



STEVEN L BESHEAR
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601-1190
www.kentucky.gov

LEONARD K PETERS
SECRETARY

FACT SHEET

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT TO DISCHARGE TREATED WASTEWATER INTO WATERS OF THE COMMONWEALTH

KPDES No.: KYG040000 Permit Writer: Larry Sowder Date: July 1, 2009
AI No.: 35050

1. SYNOPSIS OF APPLICATION

a. Name and Address of Applicant

Those coal mining operations, which have obtained or are in the process of obtaining a Surface Mining Control and Reclamation Act (SMCRA) Permanent Program Permit from the Department for Natural Resources (DNR), pursuant to Chapter 350 of the Kentucky Revised Statutes (KRS) and Title 405 of the Kentucky Administrative Regulations (KARs). Hereafter referenced as a Permanent Program Permit.

b. Facility Location

Those coal mining operations located within the 120 counties of the Commonwealth of Kentucky.

c. Description of Applicant's Operation

Covered activities include all forms of coal mining and processing with the following exceptions:

- 1) Those coal mining operations which have not been permitted under KRS Chapter 350 and KAR Title 405.
- 2) New or expanded operations proposing to discharge directly into a water body that has been classified as a Cold Water Aquatic Habitat (CAH) or as an Outstanding State Resource Water (OSRW) as listed in 401 KAR 10:026, Section 5.
- 3) New or expanded operations proposing to discharge directly into or to a direct first or second order tributary of a publicly-owned lake or reservoir as listed in 401 KAR 10:026, Section 5.
- 4) New or expanded operations proposing to discharge directly into a water body that has been categorized as an Outstanding National Resource Water (ONRW) or as an Exceptional Water (EW) as listed in 401 KAR 10:030.

c. Description of Applicant's Operation - continued

- 5) New or expanded operations involving the dredging of coal from waters of the Commonwealth.
- 6) New or expanded operations involving the wet beneficiation (washing) of coal.
- 7) New or expanded operations involving the disposal of coal slurry into waters of the Commonwealth or underground injection.
- 8) Any operation using or proposing to use Anhydrous Ammonia as a treatment option.
- 9) New or expanded operations within five (5) miles upstream of an existing drinking water intake.
- 10) Any operation discharging directly to a water of the Commonwealth that has been listed, in the most recently developed 305 (b) report or 303(d) list, as impaired for one or more of the pollutants commonly associated with coal mining. Pollutants commonly associated with coal mining include sedimentation, total suspended solids, total dissolved solids, conductivity, iron, manganese, and metals.
- 11) Any operation that meets the definition of a coal remining operation found in Coal Mining Effluent Guidelines (Subpart G of 40 CFR Part 434).
- 12) Any operation proposing to dispose of solid or special wastes within the mining area.
- 13) Any operation that is classified as an "Alkaline Mine" pursuant to 40 CFR 434.11.
- 14) Any operation, which the Division of Water (KYDOW) determines that an individual permit would better address the discharges from that operation.

d. Description of Existing Pollution Abatement Facilities

In accordance with the requirements of the KRS Chapter 350 and KAR Title 405 affected drainage from a coal mine shall be directed to a sediment control structure. Therefore at a minimum coal mine drainage is treated by sedimentation. In some instances it may be necessary for chemical additions to adjust pH or to facilitate the removal of sediment or metals.

e. Permitting Action

Reissuance of a general permit for coal mining and associated activities conducted in the Commonwealth of Kentucky.

2. RECEIVING WATERS

a. Receiving Water Name

Those water bodies of the Commonwealth that comprise the Mississippi and Ohio River basins and sub-basins within the political and geographic boundaries of Kentucky.

b. Stream Segment Use Classifications

Warm Water Aquatic Habitat, Primary and Secondary Contact Recreation, and Domestic Water Supply

c. Stream Segment Antidegradation Categorization

Includes water bodies which have been categorized, pursuant to 401 KAR 10:030, Section 1(3), as "High Quality Waters"

Includes water bodies which have been categorized as "Impaired Waters", pursuant to 401 KAR 10:030, Section 4, and which have been listed in the most recently developed 305 (b) report or 303(d) list, as impaired for pollutants not commonly associated with coal mining.

d. Stream Low Flow Condition

The 7-day, 10-year low flow conditions of the receiving streams can range from zero (0) cubic feet per second (cfs) to 111,000 cfs for the Mississippi River.

3. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "existing source" or "new discharger" coal preparation plants and coal preparation plant associated areas

Effluent Characteristics	Reported Discharge		Proposed Limits		Applicable Water Quality Criteria and/or Effluent Guidelines
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Flow (MGD)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Conductivity ($\mu\text{S}/\text{cm}$)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Acidity ¹ (as mg/l CaCO_3)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Alkalinity ¹ (as mg/l CaCO_3)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Oil & Grease ²	Variable	Variable	10.0 mg/l	15.0 mg/l	401 KAR 5:080, Section 1(2)(c)2
Total Recoverable Iron	Variable	Variable	3.5 mg/l	4.0 mg/l	401 KAR 10:031, Section 6 401 KAR 5:065, Sections 2, 4 and 5
Total Recoverable Manganese	Variable	Variable	2.0 mg/l	4.0 mg/l	401 KAR 5:065, Sections 4 and 5
Total Suspended Solids	Variable	Variable	35.0 mg/l	70.0 mg/l	401 KAR 5:065, Sections 4 and 5
pH ³ Standard units)	Variable	Variable	6.0 (min.)	9.0 (max.)	401 KAR 10:031, Section 4(1)(b) 401 KAR 5:065, Sections 4 and 5

¹At all times acidity shall be less than alkalinity.

²The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

³These types of discharges shall not cause the pH of the receiving stream to fluctuate more than 1.0 standard unit over a period of 24 hours.

4. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. **Description of Discharge**

Discharges of "acid or ferruginous mine drainage" from "existing source" or "new discharger" coal preparation plants and coal preparation plant associated areas

b. **Effluent Characteristics**

Flow	Total Recoverable Iron	Total Recoverable Manganese
Acidity	Alkalinity	Total Suspended Solids
Oil & Grease	Conductivity	pH

c. **Pertinent Factors**

The term "**acid or ferruginous mine drainage**" means mine drainage which, before any treatment, has a pH of less than 6.0 or has a total recoverable iron concentration equal to or greater than 10.0 mg/l.

The terms "**existing source coal preparation plant and coal preparation plant associated areas**" mean a coal preparation plant or coal preparation plant associated area that: 1) the discharge of pollutants began prior to January 1981 and 2) received a finally effective KPDES or NPDES permit for the discharges at that site.

The term "**new discharger coal preparation plant and coal preparation plant associated areas**" means a coal preparation plant or coal preparation plant associated area: 1) from which there is or may be a new or additional discharge of pollutants at a site at which on August 13, 1979, it had never discharged pollutants; and 2) which has never received a finally effective KPDES or NPDES permit for discharge at that site; and 3) which is not a new source.

Wet beneficiation or coal washers and their associated areas are not eligible for coverage under this general permit.

d. **Monitoring Requirements**

Instantaneous flow measurements shall be collected twice per month.

pH, Total Recoverable Iron, Total Recoverable Manganese and Total Suspended Solids shall be monitored twice per month by grab sample.

Acidity, Alkalinity, Conductivity, Oil & Grease shall be monitored once per month by grab sample.

4. METHODOLOGY USED IN DETERMINING LIMITATIONS

e. **Justification of Limits**

The Kentucky Administrative Regulations (KARs) cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes (KRSs).

Flow and Conductivity

The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Acidity, Alkalinity, and Oil & Grease

The limits and requirements for these parameters are consistent with the requirements of 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges.

Total Recoverable Manganese and Total Suspended Solids

The limits for these parameters are consistent with the requirements of 401 KAR 5:065, Sections 4 and 5. These limits are representative of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges pursuant to 40 CFR Parts 434.22(a), and 434.23(a).

Total Recoverable Iron

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 6 and 401 KAR 5:065, Sections 2, 4 & 5. These limits are representative of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges pursuant to 40 CFR Parts 434.22(a) and 434.23(a). Based on EPA memorandums from August 13, 1998 and May 21, 1996 the terms Total Iron and Total Recoverable Iron are synonymous therefore as Kentucky's Water Quality Criteria are expressed terms of total recoverable the term Total Recoverable Iron shall be used. Pursuant to 401 KAR 5:065, Section 2(4) water quality standards are to be included in the KPDES permit when it is necessary to achieve water quality standards. Title 401 KAR 10:031, Section 6 Table 1 establishes an acute criterion of 4.0 mg/l and a chronic criterion of 1.0 mg/l for this parameter. Footnote 8 of that table states that the chronic criterion for iron shall not exceed 3.5 mg/l if aquatic life has not been shown to be adversely impacted. The Division of Water is therefore implementing only the acute criterion as a daily maximum in this permit. The implementation of the chronic criterion of 1.0 mg/l would indicate that the aquatic life of that segment of the receiving stream had been adversely impacted and therefore would render any discharge to that segment ineligible for general permit coverage and necessitate an individual permit.

pH

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 4(1)(b) and 5:065, Sections 4 and 5. These limits are representative of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges pursuant to 40 CFR Parts 434.22(a) and 434.23(a).

5. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "new source" coal preparation plants and coal preparation plant associated areas

Effluent Characteristics	Reported Discharge		Proposed Limits		Applicable Water Quality Criteria and/or Effluent Guidelines
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Flow (MGD)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Conductivity ($\mu\text{S}/\text{cm}$)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Acidity ¹ (as mg/l CaCO_3)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Alkalinity ¹ (as mg/l CaCO_3)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Oil & Grease ²	Variable	Variable	10.0 mg/l	15.0 mg/l	401 KAR 5:080, Section 1(2)(c)2
Total Recoverable Iron	Variable	Variable	3.0 mg/l	4.0 mg/l	401 KAR 10:031, Section 6 401 KAR 5:065, Sections 2, 4 and 5
Total Recoverable Manganese	Variable	Variable	2.0 mg/l	4.0 mg/l	401 KAR 5:065, Sections 4 and 5
Total Suspended Solids	Variable	Variable	35.0 mg/l	70.0 mg/l	401 KAR 5:065, Sections 4 and 5
pH ³ Standard units)	Variable	Variable	6.0 (min.)	9.0 (max.)	401 KAR 10:031, Section 4(1)(b) 401 KAR 5:065, Sections 4 and 5

¹At all times acidity shall be less than alkalinity.

²The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

³These types of discharges shall not cause the pH of the receiving stream to fluctuate more that 1.0 standard unit over a period of 24 hours.

6. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. **Description of Discharge**

Discharges of "acid or ferruginous mine drainage" from "new source" coal preparation plants and coal preparation plant associated areas

b. **Effluent Characteristics**

Flow	Total Recoverable Iron	Total Recoverable Manganese
Acidity	Alkalinity	Total Suspended Solids
Oil & Grease	Conductivity	pH

c. **Pertinent Factors**

The term "**acid or ferruginous mine drainage**" means mine drainage which, before any treatment, has a pH of less than 6.0 or has a total recoverable iron concentration equal to or greater than 10.0 mg/l.

The terms "**coal preparation plant and coal preparation plant associated areas**" means a coal preparation plant or coal preparation plant associated area on which construction is commenced after January 1981 or which is determined by the Director of the KYDOW to constitute a "major alteration."

The term "**major alteration**" as it relates to a coal preparation plant and coal preparation plant associated area means KYDOW has determined that a new, altered, or increased discharge of pollutants has occurred after January 1981.

Wet beneficiation or coal washers and their associated areas are not eligible for coverage under this general permit.

d. **Monitoring Requirements**

Instantaneous flow measurements shall be collected twice per month.

pH, Total Recoverable Iron, Total Recoverable Manganese and Total Suspended Solids shall be monitored twice per month by grab sample.

Acidity, Alkalinity, Conductivity, Oil & Grease shall be monitored once per month by grab sample.

6. **METHODOLOGY USED IN DETERMINING LIMITATIONS**

e. **Justification of Limits**

The Kentucky Administrative Regulations (KARs) cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes (KRSs).

Flow and Conductivity

The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Acidity, Alkalinity, and Oil & Grease

The limits and requirements for these parameters are consistent with the requirements of 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges.

Total Recoverable Manganese and Total Suspended Solids

The limits for these parameters are consistent with the requirements of 401 KAR 5:065, Sections 4 and 5. These limits are representative of the "New Source Performance" (NSPS) requirements for these types of discharges pursuant to 40 CFR Parts 434.25(a).

Total Recoverable Iron

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 6 and 401 KAR 5:065, Sections 2, 4 & 5. These limits are representative of the "New Source Performance" (NSPS) requirements for these types of discharges pursuant to 40 CFR Parts 434.25(a). Based on EPA memorandums from August 13, 1998 and May 21, 1996 the terms Total Iron and Total Recoverable Iron are synonymous therefore as Kentucky's Water Quality Criteria are expressed terms of total recoverable the term Total Recoverable Iron shall be used. Pursuant to 401 KAR 5:065, Section 2(4) water quality standards are to be included in the KPDES permit when it is necessary to achieve water quality standards. Title 401 KAR 10:031, Section 6 Table 1 establishes an acute criterion of 4.0 mg/l and a chronic criterion of 1.0 mg/l for this parameter. Footnote 8 of that table states that the chronic criterion for iron shall not exceed 3.5 mg/l if aquatic life has not been shown to be adversely impacted. The Division of Water is therefore implementing only the acute criterion as a daily maximum in this permit. The implementation of the chronic criterion of 1.0 mg/l would indicate that the aquatic life of that segment of the receiving stream had been adversely impacted and therefore would render any discharge to that segment ineligible for general permit coverage and necessitate an individual permit.

pH

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 4(1)(b) and 5:065, Sections 4 and 5. These limits are representative of the "New Source Performance" (NSPS) requirements for these types of discharges pursuant to 40 CFR Parts 434.25(a).

7. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "existing source" or "new discharger" active mining areas excluding coal preparation plants and coal preparation plat associated areas

Effluent Characteristics	Reported Discharge		Proposed Limits		Applicable Water Quality Criteria and/or Effluent Guidelines
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Flow (MGD)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Conductivity ($\mu\text{S}/\text{cm}$)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Acidity ¹ (as mg/l CaCO_3)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Alkalinity ¹ (as mg/l CaCO_3)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Oil & Grease ²	Variable	Variable	10.0 mg/l	15.0 mg/l	401 KAR 5:080, Section 1(2)(c)2
Total Recoverable Iron	Variable	Variable	3.5 mg/l	4.0 mg/l	401 KAR 10:031, Section 6 401 KAR 5:065, Sections 2, 4 and 5
Total Recoverable Manganese	Variable	Variable	2.0 mg/l	4.0 mg/l	401 KAR 5:065, Sections 4 and 5
Total Suspended Solids	Variable	Variable	35.0 mg/l	70.0 mg/l	401 KAR 5:065, Sections 4 and 5
pH ³ Standard units)	Variable	Variable	6.0 (min.)	9.0 (max.)	401 KAR 10:031, Section 4(1)(b) 401 KAR 5:065, Sections 4 and 5

¹At all times acidity shall be less than alkalinity.

²The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

³These types of discharges shall not cause the pH of the receiving stream to fluctuate more that 1.0 standard unit over a period of 24 hours.

8. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. **Description of Discharge**

Discharges of "acid or ferruginous mine drainage" from "existing source" or "new discharger" active mining areas excluding coal preparation plants and coal preparation plat associated areas

b. **Effluent Characteristics**

Flow	Total Recoverable Iron	Total Recoverable Manganese
Acidity	Alkalinity	Total Suspended Solids
Oil & Grease	Conductivity	pH

c. **Pertinent Factors**

The term "**acid or ferruginous mine drainage**" means mine drainage which, before any treatment, has a pH of less than 6.0 or has a total recoverable iron concentration equal to or greater than 10.0 mg/l.

The terms "**existing source coal mine**" mean a coal mine that: 1) the discharge of pollutants began prior to May 4, 1984 and 2) received a finally effective KPDES or NPDES permit for the discharges at that site.

The term "**new discharger coal mine**" means a coal mine: 1) from which there is or may be a new or additional discharge of pollutants at a site at which on May 4, 1984, it had never discharged pollutants; and 2) which has never received a finally effective KPDES or NPDES permit for discharge at that site; and 3) which is not a new source.

d. **Monitoring Requirements**

Instantaneous flow measurements shall be collected twice per month.

pH, Total Recoverable Iron, Total Recoverable Manganese and Total Suspended Solids shall be monitored twice per month by grab sample.

Acidity, Alkalinity, Conductivity, Oil & Grease shall be monitored once per month by grab sample.

8. **METHODOLOGY USED IN DETERMINING LIMITATIONS**

e. **Justification of Limits**

The Kentucky Administrative Regulations (KARs) cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes (KRSs).

Flow and Conductivity

The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Acidity, Alkalinity, and Oil & Grease

The limits and requirements for these parameters are consistent with the requirements of 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges.

Total Recoverable Manganese and Total Suspended Solids

The limits for these parameters are consistent with the requirements of 401 KAR 5:065, Sections 4 and 5. These limits are representative of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges pursuant to 40 CFR Parts 434.32 and 434.33.

Total Recoverable Iron

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 6 and 401 KAR 5:065, Sections 2, 4 & 5. These limits are representative of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges pursuant to 40 CFR Parts 434.32 and 434.33. Based on EPA memorandums from August 13, 1998 and May 21, 1996 the terms Total Iron and Total Recoverable Iron are synonymous therefore as Kentucky's Water Quality Criteria are expressed terms of total recoverable the term Total Recoverable Iron shall be used. Pursuant to 401 KAR 5:065, Section 2(4) water quality standards are to be included in the KPDES permit when it is necessary to achieve water quality standards. Title 401 KAR 10:031, Section 6 Table 1 establishes an acute criterion of 4.0 mg/l and a chronic criterion of 1.0 mg/l for this parameter. Footnote 8 of that table states that the chronic criterion for iron shall not exceed 3.5 mg/l if aquatic life has not been shown to be adversely impacted. The Division of Water is therefore implementing only the acute criterion as a daily maximum in this permit. The implementation of the chronic criterion of 1.0 mg/l would indicate that the aquatic life of that segment of the receiving stream had been adversely impacted and therefore would render any discharge to that segment ineligible for general permit coverage and necessitate an individual permit.

pH

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 4(1)(b) and 5:065, Sections 4 and 5. These limits are representative of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges pursuant to 40 CFR Parts 434.32 and 434.33.

9. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "new source" active mining areas excluding coal preparation plants and coal preparation plat associated areas

Effluent Characteristics	Reported Discharge		Proposed Limits		Applicable Water Quality Criteria and/or Effluent Guidelines
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Flow (MGD)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Conductivity (µS/cm)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Acidity ¹ (as mg/l CaCO ₃)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Alkalinity ¹ (as mg/l CaCO ₃)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Oil & Grease ²	Variable	Variable	10.0 mg/l	15.0 mg/l	401 KAR 5:080, Section 1(2)(c)2
Total Recoverable Iron	Variable	Variable	3.0 mg/l	4.0 mg/l	401 KAR 10:031, Section 6 401 KAR 5:065, Sections 2, 4 and 5
Total Recoverable Manganese	Variable	Variable	2.0 mg/l	4.0 mg/l	401 KAR 5:065, Sections 4 and 5
Total Suspended Solids	Variable	Variable	35.0 mg/l	70.0 mg/l	401 KAR 5:065, Sections 4 and 5
pH ³ Standard units)	Variable	Variable	6.0 (min.)	9.0 (max.)	401 KAR 10:031, Section 4(1)(b) 401 KAR 5:065, Sections 4 and 5

¹At all times acidity shall be less than alkalinity.

²The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

³These types of discharges shall not cause the pH of the receiving stream to fluctuate more that 1.0 standard unit over a period of 24 hours.

10. **METHODOLOGY USED IN DETERMINING LIMITATIONS**

a. **Description of Discharge**

Discharges of "acid or ferruginous mine drainage" from "new source" active mining areas, excluding coal preparation plants and coal preparation plant associated areas

b. **Effluent Characteristics**

Flow	Total Recoverable Iron	Total Recoverable Manganese
Acidity	Alkalinity	Total Suspended Solids
Oil & Grease	Conductivity	pH

c. **Pertinent Factors**

The term "**acid or ferruginous mine drainage**" means mine drainage which, before any treatment, has a pH of less than 6.0 or has a total recoverable iron concentration equal to or greater than 10.0 mg/l.

The terms "**coal mine**" means a coal mine on which construction is commenced after May 4, 1984 or which is determined by the Director of the KYDOW to constitute a "major alteration."

The term "**major alteration**" means a coal mine for which the KYDOW determines that a new, altered, or increased discharge of pollutants has occurred after May 4, 1984, in connection with the mine for which the KPDES permit is being considered. In making this determination, the KYDOW shall take into account one (1) or more of the following events: 1) Extraction of a coal seam not previously extracted by that mine; 2) Discharge into a drainage area not previously affected by wastewater discharges from the mine; 3) Extensive new surface disturbance at the mining operation; 4) Construction of a new shaft, slope, or drift; and 5) Such other factors as the Director of the KYDOW deems relevant.

d. **Monitoring Requirements**

Instantaneous flow measurements shall be collected twice per month.

pH, Total Recoverable Iron, Total Recoverable Manganese and Total Suspended Solids shall be monitored twice per month by grab sample.

Acidity, Alkalinity, Conductivity, Oil & Grease shall be monitored once per month by grab sample.

10. **METHODOLOGY USED IN DETERMINING LIMITATIONS**

e. **Justification of Limits**

The Kentucky Administrative Regulations (KARs) cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes (KRSs).

Flow and Conductivity

The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Acidity, Alkalinity, and Oil & Grease

The limits and requirements for these parameters are consistent with the requirements of 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges.

Total Recoverable Manganese and Total Suspended Solids

The limits for these parameters are consistent with the requirements of 401 KAR 5:065, Sections 4 and 5. These limits are representative of the "New Source Performance" (NSPS) requirements for these types of discharges pursuant to 40 CFR Parts 434.35.

Total Recoverable Iron

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 6 and 401 KAR 5:065, Sections 2, 4 & 5. These limits are representative of the "New Source Performance" (NSPS) requirements for these types of discharges pursuant to 40 CFR Parts 434.35. Based on EPA memorandums from August 13, 1998 and May 21, 1996 the terms Total Iron and Total Recoverable Iron are synonymous therefore as Kentucky's Water Quality Criteria are expressed terms of total recoverable the term Total Recoverable Iron shall be used. Pursuant to 401 KAR 5:065, Section 2(4) water quality standards are to be included in the KPDES permit when it is necessary to achieve water quality standards. Title 401 KAR 10:031, Section 6 Table 1 establishes an acute criterion of 4.0 mg/l and a chronic criterion of 1.0 mg/l for this parameter. Footnote 8 of that table states that the chronic criterion for iron shall not exceed 3.5 mg/l if aquatic life has not been shown to be adversely impacted. The Division of Water is therefore implementing only the acute criterion as a daily maximum in this permit. The implementation of the chronic criterion of 1.0 mg/l would indicate that the aquatic life of that segment of the receiving stream had been adversely impacted and therefore would render any discharge to that segment ineligible for general permit coverage and necessitate an individual permit.

pH

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 4(1)(b) and 5:065, Sections 4 and 5. These limits are representative of the "New Source Performance" (NSPS) requirements for these types of discharges pursuant to 40 CFR Parts 434.35.

11. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "existing source" or "new discharger" post mining areas (reclamation areas) excluding underground mine drainage

Effluent Characteristics	Reported Discharge		Proposed Limits		Applicable Water Quality Criteria and/or Effluent Guidelines
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Flow (MGD)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Conductivity ($\mu\text{S}/\text{cm}$)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Acidity ¹ (as mg/l CaCO_3)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Alkalinity ¹ (as mg/l CaCO_3)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Oil & Grease ²	Variable	Variable	10.0 mg/l	15.0 mg/l	401 KAR 5:080, Section 1(2)(c)2
Settleable Solids ³	Variable	Variable	N/A	0.5 ml/l	401 KAR 5:065, Sections 4 and 5
pH ⁴ (standard units)	Variable	Variable	6.0 (min.)	9.0 (max.)	401 KAR 10:031, Section 4(1)(b) 401 KAR 5:065, Sections 4 and 5

¹At all times acidity shall be less than alkalinity.

²The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

³The limitation for Settleable Solids is an instantaneous maximum

⁴These types of discharges shall not cause the pH of the receiving stream to fluctuate more than 1.0 standard unit over a period of 24 hours.

12. **METHODOLOGY USED IN DETERMINING LIMITATIONS**

a. **Description of Discharge**

Discharges of "acid or ferruginous mine drainage" from "existing source" or "new discharger" post mining areas (reclamation areas) excluding underground mine drainage

b. **Effluent Characteristics**

Flow	Settleable Solids	Oil & Grease
Acidity	Alkalinity	pH
Conductivity		

c. **Pertinent Factors**

The term "**acid or ferruginous mine drainage**" means mine drainage which, before any treatment, has a pH of less than 6.0 or has a total recoverable iron concentration equal to or greater than 10.0 mg/l.

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.

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.

The term "**phase I reclamation bond release**" means release by the Department for Natural Resources of a portion of the performance bond after the following work has been completed: backfilling, re-grading, top soil replacement, drainage control work, including soil preparation, re-grading, seeding, planting, and mulching in accordance with the approved reclamation plan.

The term "**final bond release**" means the time at which the Department for Natural Resources returns any remaining reclamation or performance bond based upon its determination that reclamation work (including, in the case of underground mines, mine sealing, and abandonment procedures) and revegetation requirements have been satisfactorily completed.

The term "**instantaneous maximum**" means the maximum value not to be exceeded at any time.

The limits for post mining areas (reclamation areas) are applicable to discharges for which "phase I reclamation bond release" has been received and remains in effect until "final bond release" is received.

d. **Monitoring Requirements**

Instantaneous flow measurements shall be collected once per month for the first six (6) months after Phase I Bond Release, then once per quarter thereafter, unless otherwise notified by Cabinet personnel.

Acidity, Alkalinity, Conductivity, Oil & Grease, pH and Settleable Solids shall be monitored once per month for the first six (6) months after Phase I Bond Release, then once per quarter thereafter, unless otherwise notified by Cabinet personnel.

12. **METHODOLOGY USED IN DETERMINING LIMITATIONS**

e. **Justification of Limits**

The Kentucky Administrative Regulations (KARs) cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes (KRSs).

Flow and Conductivity

The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Acidity, Alkalinity, and Oil & Grease

The limits and requirements for these parameters are consistent with the requirements of 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges.

Settleable Solids

The limits for this parameter are consistent with the requirements of 401 KAR 5:065, Sections 4 and 5. These limits are representative of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges pursuant to 40 CFR Parts 434.52(a) and 434.53(a).

pH

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 4(1)(b) and 5:065, Sections 4 and 5. These limits are representative of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges pursuant to 40 CFR Parts 434.52(a) and 434.53(a).

13. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "new source" post mining areas (reclamation areas) excluding underground mine drainage

Effluent Characteristics	Reported Discharge		Proposed Limits		Applicable Water Quality Criteria and/or Effluent Guidelines
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Flow (MGD)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Conductivity (µS/cm)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Acidity ¹ (as mg/l CaCO ₃)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Alkalinity ¹ (as mg/l CaCO ₃)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Oil & Grease ²	Variable	Variable	10.0 mg/l	15.0 mg/l	401 KAR 5:080, Section 1(2)(c)2
Settleable Solids ³	Variable	Variable	N/A	0.5 ml/l	401 KAR 5:065, Sections 4 and 5
pH ⁴ (standard units)	Variable	Variable	6.0 (min.)	9.0 (max.)	401 KAR 10:031, Section 4(1)(b) 401 KAR 5:065, Sections 4 and 5

¹At all times acidity shall be less than alkalinity.

²The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

³The limitation for Settleable Solids is an instantaneous maximum

⁴These types of discharges shall not cause the pH of the receiving stream to fluctuate more than 1.0 standard unit over a period of 24 hours.

14. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. **Description of Discharge**

Discharges of "acid or ferruginous mine drainage" from "new source" post mining areas (reclamation areas) excluding underground mine drainage

b. **Effluent Characteristics**

Flow	Settleable Solids	Oil & Grease
Acidity	Alkalinity	pH
Conductivity		

c. **Pertinent Factors**

The term "**acid or ferruginous mine drainage**" means mine drainage which, before any treatment, has a pH of less than 6.0 or has a total recoverable iron concentration equal to or greater than 10.0 mg/l.

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.

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.

The term "**phase I reclamation bond release**" means release by the Department for Natural Resources of a portion of the performance bond after the following work has been completed: backfilling, re-grading, top soil replacement, drainage control work, including soil preparation, re-grading, seeding, planting, and mulching in accordance with the approved reclamation plan.

The term "**final bond release**" means the time at which the Department for Natural Resources returns any remaining reclamation or performance bond based upon its determination that reclamation work (including, in the case of underground mines, mine sealing, and abandonment procedures) and revegetation requirements have been satisfactorily completed.

The term "**instantaneous maximum**" means the maximum value not to be exceeded at any time.

The limits for post mining areas (reclamation areas) are applicable to discharges for which "phase I reclamation bond release" has been received and remains in effect until "final bond release" is received.

d. **Monitoring Requirements**

Instantaneous flow measurements shall be collected once per month for the first six (6) months after Phase I Bond Release, then once per quarter thereafter, unless otherwise notified by Cabinet personnel.

Acidity, Alkalinity, Conductivity, Oil & Grease, pH and Settleable Solids shall be monitored once per month for the first six (6) months after Phase I Bond Release, then once per quarter thereafter, unless otherwise notified by Cabinet personnel.

14. **METHODOLOGY USED IN DETERMINING LIMITATIONS**

e. **Justification of Limits**

The Kentucky Administrative Regulations (KARs) cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes (KRSs).

Flow and Conductivity

The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Acidity, Alkalinity, and Oil & Grease

The limits and requirements for these parameters are consistent with the requirements of 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges.

Settleable Solids

The limits for this parameter are consistent with the requirements of 401 KAR 5:065, Sections 4 and 5. These limits are representative of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges pursuant to 40 CFR Parts 434.55(a).

pH

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 4(1)(b) and 5:065, Sections 4 and 5. These limits are representative of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges pursuant to 40 CFR Parts 434.55(a).

15. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "existing source" or "new discharger" post mining areas (underground mine drainage)

Effluent Characteristics	Reported Discharge		Proposed Limits		Applicable Water Quality Criteria and/or Effluent Guidelines
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Flow (MGD)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Conductivity ($\mu\text{S}/\text{cm}$)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Acidity ¹ (as mg/l CaCO_3)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Alkalinity ¹ (as mg/l CaCO_3)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Oil & Grease ²	Variable	Variable	10.0 mg/l	15.0 mg/l	401 KAR 5:080, Section 1(2)(c)2
Total Recoverable Iron	Variable	Variable	3.5 mg/l	4.0 mg/l	401 KAR 10:031, Section 6 401 KAR 5:065, Sections 2, 4 and 5
Total Recoverable Manganese	Variable	Variable	2.0 mg/l	4.0 mg/l	401 KAR 5:065, Sections 4 and 5
Total Suspended Solids	Variable	Variable	35.0 mg/l	70.0 mg/l	401 KAR 5:065, Sections 4 and 5
pH ³ Standard units)	Variable	Variable	6.0 (min.)	9.0 (max.)	401 KAR 10:031, Section 4(1)(b) 401 KAR 5:065, Sections 4 and 5

¹At all times acidity shall be less than alkalinity.

²The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

³These types of discharges shall not cause the pH of the receiving stream to fluctuate more that 1.0 standard unit over a period of 24 hours.

16. METHODOLOGY USED IN DETERMINING LIMITATIONS

a. **Description of Discharge**

Discharges of "acid or ferruginous mine drainage" from "existing source" or "new discharger" post mining areas (underground mine drainage)

b. **Effluent Characteristics**

Flow	Total Recoverable Iron	Total Recoverable Manganese
Acidity	Alkalinity	Total Suspended Solids
Oil & Grease	Conductivity	pH

c. **Pertinent Factors**

The term "**acid or ferruginous mine drainage**" means mine drainage which, before any treatment, has a pH of less than 6.0 or has a total recoverable iron concentration equal to or greater than 10.0 mg/l.

The terms "**existing source coal mine**" mean a coal mine that: 1) the discharge of pollutants began prior to May 4, 1984 and 2) received a finally effective KPDES or NPDES permit for the discharges at that site.

The term "**new discharger coal mine**" means a coal mine: 1) from which there is or may be a new or additional discharge of pollutants at a site at which on May 4, 1984, it had never discharged pollutants; and 2) which has never received a finally effective KPDES or NPDES permit for discharge at that site; and 3) which is not a new source.

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.

The term "**underground workings of an underground mine**" means the underground workings including shafts, adits, support facilities, etc. of an underground mine, but excludes surface disturbances associated with the underground mine.

The limits for post mining areas (underground mine drainage) are applicable to discharges until "final bond release" is received.

d. **Monitoring Requirements**

Instantaneous flow measurements shall be collected twice per month.

pH, Total Recoverable Iron, Total Recoverable Manganese and Total Suspended Solids shall be monitored twice per month by grab sample.

Acidity, Alkalinity, Conductivity, Oil & Grease shall be monitored once per month by grab sample.

16. METHODOLOGY USED IN DETERMINING LIMITATIONS

e. Justification of Limits

The Kentucky Administrative Regulations (KARs) cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes (KRSs).

Flow and Conductivity

The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Acidity, Alkalinity, and Oil & Grease

The limits and requirements for these parameters are consistent with the requirements of 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges.

Total Recoverable Manganese and Total Suspended Solids

The limits for these parameters are consistent with the requirements of 401 KAR 5:065, Sections 4 and 5. These limits are representative of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges pursuant to 40 CFR Parts 434.52(b)(1) and 434.53(b)(1).

Total Recoverable Iron

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 6 and 401 KAR 5:065, Sections 2, 4 & 5. These limits are representative of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges pursuant to 40 CFR Parts 434.52(b)(1) and 434.53(b)(1). Based on EPA memorandums from August 13, 1998 and May 21, 1996 the terms Total Iron and Total Recoverable Iron are synonymous therefore as Kentucky's Water Quality Criteria are expressed terms of total recoverable the term Total Recoverable Iron shall be used. Pursuant to 401 KAR 5:065, Section 2(4) water quality standards are to be included in the KPDES permit when it is necessary to achieve water quality standards. Title 401 KAR 10:031, Section 6 Table 1 establishes an acute criterion of 4.0 mg/l and a chronic criterion of 1.0 mg/l for this parameter. Footnote 8 of that table states that the chronic criterion of 1.0 mg/l for iron shall not exceed 3.5 mg/l if aquatic life has not been shown to be adversely impacted. The Division of Water is therefore implementing only the acute criterion as a daily maximum in this permit. The implementation of the chronic criterion would indicate that the aquatic life of that segment of the receiving stream had been adversely impacted and therefore would render any discharge to that segment ineligible for general permit coverage and necessitate an individual permit.

pH

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 4(1)(b) and 5:065, Sections 4 and 5. These limits are representative of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges pursuant to 40 CFR Parts 434.52(b)(1) and 434.53(b)(1).

17. REPORTED DISCHARGE AND PROPOSED LIMITS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "new source" post mining areas (underground mine drainage)

Effluent Characteristics	Reported Discharge		Proposed Limits		Applicable Water Quality Criteria and/or Effluent Guidelines
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Flow (MGD)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Conductivity (µS/cm)	Variable	Variable	Report	Report	401 KAR 5:065, Section 2(8)
Acidity ¹ (as mg/l CaCO ₃)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Alkalinity ¹ (as mg/l CaCO ₃)	Variable	Variable	Report	Report	401 KAR 5:080, Section 1(2)(c)2
Oil & Grease ²	Variable	Variable	10.0 mg/l	15.0 mg/l	401 KAR 5:080, Section 1(2)(c)2
Total Recoverable Iron	Variable	Variable	3.0 mg/l	4.0 mg/l	401 KAR 10:031, Section 6 401 KAR 5:065, Sections 2, 4 and 5
Total Recoverable Manganese	Variable	Variable	2.0 mg/l	4.0 mg/l	401 KAR 5:065, Sections 4 and 5
Total Suspended Solids	Variable	Variable	35.0 mg/l	70.0 mg/l	401 KAR 5:065, Sections 4 and 5
pH ³ Standard units)	Variable	Variable	6.0 (min.)	9.0 (max.)	401 KAR 10:031, Section 4(1)(b) 401 KAR 5:065, Sections 4 and 5

¹At all times acidity shall be less than alkalinity.

²The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

³These types of discharges shall not cause the pH of the receiving stream to fluctuate more that 1.0 standard unit over a period of 24 hours.

18. **METHODOLOGY USED IN DETERMINING LIMITATIONS**

a. **Description of Discharge**

Discharges of "acid or ferruginous mine drainage" from "existing source" or "new discharger" post mining areas (underground mine drainage)

b. **Effluent Characteristics**

Flow	Total Recoverable Iron	Total Recoverable Manganese
Acidity	Alkalinity	Total Suspended Solids
Oil & Grease	Conductivity	pH

c. **Pertinent Factors**

The term "**acid or ferruginous mine drainage**" means mine drainage which, before any treatment, has a pH of less than 6.0 or has a total recoverable iron concentration equal to or greater than 10.0 mg/l.

The terms "**coal mine**" means a coal mine on which construction is commenced after May 4, 1984 or which is determined by the Director of the KYDOW to constitute a "major alteration."

The term "**major alteration**" means a coal mine for which the KYDOW determines that a new, altered, or increased discharge of pollutants has occurred after May 4, 1984, in connection with the mine for which the KPDES permit is being considered. In making this determination, the KYDOW shall take into account one (1) or more of the following events: 1) Extraction of a coal seam not previously extracted by that mine; 2) Discharge into a drainage area not previously affected by wastewater discharges from the mine; 3) Extensive new surface disturbance at the mining operation; 4) Construction of a new shaft, slope, or drift; and 5) Such other factors as the Director of the KYDOW deems relevant.

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.

The term "**underground workings of an underground mine**" means the underground workings including shafts, adits, support facilities, etc. of an underground mine, but excludes surface disturbances associated with the underground mine.

The limits for post mining areas (underground mine drainage) are applicable to discharges until "final bond release" is received.

d. **Monitoring Requirements**

Instantaneous flow measurements shall be collected twice per month.

pH, Total Recoverable Iron, Total Recoverable Manganese and Total Suspended Solids shall be monitored twice per month by grab sample.

Acidity, Alkalinity, Conductivity, Oil & Grease shall be monitored once per month by grab sample.

18. METHODOLOGY USED IN DETERMINING LIMITATIONS

e. Justification of Limits

The Kentucky Administrative Regulations (KARs) cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes (KRSs).

Flow and Conductivity

The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Acidity, Alkalinity, and Oil & Grease

The limits and requirements for these parameters are consistent with the requirements of 401 KAR 5:080, Section 1(2)(c)2. These limits are representative of the Division of Water's "Best Professional Judgment" (BPJ) determination of the "Best Practicable Control Technology Currently Available" (BPT) and "Best Available Technology Economically Achievable" (BAT) requirements for these types of discharges.

Total Recoverable Manganese and Total Suspended Solids

The limits for these parameters are consistent with the requirements of 401 KAR 5:065, Sections 4 and 5. These limits are representative of the "New Source Performance" (NSPS) requirements for these types of discharges pursuant to 40 CFR Parts 434.55 (b)(1).

Total Recoverable Iron

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 6 and 401 KAR 5:065, Sections 2, 4 & 5. These limits are representative of the "New Source Performance" (NSPS) requirements for these types of discharges pursuant to 40 CFR Parts 434.55(b)(1). Based on EPA memorandums from August 13, 1998 and May 21, 1996 the terms Total Iron and Total Recoverable Iron are synonymous therefore as Kentucky's Water Quality Criteria are expressed terms of total recoverable the term Total Recoverable Iron shall be used. Pursuant to 401 KAR 5:065, Section 2(4) water quality standards are to be included in the KPDES permit when it is necessary to achieve water quality standards. Title 401 KAR 10:031, Section 6 Table 1 establishes an acute criterion of 4.0 mg/l and a chronic criterion of 1.0 mg/l for this parameter. Footnote 8 of that table states that the chronic criterion for iron shall not exceed 3.5 mg/l if aquatic life has not been shown to be adversely impacted. The Division of Water is therefore implementing only the acute criterion as a daily maximum in this permit. The implementation of the chronic criterion of 1.0 mg/l would indicate that the aquatic life of that segment of the receiving stream had been adversely impacted and therefore would render any discharge to that segment ineligible for general permit coverage and necessitate an individual permit.

pH

The limits for this parameter are consistent with the requirements of 401 KAR 10:031, Section 4(1)(b) and 5:065, Sections 4 and 5. These limits are representative of the "New Source Performance" (NSPS) requirements for these types of discharges pursuant to 40 CFR Parts 434.55(b)(1).

19. **ANTIDegradation**

In September 2004 Kentucky promulgated regulation 401 KAR 5:030, later re-codified as 401 KAR 10:030, Antidegradation Policy Implementation Procedures. On April 12, 2005 after three clarification letters dated August 10, 2004, February 25, 2005 and April 11, 2005 EPA approved the regulation. Subsequent lawsuits by environmental groups were finally decided on September 3, 2008 by the United States Court of Appeals for the Sixth Circuit which remanded portions of the regulation to EPA for reconsideration. In particular the exemptions provided for certain types of permits and the ability to opt for more stringent limitations in lieu of performing an alternatives analysis and socioeconomic demonstration. With this decision the processes established under the three clarifications were nullified. The Energy and Environment Cabinet (EEC) has recently filed a revised 401 KAR 10:030 that establish new procedures for the implementation of antidegradation requirements in general permits. The new procedure enables KDOW acting on the behalf of EEC to require additional analyses, control measures, or other conditions to comply with the antidegradation requirements upon receipt of a Notice of Intent (NOI) to be covered by the general permit. KDOW shall describe in the Fact Sheet how the general permit complies with the antidegradation requirements and shall notify the public of activities granted coverage under the general via the KDOW Web page which shall include the facility name, location and receiving water.

Based upon these factors applicants seeking coverage under this general permit for new or expanded discharges to "High Quality" waters shall submit a Notice of Intent (NOI) and a Socioeconomic Demonstration and Alternatives Analysis (SDAA) form. Pursuant to 401 KAR 5:029, Section 1(2) public participation is a requirement of a finding by EEC that allowing the lowering of water quality is necessary to accommodate important economic or social development in the area where the waters are located. To comply with this requirement KDOW shall make available for public comment complete and acceptable NOIs and SDAA's submitted for consideration. KDOW shall utilize its Web page for this notification and shall receive public comments for a period of 15 days. Final determinations granting coverage shall be posted on the KDOW Web page.

Applicants seeking coverage for new or expanded discharges to "Impaired Waters" for which the impairment is due to non-coal mining related pollutants shall file only a NOI.

20. **PROPOSED COMPLIANCE SCHEDULE FOR ATTAINING EFFLUENT LIMITATIONS**

Permittee shall install, implement and maintain those controls necessary to assure compliance with all conditions and effluent limitations of this permit including those consistent with Kentucky's numerical and narrative water quality standards by the effective date of the permit with the following exception.

Existing facilities which received coverage prior to the expiration of this permit on December 31, 2008 shall have one year from the effective date of this general permit to achieve compliance with the daily maximum limit of 4.0 mg/l for total recoverable iron. Due to interpretational changes regarding total metals versus total recoverable metals KDOW is providing this compliance period to allow existing facilities sufficient time to make treatment corrections if necessary. Further justification is provided in the following discussion.

Prior to the initial drafting of the coal general permit an issue was raised regarding total metals versus total recoverable metals. In previous versions of the coal general permit both total iron and total recoverable iron were being monitoring and limited as separate parameters. However, based on EPA memorandums from August 13, 1998 and May 21, 1996 the terms Total Iron and Total Recoverable Iron are synonymous therefore as Kentucky's Water Quality Criteria are expressed terms of total recoverable the term Total Recoverable Iron shall be used.

Pursuant to 401 KAR 5:065, Section 2(4) water quality standards are to be included in the KPDES permit when it is necessary to achieve water quality standards. Title 401 KAR 10:031, Section 6 Table 1 establishes an acute criterion of 4.0 mg/l and a chronic criterion of 1.0 mg/l for this parameter. Footnote 8 of that table states that the chronic criterion for iron shall not exceed 3.5 mg/l if aquatic life has not been shown to be adversely impacted. The Division of Water is therefore implementing only the acute criterion as a daily maximum in this permit. The implementation of the chronic criterion of 1.0 mg/l would indicate that the aquatic life of that segment of the receiving stream had been adversely impacted and therefore would render any discharge to that segment ineligible for general permit coverage and necessitate an individual permit.

21. **PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE**

Alkaline Mine Reclassification

The procedures for reclassifying an operation from "acid or ferruginous" mine drainage to "alkaline" mine drainage are consistent with the requirements of 401 KAR 5:065, Section 2, 4 and 5 and 401 KAR 5:070, Section 6. "Alkaline mine drainage" is defined in the Coal Mining Point Source Category Effluent Guidelines (General Definitions - 40 CFR 434.11) as mine drainage which prior to any treatment has a pH equal to or greater than 6.0 standard units and a Total Recoverable Iron concentration of less than 10 mg/l. The effect of reclassifying the mine from "acid or ferruginous" to "alkaline" is to remove the effluent limitations and monitoring requirements for total recoverable manganese. Pursuant to the requirements of 401 KAR 5:070, Section 6 such an action constitutes a major modification and necessitates the reopening of the KPDES permit. As this is a general permit there are a number of administrative and logistical issues that preclude the reopening of the general permit to allow for this reclassification therefore KDOW will require the permittee to obtain an individual permit to effect this reclassification.

21. **PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE**

Alternate Effluent Limitations - pH

The procedures for requesting an alternate pH final effluent limit to allow for removal of total recoverable manganese are consistent with the requirements of 401 KAR 5:065, Section 2(1), 4 and 5. In accordance with the Coal Mining Point Source Category Effluent Guidelines (Alternate effluent limitation for pH - 40 CFR 434.61) the permit issuing authority may allow the pH level in the final effluent to exceed 9.0 standard units to a small extent in order that total recoverable manganese limitations may be achieved when the application of neutralization and sedimentation treatment technology results in the inability to comply.

Alternate Effluent Limitations - Precipitation

The procedures for requesting an alternate precipitation effluent limit are consistent with the requirements of 401 KAR 5:065, Section 2(1), 4 and 5. In accordance with the Coal Mining Point Source Category Effluent Guidelines (Alternate effluent limitation for precipitation events - 40 CFR 434.63) the permit issuing authority may grant on an event-by-event basis alternate effluent limitations based on type of discharge and preceding 24-hour precipitation.

Authorization to Discharge

For existing operations which were granted authorization by previous versions of this general permit authorization to discharge is extended upon the effective date of this general permit. For new or expanded operations authorization to discharge under the terms of this general permit shall be effective upon the issuance of written notification by the KYDOW and upon the issuance of a fully effective permanent program permit by DNR.

Best Management Practices (BMP) Plan

Pursuant to 401 KAR 5:065, Section 2(10), a BMP requirement shall be included: to control or abate the discharge of pollutants from ancillary areas containing toxic or hazardous substances or those substances which could result in an environmental emergency; where numeric effluent limitations are infeasible; or to carry out the purposes and intent of KRS 224. Ancillary activities associated with mining operations include the storage and distribution of petroleum based products, equipment repair and maintenance activities, haul roads, exploration sites and access areas. Such activities have the potential to discharge to waters of the commonwealth without being directed through existing treatment units.

Benthic Macroinvertebrate Assessment

As a result of recent studies demonstrating a correlation between coal mining activities and adverse biological impacts on receiving waters EPA has mandated that KDOW include a condition in the general permit requiring all operations covered by this reissued general permit to conduct a one-time benthic macroinvertebrate assessment immediately downstream of an outfall in each watershed impacted by the mining operation. Pursuant to 401 KAR 5:065, Section 1(8) the permittee has the duty to provide any information the Cabinet may request to determine whether cause exists to modify, revoke and reissue, or revoke a permit. To ensure the generation of viable data KDOW has mandated the assessments be performed in accordance with the guidance in KDOW Document DOWSOP03003 - Methods for Sampling Benthic Macroinvertebrate Communities in Wadeable Waters March, 2009 on each HUC 14 impacted by the mining operation. In the opinion of KDOW the HUC 14 is the optimum size for the performance of these assessments. These units are neither too large to collect sufficient data nor too small to require excessive data collection and potential negative impact on the biological community.

21. PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE

Commingling of Wastestreams

Where wastestreams from any facility covered by this permit are combined for treatment or discharge with wastestreams from another facility, the concentration of each pollutant in the combined discharge may not exceed the most stringent limitations for that pollutant applicable to any component wastestream of the discharge. This requirement is consistent with the requirements of 401 KAR 5:065, Sections 4 and 5 (40 CFR Part 434.61).

Department of the Army, Corps of Engineers Condition

Pursuant to the requirements of 40 CFR 124.59(a) and 401 KAR 5:075, Section 9 the following special condition is applicable to certain coal mining operations, which affect anchorage and navigation of any waters of the United States, which are under the jurisdiction of the Corps of Engineers. The applicability of this condition to specific dischargers will be included in the written notice from the DOW that authorizes discharge under this permit.

The permittee shall undertake erosion control practices which utilize proper sedimentation control measures in order to minimize resultant sedimentation in navigable waters which occur as a result of discharges from both point and non-point sources connected with the overall operations. The practices will apply to existing and future facilities and activities, and will, at a minimum, provide for the control of erosion and runoff from access and haul roads, coal handling structures, utility right-of-way easements, and excavations. The permittee will also provide adequate ditching, culverts, sediment traps and ponds, and other structures or procedures necessary to minimize sedimentation in navigable waters. The DOW shall have the right to inspect the sediment control measures being undertaken by the permittee and, in consultation with the U.S. Army Corps of Engineers, direct any additional measures which are necessary to comply with the requirements of this condition. Should this discharge result in sufficient deposition of solids material to create a hazard to anchorage or navigation on any navigable water, such deposits will be removed by the permittee without expense to the United States Government. Further, the time and manner of such removal, as well as the location and manner of its disposal, must receive the prior written approval by the District Engineer of the Corps of Engineers.

In-stream Treatment or Disposal Facilities

This permit does not authorize the construction or use of in-stream treatment or disposal facilities (sediment ponds, hollow fills, valley fills, slurry ponds, etc.) Such authorization is within the jurisdiction of the Corps of Engineers (COE) and is implemented through the Section 404 permitting program of the Clean Water Act. Since the COE is a federal agency, this permitting action requires the issuance of a Section 401 Water Quality Certification by the Division of Mine Permits. The requirements of the 401 Water Quality Certification issued for this operation are hereby incorporated by reference into the KPDES permit as enforceable requirements.

21. **PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE**

Information Requirements Existing Coal Mines

Pursuant to 401 KAR 5:065, Section 1(8) the permittee has the duty to provide any information the Cabinet may request to determine whether cause exists to modify, revoke and reissue, or revoke a permit. As a result of recent comments from EPA, KDOW has included a condition in the general permit requiring the existing permittees analytical data from a representative outfall in each effected watershed for the following parameters: Total Recoverable (Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium and Zinc), Free Cyanide, Total Phenols, and Hardness (as mg/l CaCO₃). If the applicant can demonstrate that the effluents from these outfalls are substantially identical then the Cabinet may allow the applicant to test only one (1) outfall and report the qualitative data for all substantially identical outfalls. Demonstrations shall take the form of information related to the coal seam being mined, the overburden similarities, etc.

Notice Of Intent (NOI) Requirements

To obtain new coverage or modification of coverage under KYG04 the permittee shall submit electronically a Notice of Intent (NOI) Form NOI-CM revised April 2009 and a completed Form HQAA. The revised NOI-CM form requires the following information (see form for details):

Section I - Permittee Information
Section II - General Site Information
Section III - Specific Site Information
Section IV - COE CWA Section 404 Permit Information
Section V - Other Environmental Approvals and Permit Information
Section VI - Effluent Characteristics
Section VII - Best Management Practices (BMP) Plan
Section VIII - Certification
Section IX -NOI preparer information
USGS topographic map
Mining and Reclamation Map

Changes to the form include the addition of e-mail addresses for the permittee and the consultant and the modification of Section VI from Stream Characteristics to Effluent Characteristics.

The addition of e-mail addresses will allow KYDOW to electronically notify the permittee and consultant that coverage has been granted or that an individual permit is required thus allowing a more expeditious notification process.

During the term of the previous KYG04 EPA Region IV raised an issue related to the NOI process. After numerous discussions it was determined that discharge data similar to that required for an individual KPDES permit for a coal mining activity, i.e. Form C Section V Part C - Metals, Cyanide, and Total Phenols which includes. Total Recoverable (Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium and Zinc), Free Cyanide, and Total Phenols would be required. Additional comments from EPA during the two previous drafts have resulted in the addition of Hardness (as mg/l CaCO₃) and Conductivity. Therefore KYDOW is modifying NOI-CM to include the requirement to collect a sample of the discharge and report the analytical results as part of the NOI submission.

Thus with this additional requirement mandated by EPA Region IV KYDOW has re-evaluated the utility of the Stream Characteristics Data Sheets and has determined the effluent data would prove to be more useful therefore the Stream Characteristics Section has been replaced with the Effluent Characteristics Section.

22. PERMIT DURATION

Five (5) years

23. PERMIT INFORMATION

The application, draft permit fact sheet, public notice, comments received and additional information is available by writing the Division of Water at 200 Fair Oaks Lane, Frankfort, Kentucky 40601.

24. REFERENCES AND CITED DOCUMENTS

All material and documents referenced or cited in this fact sheet are parts of the permit information as described above and are readily available at the Division of Water Central Office. Information regarding these materials may be obtained from the person listed below.

25. CONTACT

For further information contact the individual identified on the Public Notice or Larry Sowder at (502) 564-3410 extensions 4924, or by e-mail at Larry.Sowder@ky.gov.

26. PUBLIC NOTICE INFORMATION

Please refer to the attached Public Notice for details regarding the procedures for a final permit decision, deadline for comments, and other information required by 401 KAR 5:075, Section 4(2)(e).

KPDES



KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

COAL GENERAL PERMIT

PERMIT NO.: KYG040000
AI NO.: 35050

AUTHORIZATION TO DISCHARGE UNDER THE KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

Pursuant to Authority in KRS 224,

Those coal mining operations, which have obtained or are in the process of obtaining a Surface Mining Control and Reclamation Act (SMCRA) Permanent Program Permit from the Department for Natural Resources (DNR), pursuant to Chapter 350 of the Kentucky Revised Statutes (KRS) and Title 405 of the Kentucky Administrative Regulations (KARs). Here after referenced as a Permanent Program Permit.

is authorized to discharge from a facility located at

Those coal mining operations located within the 120 counties of the Commonwealth of Kentucky.

to receiving waters named

Those water bodies of the Commonwealth that comprise the Mississippi and Ohio River basins and sub-basins within the political and geographic boundaries of Kentucky.

in accordance with effluent limitations, monitoring requirements, and other conditions set forth in PARTS I, II, III, and IV hereof. The permit consists of this cover sheet, and PART I 18 pages, PART II 1 page, PART III 3 pages, and PART IV 3 pages.

This permit shall become effective on August 1, 2009.

This permit and the authorization to discharge shall expire at midnight, July 31, 2014.

A handwritten signature in black ink, appearing to read 'P. Goodmann', located below the signature line.

July 1, 2009
Date Signed

Peter T. Goodmann, Assistant Director
Division of Water

A1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "existing source" or "new discharger" coal preparation plants and coal preparation plant associated areas

During the period beginning on the effective date of this permit and lasting through either Phase I bond release or the term of this permit, the permittee is authorized to discharge from all point source discharges as described in the SCMRA permit

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	(lbs/day)		Other Units (Specify)		<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Monthly Avg.</u>	<u>Daily Max.</u>	<u>Monthly Avg.</u>	<u>Daily Max.</u>		
Flow (MGD)	Report	Report	N/A	N/A	2/Month	Instantaneous
Total Suspended Solids (mg/l)	N/A	N/A	35	70	2/Month	Grab
Total Recoverable Iron (mg/l)	N/A	N/A	3.5	4.0	2/Month	Grab
Total Recoverable Manganese (mg/l)	N/A	N/A	2.0	4.0	2/Month	Grab
Oil & Grease ¹ (mg/l)	N/A	N/A	10	15	1/Month	Grab
Conductivity (µS/cm)	N/A	N/A	Report	Report	1/Month	Grab
Acidity ² (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab
Alkalinity ² (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab

¹The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

²At all times acidity shall be less than alkalinity.

The pH of the effluent shall not be less than 6.0 standard units or greater than 9.0 standard units and shall be monitored 2/Month by grab sample. These types of discharges shall not cause the pH of the receiving stream to fluctuate more than 1.0 standard unit over a period of 24 hours.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

The abbreviation N/A means Not Applicable.

A2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "new source" coal preparation plants and coal preparation plant associated areas

During the period beginning on the effective date of this permit and lasting through either Phase I bond release or the term of this permit, the permittee is authorized to discharge from all point source discharges as described in the SCMRA permit

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	(lbs/day)		Other Units (Specify)		<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Monthly Avg.</u>	<u>Daily Max.</u>	<u>Monthly Avg.</u>	<u>Daily Max.</u>		
Flow (MGD)	Report	Report	N/A	N/A	2/Month	Instantaneous
Total Suspended Solids (mg/l)	N/A	N/A	35	70	2/Month	Grab
Total Recoverable Iron (mg/l)	N/A	N/A	3.0	4.0	2/Month	Grab
Total Recoverable Manganese (mg/l)	N/A	N/A	2.0	4.0	2/Month	Grab
Oil & Grease ¹ (mg/l)	N/A	N/A	10	15	1/Month	Grab
Conductivity (µS/cm)	N/A	N/A	Report	Report	1/Month	Grab
Acidity ² (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab
Alkalinity ² (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab

¹The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

²At all times acidity shall be less than alkalinity.

The pH of the effluent shall not be less than 6.0 standard units or greater than 9.0 standard units and shall be monitored 2/Month by grab sample. These types of discharges shall not cause the pH of the receiving stream to fluctuate more than 1.0 standard unit over a period of 24 hours.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

The abbreviation N/A means Not Applicable.

A3. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "existing source" or "new discharger" coal mines excluding coal preparation plants and coal preparation plant associated areas

During the period beginning on the effective date of this permit and lasting through either Phase I bond release or the term of this permit, the permittee is authorized to discharge from all point source discharges as described in the SCMRA permit

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	(lbs/day)		Other Units (Specify)		<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Monthly Avg.</u>	<u>Daily Max.</u>	<u>Monthly Avg.</u>	<u>Daily Max.</u>		
Flow (MGD)	Report	Report	N/A	N/A	2/Month	Instantaneous
Total Suspended Solids (mg/l)	N/A	N/A	35	70	2/Month	Grab
Total Recoverable Iron (mg/l)	N/A	N/A	3.5	4.0	2/Month	Grab
Total Recoverable Manganese (mg/l)	N/A	N/A	2.0	4.0	2/Month	Grab
Oil & Grease ¹ (mg/l)	N/A	N/A	10	15	1/Month	Grab
Conductivity (µS/cm)	N/A	N/A	Report	Report	1/Month	Grab
Acidity ² (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab
Alkalinity ² (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab

¹The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

²At all times acidity shall be less than alkalinity.

The pH of the effluent shall not be less than 6.0 standard units or greater than 9.0 standard units and shall be monitored 2/Month by grab sample. These types of discharges shall not cause the pH of the receiving stream to fluctuate more than 1.0 standard unit over a period of 24 hours.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

The abbreviation N/A means Not Applicable.

A4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "new source" active mining areas, excluding coal preparation plants and coal preparation plant associated areas

During the period beginning on the effective date of this permit and lasting through either Phase I bond release or the term of this permit, the permittee is authorized to discharge from all point source discharges as described in the SCMRA permit

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	(lbs/day)		Other Units (Specify)		<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Monthly Avg.</u>	<u>Daily Max.</u>	<u>Monthly Avg.</u>	<u>Daily Max.</u>		
Flow (MGD)	Report	Report	N/A	N/A	2/Month	Instantaneous
Total Suspended Solids (mg/l)	N/A	N/A	35	70	2/Month	Grab
Total Recoverable Iron (mg/l)	N/A	N/A	3.0	4.0	2/Month	Grab
Total Recoverable Manganese (mg/l)	N/A	N/A	2.0	4.0	2/Month	Grab
Oil & Grease ¹ (mg/l)	N/A	N/A	10	15	1/Month	Grab
Conductivity (µS/cm)	N/A	N/A	Report	Report	1/Month	Grab
Acidity ² (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab
Alkalinity ² (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab

¹The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

²At all times acidity shall be less than alkalinity.

The pH of the effluent shall not be less than 6.0 standard units or greater than 9.0 standard units and shall be monitored 2/Month by grab sample. These types of discharges shall not cause the pH of the receiving stream to fluctuate more than 1.0 standard unit over a period of 24 hours.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

The abbreviation N/A means Not Applicable.

A5. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "existing source" or "new discharger" post mining areas (reclamation areas) excluding underground mine drainage

During the period beginning on the effective date of this permit and lasting through either Phase III bond release or the term of this permit, the permittee is authorized to discharge from all point source discharges as described in the SCMRA permit

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	(lbs/day)		Other Units (Specify)		<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Monthly Avg.</u>	<u>Daily Max.</u>	<u>Monthly Avg.</u>	<u>Daily Max.</u>		
Flow (MGD)	Report	Report	N/A	N/A	1/Month	Instantaneous
Settleable Solids ¹ (mg/l)	N/A	N/A	N/A	0.5	1/Month	Grab
Oil & Grease ² (mg/l)	N/A	N/A	10	15	1/Month	Grab
Acidity ³ (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab
Alkalinity ³ (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab
Conductivity (µS/cm)	N/A	N/A	Report	Report	1/Month	Grab

¹The daily maximum limit for Settleable Solids is an "instantaneous maximum" not to be exceeded at any time.

²The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

³At all times acidity shall be less than alkalinity.

The pH of the effluent shall not be less than 6.0 standard units or greater than 9.0 standard units and shall be monitored 2/Month by grab sample. These types of discharges shall not cause the pH of the receiving stream to fluctuate more than 1.0 standard unit over a period of 24 hours.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

The abbreviation N/A means Not Applicable.

A6. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "new source" post mining areas (reclamation areas) excluding underground mine drainage

During the period beginning on the effective date of this permit and lasting through either Phase III bond release or the term of this permit, the permittee is authorized to discharge from all point source discharges as described in the SCMRA permit

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	(lbs/day)		Other Units (Specify)		<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Monthly Avg.</u>	<u>Daily Max.</u>	<u>Monthly Avg.</u>	<u>Daily Max.</u>		
Flow (MGD)	Report	Report	N/A	N/A	1/Month	Instantaneous
Settleable Solids ¹ (mg/l)	N/A	N/A	N/A	0.5	1/Month	Grab
Oil & Grease ² (mg/l)	N/A	N/A	10	15	1/Month	Grab
Acidity ³ (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab
Alkalinity ³ (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab
Conductivity (µS/cm)	N/A	N/A	Report	Report	1/Month	Grab

¹The daily maximum limit for Settleable Solids is an "instantaneous maximum" not to be exceeded at any time.

²The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

³At all times acidity shall be less than alkalinity.

The pH of the effluent shall not be less than 6.0 standard units or greater than 9.0 standard units and shall be monitored 2/Month by grab sample. These types of discharges shall not cause the pH of the receiving stream to fluctuate more that 1.0 standard unit over a period of 24 hours.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

The abbreviation N/A means Not Applicable.

A7. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "existing source" or "new discharger" post mining areas (underground mine drainage).

During the period beginning on the effective date of this permit and lasting through either Phase III bond release or the term of this permit, the permittee is authorized to discharge from all point source discharges as described in the SCMRA permit

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	(lbs/day)		Other Units (Specify)		<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Monthly Avg.</u>	<u>Daily Max.</u>	<u>Monthly Avg.</u>	<u>Daily Max.</u>		
Flow (MGD)	Report	Report	N/A	N/A	2/Month	Instantaneous
Total Suspended Solids (mg/l)	N/A	N/A	35	70	2/Month	Grab
Total Recoverable Iron (mg/l)	N/A	N/A	3.5	4.0	2/Month	Grab
Total Recoverable Manganese (mg/l)	N/A	N/A	2.0	4.0	2/Month	Grab
Oil & Grease ¹ (mg/l)	N/A	N/A	10	15	1/Month	Grab
Conductivity (µS/cm)	N/A	N/A	Report	Report	1/Month	Grab
Acidity ² (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab
Alkalinity ² (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab

¹The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

²At all times acidity shall be less than alkalinity.

The pH of the effluent shall not be less than 6.0 standard units or greater than 9.0 standard units and shall be monitored 2/Month by grab sample. These types of discharges shall not cause the pH of the receiving stream to fluctuate more than 1.0 standard unit over a period of 24 hours.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

The abbreviation N/A means Not Applicable.

A8. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Description of Discharge - Discharges of "acid or ferruginous mine drainage" from "new source" post mining areas (underground mine drainage).

During the period beginning on the effective date of this permit and lasting through either Phase III bond release or the term of this permit, the permittee is authorized to discharge from all point source discharges as described in the SCMRA permit

Such discharges shall be limited and monitored by the permittee as specified below:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	<u>(lbs/day)</u>		<u>Other Units (Specify)</u>		<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Monthly Avg.</u>	<u>Daily Max.</u>	<u>Monthly Avg.</u>	<u>Daily Max.</u>		
Flow (MGD)	Report	Report	N/A	N/A	2/Month	Instantaneous
Total Suspended Solids (mg/l)	N/A	N/A	35	70	2/Month	Grab
Total Recoverable Iron (mg/l)	N/A	N/A	3.0	4.0	2/Month	Grab
Total Recoverable Manganese (mg/l)	N/A	N/A	2.0	4.0	2/Month	Grab
Oil & Grease ¹ (mg/l)	N/A	N/A	10	15	1/Month	Grab
Conductivity (µS/cm)	N/A	N/A	Report	Report	1/Month	Grab
Acidity ² (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab
Alkalinity ² (as mg/l CaCO ₃)	N/A	N/A	Report	Report	1/Month	Grab

¹The limits and monitoring for Oil & Grease do not apply if the permittee has developed and implemented a "Best Management Practices" (BMP) plan as required by this permit. The BMP plan shall include a specific section that addresses the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

²At all times acidity shall be less than alkalinity.

The pH of the effluent shall not be less than 6.0 standard units or greater than 9.0 standard units and shall be monitored 2/Month by grab sample. These types of discharges shall not cause the pH of the receiving stream to fluctuate more than 1.0 standard unit over a period of 24 hours.

There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

The abbreviation N/A means Not Applicable.

B. OTHER REQUIREMENTS

Alkaline Mine Reclassification

Title 40 Chapter I Subpart 434.11 "General Definitions" defines "alkaline mine drainage" as mine drainage, before any treatment, has a pH equal to or greater than 6.0 standard units and a Total Iron concentration of 10 mg/l. As information is unavailable at the time the applicant submits an NOI for coverage under the general permit the default classification for all mine drainage is "acid or ferruginous". Should the permittee have reason to believe the drainage from an operation would be more appropriately classified as "alkaline" the permittee must satisfactorily demonstrate to KDOW that the mine drainage, prior to treatment, has a pH greater than or equal to 6.0 standard units and a Total Recoverable Iron concentration less than 10 mg/l.

This demonstration shall consist of a mine map with the monitoring locations clearly labeled including the latitude and longitude in decimal degrees. There shall be a sufficient number of monitoring locations to adequately characterize any variations within the drainage from all parts of the mining activity. These monitoring locations **CAN NOT COINCIDE** with any sediment structure discharge point as untreated drainage must be collected for the demonstration. At least six (6) months of data to characterize the flow, pH and the Total Recoverable Iron concentration of the influent or untreated effluent shall be collected and submitted as part of this demonstration.

The effect of reclassifying the mine from "acid or ferruginous" to "alkaline" is to remove the effluent limitations and monitoring requirements for total recoverable manganese which constitutes a major modification and necessitates the reopening of the KPDES permit. As this is a general permit there are a number of administrative and logistical issues that preclude the reopening of the general permit to allow for this reclassification. Therefore if the permittee elects to continue the process for reclassification to an alkaline mine then the permittee shall seek an individual permit. To obtain an individual KPDES permit with an alkaline mine classification the permittee shall submit completed Form 1, completed Form C and a copy of the demonstration to KDOW.

Alternate Effluent Limitations - pH

Pursuant to 401 KAR 5:065, Sections 4 and 5 (40 CFR Part 434.62), the permit issuing authority may allow the pH level in the final effluent to exceed 9.0 standard units to a small extent in order that the Manganese limitations may be achieved when the application of neutralization and sedimentation treatment technology results in the inability to comply. This alternate pH limitation shall be granted upon request for a specific discharge, provided the operator submits sufficient documentation, with the Discharge Monitoring Report (DMR), that an effluent pH of greater than 9.0 standard units was required to achieve the Manganese limitation. However, under no circumstances shall the pH exceed 10.0 standard units.

This documentation shall include sample results utilized to determine that additional pH adjustment to between 9.0 and 10.0 standard units was required. This data shall include flows, pH, and total recoverable manganese concentrations. In the event the Cabinet determines this condition to be chronic the permittee shall submit plans for a permanent a solution.

B. OTHER REQUIREMENTS - continued

Alternate Effluent Limitations - Precipitation

Pursuant to the requirements of 401 KAR 5:065, Section 4(2) (40 CFR Part 434.63), precipitation induced discharges are eligible for alternate effluent limits. The applicable alternate limits are a function of the size of the precipitation event and the type of operation and shall be granted on an event by event basis, provided the operator requests alternate precipitation limitations and provides sufficient proof that the discharge or increase in the discharge was caused by the applicable precipitation event described. This could be in the form of precipitation data, weir flow measurements, dated photographs, or equivalent proof of record. This information shall be submitted with the Discharge Monitoring Report (DMR). The following alternate limitations are available:

(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/l maximum not to be exceeded
pH	6.0 to 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/l maximum not to be exceeded
pH	6.0 to 9.0 at all times

B. OTHER REQUIREMENTS - continued

Alternate Effluent Limitations - Precipitation - continued

(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
Total Recoverable Iron	7.0 mg/l maximum for any 1 day
Settleable Solids	0.5 ml/l maximum not to be exceeded
pH	6.0 to 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 to 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 to 9.0 at all times

B. OTHER REQUIREMENTS - continued

Alternate Effluent Limitations - Precipitation - continued

(e) The operator shall have the burden of proof that the discharge or increase in the discharge was caused by the applicable precipitation event described in the previous paragraphs. Such proof shall take the form of a daily precipitation log maintained in accordance with the requirements of 401 KAR 5:065, Section 1(10) or local NOAA weather station records or equivalent. For alternate precipitation event limits related to self monitoring this information shall be submitted with the Discharge Monitoring Report at the end of the monthly monitoring period. For compliance samples collected by any representative of the EEC the permittee has 7 calendar days from the date of the mine inspection report to submit proof of a qualifying event has occurred. For all other events the precipitation logs shall be provided upon request to any representative of the EEC.

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

(g) The applicable alternate limits are a function of the size of the precipitation event and the type of operation. These alternate limits shall be granted on an event by event basis, provided the operator requests them and submits sufficient documentation as specified above in paragraph (e) above. Alternate limits are not available for the parameters of Flow, Oil & Grease, Acidity, and Alkalinity.

The table on the following page summarizes these alternate precipitation effluent limitations.

Authorization to Discharge

For existing operations which were granted authorization by previous versions of this general permit authorization to discharge is extended upon the effective date of this general permit. For new or expanded operations authorization to discharge under the terms of this general permit shall be effective upon the issuance of written notification by the KYDOW and upon the issuance of a fully effective permanent program permit by DNR.

Benthic Macroinvertebrate Assessment

Within the term of this permit each mining operation authorized by this general permit shall conduct and submit to KDOW a one-time benthic macroinvertebrate assessment immediately downstream of an outfall in each HUC 14 impacted by the mining operation. The assessments shall be performed in accordance with the guidance provided in KDOW Document DOWSOP03003 - Methods for Sampling Benthic Macroinvertebrate Communities in Wadeable Waters March, 2009 and during the appropriate index period. The index period for headwater streams (<5 miles² drainage area) is between February and May and for Wadeable streams (>5 miles² drainage area) the period is between May and September. Assessments shall not be conducted during periods of excessively high or low flows or within two weeks of scouring. In the case where two or more mining operations are active within the same HUC 14 the permittees may perform a joint assessment. In the case where an assessment had been performed within the last 12 months the permittee may utilize that information to comply with this requirement. Should KDOW determine that additional or follow up assessments are required the permittee shall be given written notification and justification.

B. OTHER REQUIREMENTS - continued

TABLE 1 - ALTERNATE PRECIPITATION EVENT EFFLUENT REQUIREMENTS

TYPE OF DISCHARGE	PRECIPITATION EVENT			
	Discharge Caused by Precipitation	1-yr, 24-hr Event	2-yr, 24-hr Event	10-yr, 24-hr Event
Discharges from underground workings of underground mines not commingled including alkaline mines	NO ALTERNATE LIMITATIONS	NO ALTERNATE LIMITATIONS	NO ALTERNATE LIMITATIONS	NO ALTERNATE LIMITATIONS
Discharges of dredge return water	NO ALTERNATE LIMITATIONS	NO ALTERNATE LIMITATIONS	NO ALTERNATE LIMITATIONS	NO ALTERNATE LIMITATIONS
Discharges from underground workings of underground mines commingled	NO ALTERNATE LIMITATIONS	NO ALTERNATE LIMITATIONS	NO ALTERNATE LIMITATIONS	pH
Controlled surface mine drainage (except steep slope and mountaintop removal)	NO ALTERNATE LIMITATIONS	NO ALTERNATE LIMITATIONS	NO ALTERNATE LIMITATIONS	pH
Non-controlled surface mine drainage (except steep slope and mountaintop removal)	SS, pH, Fe	SS, pH, Fe	SS, pH	pH
Discharges from coal refuse disposal piles	NO ALTERNATE LIMITATIONS	SS, pH	SS, pH	pH
Discharges from steep slope and mountaintop removal areas	SS, pH	SS, pH	SS, pH	pH
Discharges from preparation plant associated areas (excluding coal refuse disposal piles)	SS, pH	SS, pH	SS, pH	pH
Alkaline Mine Drainage	SS, pH	SS, pH	SS, pH	pH
Reclamation Areas	SS, pH	SS, pH	SS, pH	pH
The abbreviations Fe and SS mean Total Recoverable Iron and Settleable Solids, respectively.				
The applicable alternate limits are a function of the size of the precipitation event and the type of operation and shall be granted on an event by event basis, provided the operator requests alternate precipitation limitations and provides sufficient proof that the discharge or increase in the discharge was caused by the applicable precipitation event described.				
These alternate limits do not affect the parameters of Flow, Oil & Grease, Acidity, and Alkalinity.				

B. OTHER REQUIREMENTS - continued

Commingling of Wastestreams

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

Department of the Army, Corps of Engineers Condition

The following special condition is applicable to certain coal mining operations, which affect anchorage and navigation of any waters of the United States, which are under the jurisdiction of the Corps of Engineers. The applicability of this condition to specific dischargers will be included in the written notice from the DOW that authorizes discharge under this permit.

The permittee shall undertake erosion control practices which utilize proper sedimentation control measures in order to minimize resultant sedimentation in navigable waters which occur as a result of discharges from both point and non-point sources connected with the overall operations. The practices will apply to existing and future facilities and activities, and will, at a minimum, provide for the control of erosion and runoff from access and haul roads, coal handling structures, utility right-of-way easements, and excavations. The permittee will also provide adequate ditching, culverts, sediment traps and ponds, and other structures or procedures necessary to minimize sedimentation in navigable waters. The DOW shall have the right to inspect the sediment control measures being undertaken by the permittee and, in consultation with the U.S. Army Corps of Engineers, direct any additional measures which are necessary to comply with the requirements of this condition. Should this discharge result in sufficient deposition of solids material to create a hazard to anchorage or navigation on any navigable water, such deposits will be removed by the permittee without expense to the United States Government. Further, the time and manner of such removal, as well as the location and manner of its disposal, must receive the prior written approval by the District Engineer of the Corps of Engineers.

Information Requirements Existing Coal Mines

Within the term of this permit each existing mining operation authorized by this general permit shall conduct and submit to KDOW a one-time analysis for each of the following parameters, Total Recoverable (Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium and Zinc), Free Cyanide, Total Phenols, and Hardness (as mg/l CaCO₃), from a representative outfall in each effected watershed. If the applicant can demonstrate that the effluents from these outfalls are substantially identical then the Cabinet may allow the applicant to test only one (1) outfall and report the qualitative data for all substantially identical outfalls. Demonstrations shall take the form of information related to the coal seam being mined, the overburden similarities, etc.

In-stream Treatment or Disposal Facilities

This permit does not authorize the construction or use of in-stream treatment or disposal facilities (sediment ponds, hollow fills, valley fills, slurry ponds, etc.) Such authorization is within the jurisdiction of the Corps of Engineers (COE) and is implemented through the Section 404 permitting program of the Clean Water Act. Since the COE is a federal agency, this permitting action requires the issuance of a Section 401 Water Quality Certification by the Division of Mine Permits. The requirements of the 401 Water Quality Certification issued for this operation are hereby incorporated by reference into the KPDES permit as enforceable requirements.

C. SCHEDULE OF COMPLIANCE

The permittees shall attain compliance with all requirements of this permit on the effective date of this permit unless otherwise stated.

Existing facilities which received coverage prior to the expiration of this permit on December 31, 2008 shall have one year from the effective date of this general permit to achieve compliance with the daily maximum limit of 4.0 mg/l for total recoverable iron.

See Part IV for implementation and submission requirements related to the Best Management Practices (BMP) Plan.

D. MONITORING AND REPORTING

Samples and measurements taken in accordance with the requirements of PART I pages I-1 through I-8 shall be representative of the volume and nature of the monitored discharge and shall be taken at the following location: at nearest accessible point after final treatment, but prior to actual discharge to or mixing with the receiving waters. For sediment control structures the spillway/discharge pipe of the structure shall be designated as the compliance point unless the permittee has constructed and bonded a discharge channel from the sediment control structure to the receiving water. For discharge channels the compliance point shall be that point along the discharge channel that the permittee and the Cabinet have agreed upon. **SAMPLES ARE NOT TO BE TAKEN FROM THE SEDIMENT STRUCTURE WHEN THERE IS NO DISCHARGE.**

All monitoring points (outfalls) authorized by this permit shall receive a unique identifier consistent with the naming convention utilized by EPA's Permit Compliance System. PCS requires the assignment of a three character name, i.e. 001, 002 thru 999, for each outfall designated on an individual permit or general permit coverage. This outfall name is to be included on all Discharge Monitoring Reports (DMRs) and any other reports submitted by the permittee. The permittee shall be responsible for establishing the name for each outfall prior to its activation and maintaining an accurate record of the outfall name, receiving stream and latitude/longitude. The permittee shall provide upon the request of KDOW or the Department for Natural Resources (DNR) a list of outfalls for each currently held permit, both individual and general.

Discharge monitoring results obtained during the previous month shall be summarized for each outfall and reported using only KDOW approved Discharge Monitoring Report (DMR) forms and formats. DMRs for each calendar quarter shall be postmarked no later than the 28th day of the month and submitted to the appropriate Department for Natural Resources Regional Office for your operation.

E. DEFINITIONS

The terms **"1-year, 2-year, and 10-year, 24-hour precipitation events"** mean the maximum 24-hour precipitation event with a probable recurrence interval of once in one (1), two (2), and ten (10) years, respectively, 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 there from.

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 (5) years or more.

The term **"acid or ferruginous mine drainage"** means mine drainage which, before any treatment, has a pH of less than 6.0 or has a total recoverable iron concentration equal to or greater than 10.0 mg/l.

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.

The term **"alkaline mine drainage"** means mine drainage, which before any treatment, has a pH equal to or greater than 6.0 and Total Recoverable Iron Concentration of less than 10.0 mg/l.

The term **"calendar day"** means, for the purpose of this permit, any 24-hour period.

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.

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.

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 in coal preparation processes within a coal preparation plant.

The term **"coal refuse disposal pile"** means any coal refuse deposited on the earth and intended as permanent disposal 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.

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.

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

The term **"daily maximum concentration"** means the daily determination of concentration as an instantaneous maximum that cannot be exceeded by any sample.

The term **"daily precipitation log"** means a daily record of precipitation levels maintained by the permittee to provide proof that a qualifying event has occurred within the preceding 24 hours. This may take the form of daily readings of local rain gages, National Oceanic and Atmospheric Administration data, etc.

E. DEFINITIONS - continued

The term "**existing source coal mine**" means a coal mine, which the KYDOW determines is neither a "new source coal mine" nor a "new discharger coal mine."

The term "**expanded operation**" means any amendment or revision of a mining plan, which meets conditions 2, 3, or 5 of the term "major alteration".

The term "**final bond release**" means the time at which the Department for Surface Mining Reclamation and Enforcement returns any remaining reclamation or performance bond based upon its determination that reclamation work (including, in the case of underground mines, mine sealing, and abandonment procedures) and revegetation requirements have been satisfactorily completed.

The term "**grab sample**" means a single influent or effluent portion collected in less than fifteen (15) minutes at the period most representative of the total discharge.

The term "**instantaneous maximum**" means the maximum value not to be exceeded at any time.

The term "**major alteration**" means a coal mine for which the KYDOW determines that a new, altered, or increased discharge of pollutants has occurred after May 29, 1981, in connection with the mine for which the KPDES permit is being considered. In making this determination, the KYDOW shall take into account one (1) or more of the following events: 1) Extraction of a coal seam not previously extracted by that mine; 2) Discharge into a drainage area not previously affected by wastewater discharges from the mine; 3) Extensive new surface disturbance at the mining operation; 4) Construction of a new shaft, slope, or drift; and 5) Such other factors as the Director of the KYDOW deems relevant.

The term "**mine drainage**" means any drainage and any water pumped or siphoned from an active mining area or a post-mining area.

The abbreviation "**ml/l**" means milliliters per liter.

The term "**monthly average concentration**" means the arithmetic average of all sample concentrations collected during a calendar month.

The term "**new discharger coal mine**" means a coal mine: 1) from which there is or may be a new or additional discharge of pollutants at a site at which on August 13, 1979, it had never discharged pollutants; and 2) which has never received a finally effective KPDES or NPDES permit for discharge at that site; and 3) which is not a new source.

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, on which construction is commenced after May 4, 1984; or which is determined by the Director of the KYDOW to constitute a "major alteration."

The term "**phase I reclamation bond release**" means release by the Department for Surface Mining Reclamation and Enforcement of a portion of the performance bond after the following work has been completed: backfilling, re-grading, top soil replacement, drainage control work, including soil preparation, re-grading, seeding, planting, and mulching in accordance with the approved reclamation plan.

The term "**point source**" means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, culvert, tunnel, conduit, well, discrete fissure, container, wet seals, mine adits, seeps, or sumps, from which pollutants are or may be discharged.

E. DEFINITIONS - continued

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.

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.

The term "**settleable solids**" is that matter measured by the volumetric method specified in PART I, F of the permit.

The terms "**treatment facility**" and "**treatment system**" mean all structures, which contain, convey, and as necessary, chemically or physically treat coal mine 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.

The term "**underground workings of an underground mine**" means the underground workings including shafts, adits, support facilities, etc. of an underground mine, but excludes surface disturbances associated with the underground mine.

F. TEST PROCEDURES

Test procedures for the analysis of pollutants shall conform to all regulations published pursuant to KRS 224 (401 KAR 5:065, Section 1(10)).

Settleable Solids

Test procedures for the determination of settleable solids, as described in c., shall conform to 40 CFR 434.64 as adopted by 401 KAR 5:065, Section 4(2).

Fill an Imhoff cone to the one (1) 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.

PART II - STANDARD CONDITIONS FOR KPDES PERMIT

This permit has been issued under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet and other state, federal, and local agencies.

It is the responsibility of the permittee to demonstrate compliance with permit parameter limitations by utilization of sufficiently sensitive analytical methods.

The permittee is also advised that all KPDES permit conditions in KPDES Regulation 401 KAR 5:065, Section 1 will apply to all discharges authorized by this permit.

PART III - ADDITIONAL REQUIREMENTS

A NOTICE OF INTENT (NOI) CONTENTS

An NOI-CM and attachments shall be submitted by all operators seeking new or expanded coverage under this general permit. The NOI-CM requires the following information:

Section I - Permittee Information

Applicant Name, Mailing Address, City, State, Zip Code, Contact Name, Contact Telephone Number and E-mail Address

Section II - General Site Information

DNR Number, Amendment/Revision Number, Type of Operation, County, Nearest Community, Nearest Public Road Intersection, Nearest Named Stream, Latitude/Longitude, Surface Acreage (Original/Added), Underground Acreage (Original Added), a full color topographic map with the general facility location clearly marked and a copy of the Mining and Reclamation Plan Map and the Environmental Resources Map.

Section III - Site Specific Information

Number of sediment structures proposed, Number of fills proposed, Number of stream crossings proposed, Name of nearest downstream public water supply intake, Distance in stream miles to nearest downstream public water supply intake, and the sediment control structure, fill, and stream crossing inventories on pages 3 and 4 of the NOI-CM.

Section IV - COE CWA Section 404 Permit Information

Has a 404 permit been obtained, permit number, issuance date and activities covered.

Section V - Other Environmental Approvals and Permit Information

Provide permit numbers or application dates for following permits or approvals if required: 401 Water Quality Certification, Drinking Water, Wastewater Construction, Water Withdrawal, Air Emissions, Solid or Special Wastes, and Hazardous Waste Registration.

Section VI - Effluent Characteristics

Collect, analyze and report at least one sample of effluent from an outfall in each watershed for the following parameters: Total Suspended Solids, Flow, pH, Hardness (as mg/l CaCO₃), Sulfate (as SO₄), Conductivity (µS/cm), Total Recoverable (Aluminum, Iron, Manganese, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium and Zinc), Free Cyanide and Total Phenols. Include the outfall number, latitude/longitude, date collected, receiving water, sample type, analytical method used and method detection level.

If the NOI is for a new activity which does not have any existing discharge points then the applicant may use data collected from a similar existing activity within the watershed. If none exist the applicant shall within two years of issuance of the general permit coverage letter provide the required analytical data to KDOW.

The background water quality data collected as, part of the SMCRA permit application process is not acceptable for this requirement. All samples and analysis are to be taken and performed in accordance with the requirements of 40 CFR Part 136 and recorded on an Effluent Characteristics Data Sheet. An Effluent Characteristics Data Sheet shall be prepared for each sample collected.

Section VII - Best Management Practices (BMP) Plan

Indicate whether a generic Coal BMP Plan or site specific BMP shall be completed and implemented, or the Oil & Grease requirements will be followed.

Section VIII - Certification

Name, Official Title, Telephone Number and Signature of person certifying the information provide is true and accurate, and the date signed.

Section IX - NOI Preparer Information

Preparer Name, Mailing Address, City, State, Zip Code, Phone Number and E-mail Address

The Notice of Intent (NOI) shall be submitted to the Division of Water electronically using a CD or e-mail as an Adobe Acrobat PDF file. Submission of the NOI shall be at the same time as the application for a Surface Disturbance Permit is filed with the Department for Natural Resources. Should changes in the proposed activity occur then a revised NOI will be required.

The afore-described procedure shall also apply to those operations that meet the definition of an expanded operation, see definition on page I-14 of this permit.

Attachments

USGS topographic map
Mining and Reclamation Map
A completed Form SDAA (if discharge is to a High Quality Water)

Termination Requirements

Termination of general permit coverage shall take the form of a Notice of Termination (NOT), which will consist of the following elements:

- a. A completed KPDES FORM NOT-CM.
- b. Copies of DNR release.

NOTs are to be filed only after the entire permitted area has received final bond release.

Transfers

KYDOW receives transfer information from KYDNR by way of the KYDNR's Staffware program. KYDOW shall issue a transfer of the general permit based on the information obtained from this system.

FORMS

The KPDES FORM NOI-CM and NOT-CM forms are available from the KYDOW's web site at:

http://www.water.ky.gov/homepage_repository/kpdes_permit_aps.htm

B Operations Automatically Excluded From General Permit Coverage

- 1) Those coal mining operations which have not been permitted under KRS Chapter 350 and KAR Title 405.
- 2) New or expanded operations proposing to discharge directly into a water body that has been classified as a Cold Water Aquatic Habitat (CAH) or as an Outstanding State Resource Water (OSRW) as listed in 401 KAR 10:026, Section 5.
- 3) New or expanded operations proposing to discharge directly into or to a direct first or second order tributary of a publicly-owned lake or reservoir as listed in 401 KAR 10:026, Section 5.
- 4) New or expanded operations proposing to discharge directly into a water body that has been categorized as an Outstanding National Resource Water (ONRW) or as an Exceptional Water (EW) as listed in 401 KAR 10:030.
- 5) New or expanded operations involving the dredging of coal from waters of the Commonwealth.
- 6) New or expanded operations involving the wet beneficiation (washing) of coal.
- 7) New or expanded operations involving the disposal of coal slurry into waters of the Commonwealth or underground injection.
- 8) Any operation using or proposing to use Anhydrous Ammonia as a treatment option.
- 9) New or expanded operations within five (5) miles upstream of an existing drinking water intake.
- 10) Any operation discharging directly to a water of the Commonwealth that has been listed, in the most recently developed 305 (b) report or 303(d) list, as impaired for one or more of the pollutants commonly associated with coal mining. Pollutants commonly associated with coal mining include sedimentation, total suspended solids, total dissolved solids, conductivity, iron, manganese, and metals.
- 11) Any operation that meets the definition of a coal remining operation found in Coal Mining Effluent Guidelines (Subpart G of 40 CFR Part 434).
- 12) Any operation proposing to dispose of solid or special wastes within the mining area.
- 13) Any operation that is classified as an "Alkaline Mine" pursuant to 40 CFR 434.11.
- 14) Any operation, which the Division of Water (KYDOW) determines that an individual permit would better address the discharges from that operation.

Any interested person may petition the Division of Water to require an individual permit under these conditions.

PART IV - BEST MANAGEMENT PRACTICES

SECTION A. GENERAL CONDITIONS

1. Applicability

These conditions apply to all permittees who use, manufacture, store, handle, or discharge any pollutant listed as: (1) toxic under Section 307(a)(1) of the Clean Water Act; (2) oil, as defined in Section 311(a)(1) of the Act; (3) any pollutant listed as hazardous under Section 311 of the Act; or (4) is defined as a pollutant pursuant to KRS 224.01-010(35) and who have ancillary manufacturing operations which could result in (1) the release of a hazardous substance, pollutant, or contaminant, or (2) an environmental emergency, as defined in KRS 224.01-400, as amended, or any regulation promulgated pursuant thereto (hereinafter, the "BMP pollutants"). These operations include material storage areas; plant site runoff; in-plant transfer, process and material handling areas; loading and unloading operations, and sludge and waste disposal areas.

2. BMP Plan

The permittee shall develop and implement a Best Management Practices (BMP) plan consistent with 401 KAR 5:065, Section 2(10) pursuant to KRS 224.70-110, which prevents or minimizes the potential for the release of "BMP pollutants" from ancillary activities through plant site runoff; spillage or leaks, sludge or waste disposal; or drainage from raw material storage. A Best Management Practices (BMP) plan will be prepared by the permittee unless the permittee can demonstrate through the submission of a BMP outline that the elements and intent of the BMP have been fulfilled through the use of existing plans such as the Spill Prevention Control and Countermeasure (SPCC) plans, contingency plans, and other applicable documents.

3. Implementation

If this is the first time for the BMP requirement, then the plan shall be developed within 90 days of the effective date of the permit. Implementation shall be within 180 days of that submission. For permit renewals the plan in effect at the time of permit reissuance shall remain in effect. Modifications to the plan as a result of ineffectiveness or plan changes to the facility shall be submitted to the Division of Water and implemented as soon as possible.

4. General Requirements

The BMP plan shall:

- a. Be documented in narrative form, and shall include any necessary plot plans, drawings, or maps.
- b. Establish specific objectives for the control of toxic and hazardous pollutants.
 - (1) Each facility component or system shall be examined for its potential for causing a release of "BMP pollutants" due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.

- (2) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g., precipitation), or other circumstances which could result in a release of "BMP pollutants," the plan should include a prediction of the direction, rate of flow, and total quantity of the pollutants which could be released from the facility as result of each condition or circumstance.
- c. Establish specific Best Management Practices to meet the objectives identified under paragraph b of this section, addressing each component or system capable of causing a release of "BMP pollutants."
- d. Include any special conditions established in part b of this section.
- e. Be reviewed by plant engineering staff and the plant manager.

5. Specific Requirements

The plan shall be consistent with the general guidance contained in the publication entitled "NPDES Best Management Practices Guidance Document," and shall include the following baseline BMPs as a minimum.

- a. BMP Committee
- b. Reporting of BMP Incidents
- c. Risk Identification and Assessment
- d. Employee Training
- e. Inspections and Records
- f. Preventive Maintenance
- g. Good Housekeeping
- h. Materials Compatibility
- i. Security
- j. Materials Inventory

6. SPCC Plans

The BMP plan may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans under Section 311 of the Act and 40 CFR Part 151, and may incorporate any part of such plans into the BMP plan by reference.

7. Hazardous Waste Management

The permittee shall assure the proper management of solid and hazardous waste in accordance with the regulations promulgated under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1978 (RCRA) (40 U.S.C. 6901 et seq.) Management practices required under RCRA regulations shall be referenced in the BMP plan.

8. Documentation

The permittee shall maintain a description of the BMP plan at the facility and shall make the plan available upon request to EEC personnel. Initial copies and modifications thereof shall be sent to the following addresses when required by Section 3:

Division of Water
Surface Water Permits Branch
Permit Support Section
200 Fair Oaks Lane
Frankfort, Kentucky 40601

9. BMP Plan Modification

The permittee shall amend the BMP plan whenever there is a change in the facility or change in the operation of the facility which materially increases the potential for the ancillary activities to result in the release of "BMP pollutants."

10. Modification for Ineffectiveness

If the BMP plan proves to be ineffective in achieving the general objective of preventing the release of "BMP pollutants," then the specific objectives and requirements under paragraphs b and c of Section 4, the permit, and/or the BMP plan shall be subject to modification to incorporate revised BMP requirements. If at any time following the issuance of this permit the BMP plan is found to be inadequate pursuant to a state or federal site inspection or plan review, the plan shall be modified to incorporate such changes necessary to resolve the concerns.

SECTION B. SPECIFIC CONDITIONS

The following items shall be incorporated into the BMP plan:

Best Management Practices to control contaminated runoff from haul roads, exploration sites, access roads, etc. Implementation of such practices in lieu of monitoring and complying with effluent limits for these point sources must be approved by the KDOW`.

Best Management Practices to control contaminated runoff from the handling, storage and disposal of petroleum products and the maintenance procedures for mining equipment.

The Groundwater Protection Plan as required by 401 KAR 5:037

The conditions of any 401 Water Quality Certification granted to the operation.



STEVEN L. BESHEAR
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

LEONARD K. PETERS
SECRETARY

July 1, 2009

Re: Coal General Permit
KPDES No.: KYG040000
AI No.: 35050
Kentucky

Dear Commenter:

The Kentucky Coal Association (KCA) and the Kentucky Resources Council (KRC) were the only organizations to submit comments in a timely manner during this public notice of the Coal General Permit. The division has reviewed, categorized, and summarized each comment submitted. Responses have been prepared in accordance with 401 KAR 5:075, Section 12.

COMMENT 1: Conductivity Monitoring

KCA: The permit justifies the imposition of this requirement pursuant to 401 KAR 5:065, Section 2(8). KCA contends that this section of the regulations applies only to monitoring required "to assure compliance with permit limitations" there are no proposed limits for conductivity therefore such monitoring is not authorized by the regulation cited. KCA urges KDOW to remove conductivity monitoring from the proposed permit. KCA asserts the proposed monitoring is based upon the mistaken assumption that conductivity levels greater than 500 $\mu\text{S}/\text{cm}$ have an adverse affect on aquatic life. The conductivity of a wastewater is not the cause of aquatic toxicity rather the ionic composition of the total dissolved solids content. Recognizing this in recent years EPA has approved the removal of total dissolved solids from the water quality standards of Illinois and Indiana.

KRC: EPA notes that only 12% of Kentucky's waters have been assessed to determine impairment and recommends that because of the direct correlation between TDS/SC and stream impairment, that monitoring for specific conductance or total dissolved solids is justified. KRC concurs with the imposition of conductivity monitoring. KDOW has water quality data indicating that specific conductance below valley fills are elevated. The Cabinet is aware that elevated specific conductance is consistent with adverse impacts on species diversity, indicating that a pollutant is being introduced that is causing adverse physiological effects on species in violation of the narrative water quality standards. In the addition to requiring monitoring of conductivity KRC recommends DOW establish a numerical limit.

RESPONSE TO COMMENTS

KPDES Permit No: KYG040000

AI No: 35050

Page 2

RESPONSE 1: KDOW disagrees with the KCA conclusion that 401 KAR 5:065, Section 2(8) does not authorize monitoring requirements for pollutants or pollutant characteristics not limited in the permit. In accordance with 401 KAR 5:065, Section 2(4) water quality standards and state requirements shall be included as applicable in permits. Although not specifically limited in the permit, conductivity is an indicator parameter that provides information relative to any adverse physiological or behavioral responses in humans, animals, fish, and other aquatic life. The inclusion of conductivity monitoring is a condition required by EPA for approval of the coal general permit.

COMMENT 2: Benthic Macroinvertebrate Assessment

KCA: The Fact Sheet justifies this requirement of the general permit by citing 401 KAR 5:065, Section 1(8) which requires a permittee to provide any information the Cabinet may request to determine if a cause exists for modifying, revoking and reissuing, or revoking a permit. KCA believes the required assessments will not produce valuable data to make such determinations and urges KDOW to remove the requirement. The assessments are single points in time that would reflect not only the activities of the permittee but all other activities both point and nonpoint sources, domestic, industrial and stormwater, within the assessed watershed. Such data would be useless to DOW in determining to take action in accordance with 401 KAR 5:065, Section 1(8). The cost of this requirement to the industry as a whole could easily exceed \$10,000,000.00 as a single assessment is estimated to cost between \$5,000.00 and \$7,000.00 and there are more than 2,000 permitted sites. If KDOW is insistent with the inclusion of this requirement then KCA request DOW consider the following suggestions: (1) the size of the watershed to be evaluated should be clearly defined; (2) new and expanded operations should be allowed to complete the study within the term of the general permit; and (3) the provision terminating coverage for failure to conduct the assessment should be deleted as this is an enforcement decision that should be made at the time of violation.

KRC: The regulatory requirements allowing the issuance of a general permit are outlined in 401 KAR 5:0055, Section 5(b)2. The agency must have sufficient information regarding the pollutant characteristics of the discharges to be covered under the general permit. KRC believes for the Cabinet to grant coverages lawfully sufficient data must be provided by the discharger to demonstrate the receiving water is not impaired or that the addition of a new discharger would not result in the impairment of the segment. KRC supports the inclusion of the benthic macroinvertebrate assessment however KDOW should clarify that the assessment should be performed prior to the issuance of a new coverage in order to determine if the receiving stream is impaired. KRC recommends that at the time of the DMRE midterm review the benthic macroinvertebrate assessment should be repeated. In the opinion of KRC conducting such assessments satisfies the obligation regarding requirements of the stream buffer zone regulations of 405 KAR Chapters 16 and 18.

RESPONSE TO COMMENTS

KPDES Permit No: KYG040000

AI No: 35050

Page 3

RESPONSE 2: The inclusion of the one time benthic macroinvertebrate assessment is a condition required by EPA for approval of the coal general permit. In regards to watershed size KDOW has determined that the HUC 14 is the optimal watershed size for the performance of these assessments. KDOW considers these types of hydrologic units small enough to ensure a broad spectrum of assessments yet large enough to prevent excessive biological sampling. As for when the assessments for new and expanded operations should be conducted the EPA requirement specified that assessments were to be performed during the term of the permit it did not delineate between existing and new or expanded. KDOW has modified the language to accurately reflect the EPA requirement however, although not mandatory KDOW recommends permittees perform and submit the assessments with the NOI's for new and expanded activities. Additionally, KDOW has amended the language in the permit to preserve KDOW's authority to request the performance of additional assessments should circumstances warrant.

COMMENT 3: Antidegradation

KCA: In light of the United States Court of Appeals for the Sixth Circuit decision in Kentucky Waterways Alliance v. Johnson the applicability of Tier 2 antidegradation review under 401 KAR 10:030 is uncertain. KCA recommends KDOW substitute a generalized reference to compliance with the procedures set forth in 401 KAR 10:030 for specific references to alternative analysis and socioeconomic demonstration. The permit should include a provision specifying upon receipt of a Notice of Intent KDOW may request additional information if necessary to satisfy antidegradation requirements or determine if an individual permit is required. Also in light of current economic conditions KDOW should consider expediting the antidegradation review process through a state-wide determination that lowering of water quality is necessary to accommodate important social and economic development if the alternatives analysis indicates there is no technologically and economically feasible alternative to the proposed facility. KDOW should clarify that impaired waters for non-coal related pollutants and those resulting in insignificant lowering of water quality are not subject to Tier II review.

KRC: The implementation of Tier II antidegradation requirements is explained in the fact sheet however the obligation to satisfy the alternatives analysis and socioeconomic demonstration are not incorporated into the Coal General Permit. The permit should include language that coverage is unavailable unless a successful alternatives analysis and socioeconomic demonstration has been made. In regards to existing facilities clarification regarding when Tier II compliance would be required for expansions.

RESPONSE 3: KDOW acknowledges the concerns of KCA and KRC regarding the implementation of Tier II antidegradation reviews and has clarified the permit and fact sheet language appropriately. In regards to KRC's concern related to existing facilities expanding into new watersheds KDOW has removed the ambiguous language regarding existing facilities. It should be noted that KDOW considers any alteration of a mining operation that results in the establishment of new discharges or the increase in discharge levels from existing discharges to a "High Quality Water" shall be subject to a Tier II antidegradation review and requires a socioeconomic demonstration and alternative analysis.

RESPONSE TO COMMENTS

KPDES Permit No: KYG040000

AI No: 35050

Page 4

COMMENT 4: NOI Review Procedures

KCA: The Fact Sheet proposes a NOI review procedure that is virtually the same as that followed for an individual permit. USEPA in the Multi-Sector General Permit (MSGP) for stormwater discharges from industrial concluded that an NOI was neither a permit nor the functional equivalent of a permit and did not require public notice and comment because the NOI did not impose limitations. USEPA also notes that any requirement for public involvement would be satisfied by making the NOI publicly available once submitted. KCA recommends KDOW utilize an NOI review process comparable to the process specified under KR10.

RESPONSE 4: KDOW has considered KCA's suggestion and has revised the NOI review process for this general permit to be similar to the NOI review process for KYR10. Unlike KYR10 applicants seeking coverage under this permit for new or expanded discharges to "High Quality" waters are required to submit a socioeconomic demonstration and alternatives analysis. Pursuant to 401 KAR 10:029, Section 1(2) an opportunity for public comment shall be provided whenever EEC finds that lowering of water quality is necessary to accommodate important economic or social development. In compliance with this requirement KDOW shall publish on its Web page the SDAA form and the division's affirmative consideration, based on that form. The division will receive comments on this affirmative consideration for 15 days. In accordance with the requirements of the recently filed 401 KAR 10:030, Section 1(3)(b)2a(iii) KDOW shall provide public notification of coverages granted.

COMMENT 5: Metals Monitoring Requirements

KCA: The general permit imposes for existing operations a one time metals monitoring requirement to be completed during the term of the permit. KCA asserts that this monitoring is unnecessary to implement the requirements of 401 KAR 5:065, Section 1(8). During the development of the effluent guidelines for coal mining EPA considered effluent sampling for metals but concluded that regulation of these metals could be achieved through the implementation of limitations for the indicator pollutants of iron, manganese, pH and TSS. The use of indicator pollutants is an accepted scientific practice that allows data to be accumulated without unnecessary or unreasonable expense. KCA urges KDOW to eliminate this monitoring requirement. However if KDOW decides to retain the requirement then KCA respectfully requests a scientific basis be given for its inclusion. KCA does not agree that because EPA has required it is a valid basis for KDOW's action.

KRC: Supports the inclusion of metals monitoring for existing operators however KRC believes that one sample is insufficient to allow development or imposition of additional permit limits. KRC recommends the requirement be expanded to include six (6) months of baseline data to reflect seasonal variations in precipitation and concentration of metals in the effluent. To allow for the reissuance of a general permit KDOW must have sufficient data on the variations in concentration of certain pollutants which vary by overburden and interburden strata disturbed. In support of the imposition of this requirement KRC submits the USGS Open File Report 2005-1330 entitled *Spatial Trends in Ash Yield, Sulfur, Selenium, and Other Selected Trace Element Concentrations in Coal Beds of the Appalachian Plateau Region*.

RESPONSE TO COMMENTS

KPDES Permit No: KYG040000

AI No: 35050

Page 5

RESPONSE 5: One-time sampling for metals is a prudent screening tool to determine whether some or all of the metals sampled have reasonable potential to be discharged from these facilities. The inclusion of the one time metals monitoring is a condition required by EPA for approval of the coal general permit.

COMMENT 6: Settleable Solids

KRC: Supports the continued recognition of the alternate effluent standard for settleable solids as being an instantaneous maximum. Request KDOW coordinate with DMP to assure sediment structures are being properly designed to meet the 0.5 ml/l instantaneous maximum requirement.

RESPONSE 6: KDOW acknowledges KRC's continued support regarding this issue.

COMMENT 7: Oil & Grease and BMP Plan

KRC: KDOW should reconsider allowing the waiver of sampling for Oil & Grease if a BMP plan is adopted. Even where a BMP plan is in place monitoring for Oil & Grease is necessary to determine the effectiveness of the BMP plan. The operation and maintenance of coal mining equipment utilizes significant quantities of oil & grease products. Historically the spent products from maintenance activities have been discharged onto mine spoil. Surface mining permits have not required BMP plans however the applicant is required to explain how non-coal wastes will be managed. Usually the response is perfunctory and general with limited information and no enforceable obligation. KDOW has acknowledged that compliance with BMPs does not equate with satisfaction with water quality based or categorical effluent limits. The Cabinet has noted that BMPs are not intended as a surrogate for point source controls and effluent limitations. The BMP plan should be part of the general permit as a supplement but not in lieu of effluent limits and monitoring. The BMP should require recordkeeping and management standards for management of oil & grease including the collection, storage, and disposal of spent product. KDOW should coordinate with DMRE to have the BMP plan submitted as part of the mining permit application and thus become enforceable by both agencies.

RESPONSE 7: KDOW appreciates KRC's concerns related to the proper management of petroleum based products on the mine site. The general permit requires the development and implementation of a BMP plan for all mining activities which have been granted coverage. The conditions of the BMP plan are enforceable by representatives of EEC, including KDOW and DMRE. The limitation and monitoring requirement for Oil & Grease is not the only means for determining the effectiveness of the BMP plan. Each outfall has a general prohibition against the discharge of foam, floating solids or sheen in other than trace amounts. KDOW encourages at-source controls of pollutants rather than treatment and discharge. The waiver of oil & grease monitoring serves as an incentive for the permittee to develop a more comprehensive and detailed BMP plan to manage petroleum based products used at the mine site in lieu of installing additional treatment units.

COMMENT 8: D. Monitoring and Reporting

KRC: Clarification is needed to emphasize that grab samples are to be taken twice per month during periods of discharge and that "no discharge" reports are insufficient to demonstrate compliance with permit limits. Additionally the discharge from sediment ponds should be correlated with meteorological data from the nearest reporting station regarding the strength and duration of the storm event in order that the agency can determine compliance with primary or alternate effluent limitations.

RESPONSE TO COMMENTS

KPDES Permit No: KYG040000

AI No: 35050

Page 6

RESPONSE 8: The permit requires the permittee to collect samples twice per month that are representative of the volume and nature of the discharge. KDOW does not consider "no discharge" events as compliant with this requirement unless the permittee provides documentation that sediment pond volume combined with insufficient precipitation for the month preclude the pond from having one or more discharges. In regards to the alternate precipitation event limitations the primary limits apply unless the permittee on an event-by-event basis provides adequate supportive precipitation data and requests the application of an alternate limit in lieu of a primary limit. KDOW has emphasized these requirements to permittees, the laboratories, consultants and DMRE and OSMRE staff in numerous training events and consultations.

COMMENT 9: Discharge to Impaired Receiving Waters Without a TMDL

KRC: The general permit should be revised to expressly note coverage is unavailable for discharges to impaired receiving waters for which a TMDL has not been established.

RESPONSE 9: The permit automatically excludes from coverage any discharge to an impaired water for which the impairment is due to one or more pollutants commonly associated with coal mining.

Any person aggrieved by the issuance of a permit final decision may demand a hearing pursuant to KRS 224.10-420(2) within thirty (30) days from the date of the issuance of this letter. Any demand for a hearing on the permit shall be filed in accordance with the procedures specified in KRS 224.10-420, 224.10-440, 224.10-470, and the regulations promulgated thereto. The request for hearing should be submitted in writing to the Natural Resources and Environmental Protection Cabinet, Office of Administrative Hearings, 35-36 Fountain Place, Frankfort, Kentucky 40601 and the Commonwealth of Kentucky, Energy and Environmental Cabinet, Division of Water, 200 Fair Oaks Lane, Frankfort, Kentucky 40601. For your record keeping purposes, it is recommended that these requests be sent by certified mail. The written request must conform to the appropriate statutes referenced above.

If you have any questions regarding these responses, please contact Larry Sowder, KPDES Branch, at (502) 564-8158, extension 4924.

Further information on procedures and legal matters pertaining to the hearing request may be obtained by contacting the Office of Administrative Hearings at (502) 564-7312.

Sincerely,



Peter T. Goodmann, Assistant Director
Division of Water

SLG:JMB:LJS