m = 20, and a result of 96.476 for n = m = 12. Rounding up produces approximate critical values of 296 and 97.

(c) When n or m is greater than 20 and there are many ties, calculate an approximate critical value using the following formula and round the result to the next larger integer. Let S be the sum of the squares of the ranks or average ranks of all N observations. Let N = n + m.

In the preceding formula, calculate V using

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