

BEFORE THE
ENVIRONMENTAL QUALITY COUNCIL

STATE OF WYOMING

April, 2001

EQC DOCKET # 01-4100

IN THE MATTER OF THE)
PROPOSED REVISION OF)
THE LAND QUALITY)
DIVISION RULES RELATED)
TO THE REGULATION OF)
COAL MINING)

STATEMENT OF PRINCIPAL
REASONS FOR ADOPTION

COAL - Chapters 2, 3, 4 and Appendix A

Rule Package 1N - Groundwater and Surface Water Hydrology, Coal Mine Waste Impoundments, Alluvial Valley Floors and Threatened and Endangered Plant Species

The Office of Surface Mining and Enforcement (OSM) has previously notified the Land Quality Division (LQD) of deficiencies existing in the Wyoming program specific to groundwater and surface water monitoring, probable hydrologic consequences evaluations, coal mine waste impoundments and alluvial valley floor determinations. Through 732 letters and codified program amendment requirements, the OSM asked the State to submit proposed amendments to address these deficiencies. Authority to request proposed amendments is provided to the OSM under the Code of Federal Regulations, Title 30, § 732.17.

Surface Water Sampling and Analysis

1. Proposed Rule Amendment:

Proposed State Rule Amendment	Counterpart Federal Rule
Chapter 2, Section 2(a)(vi)(L) Complete information on surface water for the permit area and adjacent areas. This shall include the following:	

Proposed State Rule Amendment	Counterpart Federal Rule
<p>1.11 (L)(III) Baseline monitoring information of surface water quantity within the permit area which is representative of the surface hydrologic system; <u>Water quantity descriptions shall include, at a minimum, baseline information on seasonal flow rates, and identification of drainage area acreage and critical low flows, peak discharges, and seasonal fluctuations; and</u></p>	<p>30 CFR 780.21(b)(2) See text below at 1.c.....Water-quantity descriptions shall include, at a minimum, baseline information on seasonal flow rates.</p>
<p>1.12 (L)(IV) Water quality data sufficient to identify seasonal variation. <u>All surface water-quality sampling and analyses performed to meet the requirements of this Section shall be conducted according to the methodology in the 20th edition of "Standard Methods for the Examination of Water and Wastewater," or the methodology in 40 CFR Part 136 - "Guidelines Establishing Test Procedures for the Analysis of Pollutants," as amended on January 16, 2001. Contact the Land Quality Division for information on how to obtain a copy of either reference materials.</u> The data shall include at a minimum:</p>	<p>30 CFR 780.21 (a) <i>Sampling and analysis methodology.</i> All water-quality analyses performed to meet the requirements of this Section shall be conducted according to the methodology in the 15th edition of "Standard Methods for the Examination of Water and Wastewater," which is incorporated by reference, or the methodology in 40 CFR Parts 136 and 434. Water quality sampling performed to meet the requirements of this Section shall be conducted according to either methodology listed above when feasible. Standard Methods for the Examination of Water and Wastewater" is a joint publication of the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation and is available from the American Public Health Association, 1015 15th Street, NW., Washington, DC 20036. This document is also available for inspection at the Office of the Federal Register Information Center, Room 8301, 1100 L Street, NW., Washington, D.C.; at the Office of the OSM Administrative Record, U.S. Department of the Interior, Room 5315, 1100 L Street, NW., Washington, D.C.; at the OSM Eastern Technical Center, U.S. Department of the Interior, Building 10, Parkway Center, Pittsburgh, Pa.; and at the OSM Western Technical Center, U.S. Department of the Interior, Brooks Tower, 1020 15th Street, Denver, Colo. This incorporation by reference was approved by the Director of the Federal Register on October 26, 1983. This document is incorporated as it exists on the date of the approval, and a notice of any change in it will be published in the Federal Register</p>

	Proposed State Rule Amendment	Counterpart Federal Rule
1.c	<p>(L)(IV) (1.) Total dissolved solids (mg/l);</p> <p>(2.) Total suspended solids (mg/l);</p> <p>(3.) pH (standards units);</p> <p>(4.) Total and dissolved iron (mg/l); and</p> <p>(5.) Total manganese (mg/l); and.</p> <p>(L)(6.) (V) Baseline Alkalinity and acidity information shall be provided if there is a potential for acid drainage from the proposed mining operation.</p>	<p>30 CFR 780.21(b)(2) <i>Surface-water information.</i> The name, location, ownership, and description of all surface-water bodies such as streams, lakes, and impoundments, the location of any discharge into any surface-water body in the proposed permit and adjacent areas, and information on surface-water quality and quantity sufficient to demonstrate seasonal variation and water usage. Water quality descriptions shall include, at a minimum, baseline information on total suspended solids, total dissolved solids or specific conductance corrected to 25o C, pH, total iron, and total manganese. Baseline acidity and alkalinity information shall be provided if there is a potential for acid drainage from the proposed mining operation. Water-quantity descriptions shall include, at a minimum, baseline information on seasonal flow rates.</p>

Statement of Reasons:

Amendment 1.a

The LQD is proposing to include the requirement for seasonal "flow rate" measurements as is found in the counterpart Federal rule. The inclusion of the measurement of flow rate was required by the OSM in a 732 letter dated December 23, 1985. In this letter the OSM stated:

"To be no less effective than the Federal rules, Wyoming must require that the surface water monitoring plan include a provision mandating the monitoring of at least six specific parameters (total dissolved solids, total suspended solids, pH total iron, total manganese and flow rate)."

Therefore, to be consistent with the counterpart Federal language at 30 CFR 780.21(b)(2), the LQD is proposing to add the requirement for "seasonal flow rate" to Chapter 2, Section 2(a)(vi)(L)(III).

The LQD is also proposing to repeal the current existing language regarding the identification prior to mining of "critical low flows," "peak discharges" and "seasonal fluctuations." At their April 16, 2001 rules hearing, the Environmental Quality Council noted that these current requirements were not part of the counterpart Federal rules and questioned whether these additional measurements were necessary. Several EQC members asked about the meaning of "critical low flows." This term is not defined in the Land Quality Division regulations and to the LQD staff's knowledge a "critical low flow" has never been an issue during the permitting of any coal mine in Wyoming. The proposed adoption of the term "seasonal flow rates" will result in a mine permit applicant monitoring and identifying all flow rates within a surface water system including low flows, peak flows and seasonal fluctuations making the current terms redundant.

The addition of "drainage area" to modify "acreage" is being proposed to make it clear what measurement is being required here.

Amendment 1.b

In a 732 letter dated December 23, 1985, Chapter 2, Section 2(a)(vi)(L)(IV) was identified by the OSM as being less effective than the rule at 30 CFR 780.21(a). The letter stated that "Wyoming must specify that all water-quality sampling and analysis must be conducted in accordance with appropriate methodologies, either that prescribed by 40 CFR Parts 136 and 434 or that contained in the fifteenth edition of 'Standard Methods for the Examination of Water and Wastewater.' Wyoming should consider identifying where the selected references materials may be obtained."

Consequently, the LQD is proposing to adopt language similar to that found in the counterpart Federal rule, with two exceptions. Rather than reference the 15th edition of "Standard Methods for the Examination of Water and Wastewater," the LQD rule will instead direct the reader to the most current edition, which is now the 20th edition. Any revisions to this publication will require this rule to be updated accordingly through the formal rulemaking process.

Any amendments to 40 CFR 136 will require the Land Quality Division to revise this rule through formal rulemaking to incorporate, by reference, the changes made to the Federal rules. The text of these rules has not been included in the LQD rules because the length of the Federal rules (approximately 280 pages) makes this unduly burdensome.

In addition, the proposed rule does not reference 40 CFR 434. This Federal rule deals with effluent limitation guidelines associated with coal preparation plants, acid or alkaline mine drainage and postmining areas. These rules are used by the WDEQ, Water Quality Division to develop their discharge standards for the National Pollution Discharge Elimination System (NPDES) program which is applied to coal permit areas. The LQD does not enforce the NPDES program. Therefore, it isn't necessary for the LQD rules to reference the EPA rules in this case, since the Water Quality Division enforces that part of the EPA program.

The addition of the last sentence "Contact the Land Quality Division for information on how to obtain a copy of either publication." has been added to satisfy the OSM's suggestion that Wyoming identify where the references can be obtained.

Amendment 1.c

In a codified state program amendment disapproval at 30 CFR 950.12(a)(3), the OSM stated that the deletion of the requirement to collect baseline surface water data on acidity was being disapproved. This disapproval was part of the November 24, 1986 Federal Register notice (51 FR 42209, 42211).

In this notice the OSM stated that

"Wyoming has revised its baseline surface water data requirement at Chapter 2 by deleting the requirement to provide data on acidity. The Director finds that this deletion would

render the Wyoming program less effective than the Federal regulations at 30 CFR 780.21(b)(2) and 784.14(b)(2), which require the applicant to provide baseline acidity and alkalinity information if there is a potential for acid drainage from the proposed mining operation. Therefore, he is not approving the State's proposed deletion of existing Chapter II, Section 3(a)(vi)(H)(II)(3), which requires data on acidity."

Therefore, in order to satisfy this disapproval, the LQD is proposing to adopt the counterpart Federal language found in 30 CFR 780.21(b)(2) regarding acidity and alkalinity measurements.

The authority to amend these rules is provided by W.S. §§ 35-11-112(a)(i) and 35-11-406(a)(vii).

Groundwater Sampling and Analysis

2. Proposed Rule Amendments:

	Proposed State Rule Amendment	Counterpart Federal Rule
	Chapter 2, Section 2(a)(vi) (M) Complete information on groundwater which may be affected in the permit area and adjacent areas. This shall include the following:	30 CFR 780.21 Hydrologic Information (b) <i>Ground-water information.</i> The application shall include the following baseline hydrologic information, and any additional information required by the regulatory authority.
2.a	(M)(III) <u>The quality of any groundwater</u> <u>All water-quality sampling and analyses performed to meet the requirements of this Section shall be conducted according to the methodology in the 20th edition of "Standard Methods for the Examination of Water and Wastewater" or the methodology in 40 CFR Part 136 - "Guidelines Establishing Test Procedures for the Analysis of Pollutants," as amended on January 16, 2001. Contact the Land Quality Division for information on how to obtain a copy of either reference materials. The data shall include at a minimum: including</u>	30 CFR 780.21 (a) <i>Sampling and analysis methodology.</i> All water-quality analyses performed to meet the requirements of this Section shall be conducted according to the methodology in the 15th edition of "Standard Methods for the Examination of Water and Wastewater," which is incorporated by reference, or the methodology in 40 CFR Parts 136 and 434. Water quality sampling performed to meet the requirements of this Section shall be conducted according to either methodology listed above when feasible.

Proposed State Rule Amendment	Counterpart Federal Rule
	<p>30 CFR 780.21 (a), continued; Standard Methods for the Examination of Water and Wastewater" is a joint publication of the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation and is available from the American Public Health Association, 1015 15th Street, NW., Washington, DC 20036. This document is also available for inspection at the Office of the Federal Register Information Center, Room 8301, 1100 L Street, NW., Washington, D.C.; at the Office of the OSM Administrative Record, U.S. Department of the Interior, Room 5315, 1100 L Street, NW., Washington, D.C.; at the OSM Eastern Technical Center, U.S. Department of the Interior, Building 10, Parkway Center, Pittsburgh, Pa.; and at the OSM Western Technical Center, U.S. Department of the Interior, Brooks Tower, 1020 15th Street, Denver, Colo. This incorporation by reference was approved by the Director of the Federal Register on October 26, 1983. This document is incorporated as it exists on the date of the approval, and a notice of any change in it will be published in the Federal Register.</p>
<p>7.6</p> <p>(1.) Total dissolved solids (mg/l), (2.) Total and dissolved iron (mg/l); (3.) and Total manganese (mg/l); and (4.) pH (standard units).</p>	<p>780.21(b)(1) <i>Ground-water information.</i> The location and ownership for the permit and adjacent areas of existing wells, springs, and other ground-water resources, seasonal quality and quantity of ground water, and usage. Water quality descriptions shall include, at a minimum, total dissolved solids or specific conductance corrected to 25o C, pH, total iron, and total manganese. Ground-water quantity descriptions shall include, at a minimum, approximate rates of discharge or usage and depth to the water in the coal seam, and each water-bearing stratum above and potentially impacted stratum below the coal seam.</p>

Statement of Reasons:

Amendment 2.a

Please refer to the Statement of Reasons given for Amendment No. 1.b.

Amendment 2.b

The requirement to include pH as one of the groundwater quality parameters to be measured was required by the OSM as codified program amendment 30 CFR 950.16(h) in the November 24, 1986 Federal Register notice (51 FR 42209, 42211). This program amendment required Wyoming to amend its program to provide that the groundwater quality description in a permit application must include pH. Therefore, the LQD is proposing to include pH in subparagraph (4.) above.

The additional inclusion of "mg/l" for total dissolved solids, iron and manganese and "standard units" for pH is being proposed to provide consistency with the units of measure associated with the parameters required for surface water monitoring.

The authority to amend these rules is provided by W.S. §§ 35-11-112(a)(i) and 35-11-406(b)(xviii).

Probable Hydrologic Consequences Determination

3. Proposed Rule Amendments:

	Proposed State Rule Amendment	Counterpart Federal Rule
3.a	Chapter 2, Section 2(b)(xii) <u>Probable hydrologic consequences determination (PHC)</u> . A determination of the probable hydrologic consequences <u>PHC</u> of the proposed operation on the hydrologic regime and the quantity and quality of surface water and groundwater systems within the permit area and the general area consistent with the information required in Chapter 19, Section 2 of these regulations. <u>The PHC determination shall be based on baseline hydrologic, geologic and other information collected for the permit application and may include data statistically representative of the site.</u> This determination shall specifically address potential adverse hydrologic consequences and describe preventive and remedial measures.	30 CFR 780.21(f) Probable hydrologic consequences determination. (1) The application shall contain a determination of the probable hydrologic consequences (PHC) of the proposed operation upon the quality and quantity of surface and ground water under seasonal flow conditions for the proposed permit and adjacent areas. (2) The PHC determination shall be based on baseline hydrologic, geologic and other information collected for the permit application and may include data statistically representative of the site.

	Proposed State Rule Amendment	Counterpart Federal Rule
3.b	Chapter 2, Section 2(a)(vi)(O) A description of the surface water and groundwater and related geology in the permit area and general area sufficient to assess the probable hydrologic consequences (PHC). <u>If the determination of the PHC required by Chapter 19, Section 2(a)(i) indicates that adverse impacts on or off the proposed permit area may occur to the hydrologic balance, or that acid-forming or toxic material is present that may result in the contamination of groundwater or surface water supplies, then information supplemental to that required under (a)(vi)(L) and (M) of this Section shall be provided to evaluate such PHC and to plan remedial and reclamation activities. Such supplemental information may be based upon drilling, aquifer tests, hydrogeologic analysis of the water-bearing strata, flood flows, or analysis of other water-quality or quantity characteristics.</u>	780.21(b)(3) <i>Supplemental information.</i> If the determination of the probable hydrologic consequences (PHC) required by Paragraph (f) of this Section indicates that adverse impacts on or off the proposed permit area may occur to the hydrologic balance, or that acid-forming or toxic-forming material is present that may result in the contamination of ground-water or surface-water supplies, then information supplemental to that required under Paragraphs (b)(1) and (b)(2) of this Section shall be provided to evaluate such probable hydrologic consequences and to plan remedial and reclamation activities. Such supplemental information may be based upon drilling, aquifer tests, hydrogeologic analysis of the water-bearing strata, flood flows, or analysis of other water-quality or quantity characteristics.

Statement of Reasons:

Amendment 3.a

In a 732 letter dated December 23, 1985, the OSM required that to be no less effective than the Federal rules, several of Wyoming's rules regarding probable hydrologic consequences needed to be revised. In this letter the OSM explained:

"To be no less effective than the Federal rules, Wyoming must require that the PHC determination be based upon the baseline hydrologic, geologic and other information collected for the permit application."

The LQD rules did not contain the statement as found in the counterpart Federal rule at 30 CFR 780.21(f)(2). Therefore, the LQD is proposing to add it to the existing rules at Chapter 2, Section 2(b)(xiii):

Amendment 3.b

The OSM also required in the December 23, 1985 732 letter that:

"To be no less effective than the Federal rules, Wyoming must require the applicant to provide supplemental information if the determination of probable hydrologic consequences (PHC) indicates adverse impacts may occur."

The LOD rules did not contain the language found in the counterpart Federal rule at 30 CFR 780.21(b)(3). Therefore, the counterpart language is proposed for amendment to Chapter 2, Section 2(a)(vi)(O).

The authority to amend these rules is provided by W.S. §§ 35-11-112(a)(i), 35-11-406(b)(xviii) and 35-11-406(n)(iii).

Groundwater and Surface Water Monitoring Plans

4. Proposed Rule Amendments:

	Proposed State Rule Amendment	Counterpart Federal Rule
	Chapter 2, Section 2(b)(xi) A plan to ensure the protection of the quantity and quality of, and rights to, surface water and groundwater both within and adjacent to the permit area, which shall include:	
	(D) A plan to collect, record and report water quantity and quality data according to Chapter 4, Section 2(i); and	
	(I) <u>Surface water monitoring plan.</u>	30 CFR 780.21(j) Surface-water monitoring plan.
4.a	Chapter 2, Section 2(b)(xi)(D)(I)(1.) <u>The application shall include a monitoring plan based upon the PHC determination required under subsection 2(b)(xii) of this Chapter and the analysis of all baseline hydrologic, geologic, and other information in the permit application. The plan shall provide for the monitoring of parameters that relate to the suitability of the surface water for current and approved postmining land uses and to the objectives for protection of the hydrologic balance as set forth in subsection 2(b)(xi) of this Chapter.</u>	780.21(j)(1) The application shall include a surface-water monitoring plan based upon the PHC determination required under Paragraph (f) of this Section and the analysis of all baseline hydrologic, geologic, and other information in the permit application. The plan shall provide for the monitoring of parameters that relate to the suitability of the surface water for current and approved postmined land uses and to the objectives for protection of the hydrologic balance as set forth in Paragraph (h) of this Section, as well as the effluent limitations found at 40 CFR Part 434.

	Proposed State Rule Amendment	Counterpart Federal Rule
4.b	<p><u>Chapter 2, Section 2(b)(xi)(D)(I)(2.) The plan shall identify the surface water quantity and quality parameters to be monitored, sampling frequency, and site locations. At a minimum, the parameters specified in Section 2(a)(vi)(L)(III) and (IV) of this Chapter shall be measured. Results of monitoring shall be available for inspection at the mine and available to the Director's designated authorized representative, and shall be reasonably current. Surface water monitoring shall be conducted quarterly unless an alternate frequency, appropriate to the monitored site, is approved by the Administrator, and Results of monitoring shall be submitted in the annual report for each monitoring location, and for the parameters of paragraphs (a)(vi)(L)(III) and (IV) of this Section; and</u></p>	<p>780.21(j)(2) The plan shall identify the surface-water quantity and quality parameters to be monitored, sampling frequency, and site locations.</p> <p>780.21(j)(3) The monitoring reports shall be submitted to the regulatory authority every 3 months. The regulatory authority may require additional monitoring.</p>
4.c	<p><u>Chapter 2, Section 2(b)(xi)(D)(I)(3.) The plan shall describe how the data may be used to determine the impacts of the operation upon the hydrologic balance.</u></p>	<p>(2) continued: It shall describe how the data may be used to determine the impacts of the operation upon the hydrologic balance.</p>
	<p><u>Chapter 2, Section 2(b)(xi)(D)(II) Groundwater monitoring plan.</u></p>	<p>30 CFR 780.21(i) Ground-water monitoring plan.</p>
4.d	<p><u>Chapter 2, Section 2(b)(xi)(D)(II)(1.) The application shall include a groundwater monitoring plan based upon the PHC determination required under subsection 2(b)(xii) of this Chapter and the analysis of all baseline hydrologic, geologic, and other information in the permit application. The plan shall provide for the monitoring of parameters that relate to the suitability of the groundwater for current and approved postmining land uses and to the objectives for protection of the hydrologic balance set forth in subsection 2(b)(xi) of this Chapter.</u></p>	<p>(1) The application shall include a ground-water monitoring plan based upon the PHC determination required under Paragraph (f) of this Section and the analysis of all baseline hydrologic, geologic, and other information in the permit application. The plan shall provide for the monitoring of parameters that relate to the suitability of the ground water for current and approved postmining land uses and to the objectives for protection of the hydrologic balance set forth in Paragraph (h) of this Section.</p>

	Proposed State Rule Amendment	Counterpart Federal Rule
4.e	<p>Chapter 2, Section 2(b)(xi)(D)(II)(2.) <u>The plan shall identify the quantity and quality parameters to be monitored, sampling frequency, and site locations. It shall describe how the data may be used to determine the impacts of the operation upon the hydrologic balance. At a minimum, the parameters specified in Section 2(a)(vi)(M)(III) of this Chapter and water levels shall be measured. Groundwater monitoring shall be conducted quarterly unless an alternate frequency, appropriate to the monitored site, is approved by the Administrator. Results of monitoring shall be available for inspection at the mine and available to the Director's designated authorized representative, and shall be reasonably current. Results of monitoring and shall be submitted in the annual report for each monitoring location and for the parameters of paragraphs (a)(vi)(L)(III) and (IV) and;</u></p>	<p>30 CFR 780.21(i)(1) continued; It shall identify the quantity and quality parameters to be monitored, sampling frequency, and site locations. It shall describe how the data may be used to determine the impacts of the operation upon the hydrologic balance. At a minimum, total dissolved solids or specific conductance corrected to 25oC, pH, total iron, total manganese, and water levels shall be monitored and data submitted to the regulatory authority at least every 3 months for each monitoring location. The regulatory authority may require additional monitoring.</p>
4.f	<p>Chapter 4, Section 2(i) Surface water and groundwater quality and quantity shall be monitored until final bond release to determine the extent of the disturbance to the hydrologic balance. Monitoring shall be adequate to plan for modification of surface mining activities, if necessary, to minimize adverse affects on the water of the State. The operator is responsible for properly installing, operating, maintaining and removing all necessary monitoring equipment. In addition, the operator is responsible for conducting monitoring in accordance with <u>the requirements of Chapter 2, Section 2(b)(xi)(D)(I) and (II) and the approved monitoring plan, and submitting all routine monitoring results to the Administrator at least annually. Routine monitoring results shall also be maintained on-site and available to the Director's designated authorized representative, and shall be reasonably current.</u> Noncompliance results for NPDES discharges shall be promptly reported by the operator to the Water Quality Division Administrator. The operator shall promptly report all other noncompliance results to the Land Quality Division Administrator and shall, after consultation with the Administrator, implement appropriate and prompt mitigative measures for those noncompliance situations determined to be mining caused. The monitoring system shall be based on the results of the probable hydrologic consequences assessment and shall include:</p>	<p>30 CFR 780.21(i) The application shall include a ground-water monitoring plan based upon the PHC determination required under Paragraph (f) of this Section and the analysis of all baseline hydrologic, geologic, and other information in the permit application. The plan shall provide for the monitoring of parameters that relate to the suitability of the ground water for current and approved postmining land uses and to the objectives for protection of the hydrologic balance set forth in Paragraph (h) of this Section. It shall identify the quantity and quality parameters to be monitored, sampling frequency, and site locations. It shall describe how the data may be used to determine the impacts of the operation upon the hydrologic balance. At a minimum, total dissolved solids or specific conductance corrected to 25°C, pH, total iron, total manganese, and water levels shall be monitored and data submitted to the regulatory authority at least every 3 months for each monitoring location. The regulatory authority may require additional monitoring.</p>

Statement of Reasons:

This restructuring of the rules regarding surface water and groundwater monitoring is being proposed to provide for a consistent presentation of monitoring requirements within one portion of the rules and to adopt rules that meet the intent of the counterpart Federal rules. Chapter 2 is the preferred location for this rule amendment because this Chapter pertains to permit application requirements. Permit applications are required to contain a detailed description of the monitoring plan for surface water and groundwater monitoring. This subsection 2(b)(xi)(D)) is then cross-referenced in Chapter 4 (which is presented as Amendment No. 4.f, shown above) as part of the monitoring performance standards. Therefore two new subparagraphs are being proposed. These include subparagraph (I) which applies to surface water monitoring and subparagraph (II) which applies to groundwater monitoring.

Amendment 4.a

In a 732 letter dated December 23, 1985, the OSM required that to be no less effective than the Federal rules, several of Wyoming's rules regarding groundwater and surface water monitoring plans needed to be revised. In this letter the OSM explained:

"To be no less effective than the Federal rules, Wyoming must require that the groundwater monitoring plan of each permit application be based upon the PHC determination and the analysis of all baseline hydrologic, geologic and other information in the permit application, and that it provide for the **monitoring of parameters relating to the groundwater and surface water for the current and approved postmining land uses** and the protection of the hydrologic balance.

The current LQD rules at Chapter 4, Section 2(i)(i)(C) require that a groundwater monitoring program shall determine suitability of *groundwater* for current and approved postmining land uses. However, the current rules do not have a provision for surface water to be monitored to determine its suitability for current and approved postmining land uses. Therefore, the LQD is proposing to add language to Chapter 2, Section 2(b)(xi)(D) that would encompass the counterpart language found in the Federal rules at 30 CFR 780.21(i) specifically for surface water monitoring.

Amendment 4.b

This rule is being proposed for amendment to provide language in the LQD rules that is similar to the counterpart Federal regulations. These amendments clarify the minimum parameters that shall be sampled during monitoring and brings forward the following language currently found in Chapter 4, Section 2(i):

"Routine monitoring results shall also be maintained on-site and available to the Director's designated authorized representative, and shall be reasonably current."

This proposed rule amendment also prescribes quarterly monitoring as required by the counterpart Federal rule at 30 CFR 780.21(j)(3). However, although the Federal rule requires that monitoring results be reported every three months, the OSM approved the LQD's approach to allowing

operators to keep the results on-site and report them in the annual report. This approval was given in the July 25, 1990 Federal Register notice (55 FR 30221, 30225).

Contrary to the Federal rule, these proposed rules contain language that allows the Administrator to approve alternative monitoring frequencies that vary from the three-month requirement prescribed by the OSM. The LQD is proposing this alternative in recognition of the conditions that can occur in Wyoming where surface water monitoring stations are inaccessible due to winter conditions and flow may not be present in a certain surface water feature because of seasonal water conditions. On selected areas, there may be instances where it is necessary to conduct monitoring more frequently than quarterly depending on the hydrologic conditions occurring in a stream system. One such instance would include the monitoring of water quantity on intermittent or perennial streams on a continuous basis during the months when flow is present (April - October). The LQD would like the rules to reflect this level of flexibility and afford the operator the opportunity to approach the LQD with the necessary information to apply for approval of alternate surface water monitoring frequencies.

Amendment 4.c

This amendment is being proposed to be consistent with the counterpart Federal rule which specifically requires that the plan describe how the data collected through monitoring may be used to assess the impacts of the operation upon the hydrologic balance. This statement is not clearly presented in the current rules.

Amendments 4.d and e

These subparagraphs (II)(1.) and (2.) are being proposed to be consistent with the counterpart Federal rule pertaining to groundwater monitoring. Some of the language in subparagraph (1.) applying to monitoring parameters that relate to the suitability of the groundwater for current and approved postmining land uses already exists in Chapter 4, Section 2(i) and is proposed for relocation as part of this rule amendment. The remainder of this proposed rule is not found in the current LQD rules and was required by the OSM to be included as part of the December 23, 1985 732 letter:

Subparagraph (2.) is being proposed to be consistent with the remaining requirements of the counterpart Federal rule at 30 CFR 780.21(i)(1). The combination of both subparagraphs (1. and 2.) addresses the requirement brought up by the OSM in the December 23, 1985 letter. This requirement is as follows:

"To be no less effective than the Federal rules, Wyoming must require that the groundwater monitoring plan of each permit application be based upon the PHC determination and the analysis of all baseline hydrologic, geologic and other information in the permit application, and that it provide for the monitoring of parameters relating to the suitability of groundwater for the current and approved postmining land uses and the protection of the hydrologic balance. The state must require that the plan specify the quantity and quality parameters to be monitored, the sampling frequency, the monitoring site locations, and how the data can be used to determine the hydrologic impacts of the proposed operation. In

addition, Wyoming must require that each plan include a provision mandating the monitoring of at least five specific parameters (total dissolved solids, pH, total iron, total manganese, and water level), with reports submitted at least every three months for each monitoring location."

Subparagraph (2.) cross-references the reader to Section 2(a)(vi)(M)(III) for the minimum parameters that must be sampled for groundwater monitoring. This was required by the OSM in codified disapproval 30 CFR 950.16(i). This disapproval was placed on the Wyoming program as part of the November 24, 1986 Federal Register notice (51 FR 42209, 42211). Wyoming was required to submit revisions to the LQD rules to specify the minimum groundwater quality parameters that must be monitored.

The LQD is also proposing to include the requirement for "water level" measurements in subparagraph (2.) above as is found in the counterpart Federal rule. The inclusion of the measurement of water level was required by the OSM in a 732 letter dated December 23, 1985. In this letter the OSM stated:

"To be no less effective than the Federal rules, Wyoming must require that the groundwater monitoring plan include a provision mandating the monitoring of at least five specific parameters (total dissolved solids, pH, total iron, total manganese and **water level**)."

Therefore, in order to fulfill this deficiency, the LQD is proposing to add "water level" to the list of groundwater parameters to be measured.

This same subparagraph (2.) also requires that groundwater monitoring be conducted quarterly. This was required by the OSM in codified disapproval 30 CFR 950.16(d). This disapproval was placed on the Wyoming program as part of the July 25, 1990 Federal Register notice (55 FR 30221, 30225). This disapproval required that Wyoming amend its program to require quarterly groundwater monitoring for surface and underground coal mining operations.

However, although the Federal rule requires that monitoring results be reported to the regulatory authority every three months, the OSM approved the LQD's approach to allowing operators to keep the results on-site and report them in the annual report. This approval was given in the July 25, 1990 Federal Register notice (55 FR 30221, 30225). However, the OSM did require that the rules be revised to require that sampling be conducted quarterly.

Contrary to the Federal rule, these proposed rules contain language that allows for the Administrator to approve alternative monitoring frequencies which vary from the three-month requirement prescribed by the OSM. The LQD is proposing alternative frequencies in recognition of the seasonal field conditions which occur in Wyoming that can make it difficult, if not impossible, to reasonably access a particular monitoring well location. In addition, the Federal and LQD rules do not make a distinction between wells monitoring undisturbed aquifers and those monitoring spoil recovery areas. Twenty-plus years of water quality and water level measurements collected on Wyoming mines has shown that in general, no useful additional information is obtained by monitoring an undisturbed aquifer quarterly. In selected cases, periodic monitoring

(i.e., semi-annual or annual) is sufficient to detect natural or manmade changes to the undisturbed aquifer.

On the other hand, quarterly monitoring of a spoil well, in order to determine rates of recovery and direction of flow, may be reasonable given the amount of change that can occur to this recovery area in three months time. On selected areas, there may be instances where it is necessary to require monitoring on a more frequent basis depending on the location and anticipated water changes. Such instances could include monitoring of alluvial wells or wells located in an area of surface water/groundwater interface. The LQD would like the rules to reflect this level of flexibility and afford the operator the opportunity to approach the LQD with the necessary information to apply for approval of alternate groundwater monitoring frequencies.

Amendment 4.f

Chapter 4, Section 2(i) is being proposed for amendment to provide a cross-reference for the reader to Chapter 2, Section 2(b)(xi)(D) which now provides a specific place for groundwater and surface water monitoring requirements. The phrase regarding the reporting of monitoring results has been proposed for repeal because this language is now presented in Chapter 2, Section 2(b)(xi)(D).

The authority to amend these rules is provided by W.S. §§ 35-11-112(a)(i), 35-11-406(b)(xviii) and 35-11-406(n)(iii).

Groundwater Monitoring Program

5. Proposed Rule Repeal: Chapter 4, Section 2(i)(i)

- (i) A groundwater monitoring program to determine:
 - (c) ~~Suitability of groundwater for current and approved postmining land uses.~~

Statement of Reasons:

With the proposed adoption of the following language to Chapter 2, Section 2(b)(xi)(D)(II)(1.) {page 10, Amendment 4.d above};

"The plan shall provide for the monitoring of parameters that relate to the suitability of the ground water for current and approved postmining land uses."

the current language in Chapter 4 is no longer necessary and is redundant. Therefore, it is proposed for repeal.

The authority to repeal this rule is provided by W.S. §§ 35-11-112(a)(i).

Hydrologic Balance Protection

6. Proposed Rule Amendment:

Proposed State Rule Amendment	Counterpart Federal Rule
<p>Chapter 4, Section 2(w) The operator shall conduct all operations in such a manner as to minimize disturbance of the hydrologic balance within the permit and adjacent areas, to prevent material damage to the hydrologic balance outside the permit area, to assure the protection or replacement of water rights, and to support approved postmining land uses in accordance with the terms and conditions of the approved permit and the performance standards of this Chapter. <u>The Administrator may require additional preventative, remedial, or monitoring measures to assure that material damage to the hydrologic balance outside the permit area is prevented.</u> Mining and reclamation practices that minimize water pollution and changes in flow shall be used in preference to water treatment.</p>	<p>30 CFR 816.41(a) Hydrologic-balance protection. (a) General. All surface mining and reclamation activities shall be conducted to minimize disturbance of the hydrologic balance within the permit and adjacent areas, to prevent material damage to the hydrologic balance outside the permit area, to assure the protection or replacement of water rights, and to support approved postmining land uses in accordance with the terms and conditions of the approved permit and the performance standards of this part. The regulatory authority may require additional preventative, remedial, or monitoring measures to assure that material damage to the hydrologic balance outside the permit area is prevented. Mining and reclamation practices that minimize water pollution and changes in flow shall be used in preference to water treatment.</p>

Statement of Reasons:

The OSM disapproved this portion of the Wyoming program in the July 25, 1990 Federal Register notice (55 FR 30221, 30225). This resulted in codified disapproval 30 CFR 950.16(e). The OSM required

"Wyoming to amend its program to give the State the authority to require additional preventative, remedial, or monitoring measures to assure that material damage outside the permit area is prevented with regard to both surface and underground mining operations."

Therefore, Chapter 4, Section 2(w) is proposed for amendment to include the required language as found in the counterpart Federal rule. This change will satisfy the required program amendment.

The authority to amend this rule is provided by W.S. §§ 35-11-112(a)(i), 35-11-406(b)(xviii) and 35-11-406(n)(iii).

Coal Mine Waste Impoundments

7. Proposed Rule Amendment:

State Rule	OSM Rule
Chapter 4, Section 2(c)(xii) Coal Mine Waste.	30 CFR Sec. 816.84 Coal mine waste: Impounding structures.
<p>(D) Dams and embankments constructed to impound coal mine waste shall comply with the following:</p> <p>(IV) Be designed so that 90 percent or more of the water stored during the design precipitation event can be removed within ten days</p> <p><u>and at least 90 percent of the water stored during the design precipitation event shall be removed within the ten day period following the design precipitation event.</u></p>	<p>(e) Impounding structures constructed of or impounding coal mine waste shall be designed so that at least 90 percent of the water stored during the design precipitation event can be removed within a 10-day period.</p> <p>(f) For an impounding structure constructed of or impounding coal mine waste, at least 90 percent of the water stored during the design precipitation event shall be removed within the 10-day period following the design precipitation event.</p>

Statement of Reasons:

This proposed rule amendment specifies that an operator is required to remove at least 90 percent of the water stored in a coal mine waste impounding structure within ten days following the designed precipitation event. The OSM in a 732 letter dated February 21, 1990, indicated that in order to be no less effective than the Federal rules, Wyoming is required to amend its program to include actual drawdown provisions that are no less effective than those set forth in 30 CFR 816.84(f). In a response letter dated May 14, 1990, the State agreed to amend the LQD rule accordingly.

The authority to amend this rule is provided by W.S. §§ 35-11-112(a)(i), 35-11-402(a)(vi) and 35-11-406(b)(ix) and (xviii).

Proposed Amendment/Adoption No. 8 is on the next page.

Alluvial Valley Floors

8. Proposed Rule Amendment/Adoption: Chapter 3, Section 2 (c)(viii):

State Rule	OSM Rule
Chapter 3, Section 2. Alluvial Valley Floors	785.19 Surface coal mining and reclamation operations on areas or adjacent to areas including alluvial valley floors in the arid and semiarid areas west of the 100th meridian.
Chapter 3, Section 2(c) If the Administrator determines in accordance with Chapter 12, Section 1(a)(i) that an alluvial valley floor exists within the proposed permit area and it occurs on proposed affected lands, a complete application shall include unless determined to be unnecessary:	(d)(2)The complete application shall include detailed surveys and baseline data required by the regulatory authority for a determination of -
Chapter 3, Section 2(c)(viii) Information necessary to identify those geologic, hydrologic and biologic characteristics which support the essential hydrologic functions which might be affected by the mining and reclamation process. <u>The information required by this subparagraph shall evaluate those factors which contribute to collecting, storing, regulating and making the natural flow of water available for agricultural activities on the alluvial valley floor</u> , including, but not limited to: (A) Characteristics of the erosional state of the stream; (B) Characteristics and maps of the surface and groundwater balance; (C) Characteristics of the topography, soil and vegetation existing on the alluvial valley floor;	(i) The essential hydrologic functions of the alluvial valley floor which might be affected by the mining and reclamation process. The information required by this subparagraph shall evaluate those factors which contribute to the collecting, storing, regulating and making the natural flow of water available for agricultural activities on the alluvial valley floor and shall include, but are not limited to:
Chapter 3, Section 2(c)(viii)(D) <u>Factors contributing to the function of collecting water, such as amount, rate and frequency of rainfall and runoff, surface roughness, slope and vegetative cover, infiltration, and evapotranspiration, relief, slope and density of drainage channels;</u>	785.19(d)(2)(i)(A) Factors contributing to the function of collecting water, such as amount, rate and frequency of rainfall and runoff, surface roughness, slope and vegetative cover, infiltration, and evapotranspiration, relief, slope and density of drainage channels;
Chapter 3, Section 2(c)(viii)(E) <u>Factors contributing to the function of storing water, such as permeability, infiltration, porosity, depth and direction of ground water flow, and water holding capacity;</u>	785.19(d)(2)(i)(B) Factors contributing to the function of storing water, such as permeability, infiltration, porosity, depth and direction of ground water flow, and water holding capacity;

State Rule	OSM Rule
Chapter 3, Section 2(c)(viii)(F) <u>Factors contributing to the function of regulating the flow of surface and ground water, such as the longitudinal profile and slope of the valley and channels, the sinuosity and cross-sections of the channels, interchange of water between streams and associated alluvial and bedrock aquifers, and rates and amount of water supplied by these aquifers; and</u>	785.19(d)(2)(i)(C) Factors contributing to the function of regulating the flow of surface and ground water, such as the longitudinal profile and slope of the valley and channels, the sinuosity and cross-sections of the channels, interchange of water between streams and associated alluvial and bedrock aquifers, and rates and amount of water supplied by these aquifers; and
Chapter 3, Section 2(c)(viii)(G) <u>Factors contributing to water availability, such as the presence of flood plains and terraces suitable for agricultural activities.</u>	785.19(d)(2)(i)(D) Factors contributing to water availability, such as the presence of flood plains and terraces suitable for agricultural activities.

Statement of Reasons:

This proposed rule amendment specifies minimum survey and baseline data requirements for proposed operations that may affect alluvial valley floors. The OSM, in a 732 letter dated February 21, 1990, indicated that in order to be no less effective than the Federal rules, Wyoming needs to amend its program to include information requirements as set forth in 30 CFR 785.19(d)(2)(i). In a response letter dated May 14, 1990, the State agreed to amend the LQD rules to require the identification of all potentially affected essential hydrologic functions of an alluvial valley floor and an evaluation of the factors contributing to these functions, as enumerated in the Federal rules.

The authority to amend/adopt these rules is provided by W.S. §§ 35-11-112(a)(i) and 35-11-406(n)(v).

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Threatened and Endangered Plant Species

9. Proposed Rule Amendment: Appendix A

Appendix IV - Plant Species of Special Concern

Only ~~one~~ One plant species in Wyoming is currently listed as Threatened (T) ~~or~~ and another is listed as Endangered (E) under the federal Endangered Species Act. ~~Three~~ Two other species are candidates (C) for potential listing. These plants are noted by their assigned ranking in parentheses. However, there are many additional species occurring within Wyoming which may be considered for formal listing in the future. State and federal agencies have historically afforded these species special consideration until their status is accurately assessed.

Presented below are those species currently (as of ~~January, 1998~~ January, 2001) listed as Threatened (T), Endangered (E), or Candidates (C). In addition to this list, the Administrator will compile a list of those species that deserve special consideration. This list will be made available to the public and will be updated as determined by the Administrator.

~~Arabis pusilla (C)~~

Gaura neomexicana ssp. coloradensis (C)

Penstemon haydenii (E)

Spiranthes diluvialis (T)

Yermo xanthocephalus (C)

Statement of Reasons:

The U.S. Fish and Wildlife Service has removed *Arabis pusilla* from the list of candidate species for potential listing as threatened or endangered. This species was delisted on October 25, 1999. Therefore, it should be removed from Appendix A.

The second change is the addition of a new plant that is classified as being Endangered. This species is *Penstemon haydenii* (blowout penstemon). This was the second plant to be listed under the Endangered Species Act (1987) and the first to be named as endangered. Originally, this species was thought to occur only in the Sand Hills of Nebraska and therefore was not previously included in this Appendix. However, a population was recently discovered in northern Carbon County, Wyoming. Therefore, this species needs to be in this Appendix which lists the plants on the Threatened and Endangered list which are known to occur in Wyoming.

The authority to amend this rule is provided by W.S. §§ 35-11-112(a)(i) and 35-11-406(a)(vii).


Conclusion

The Environmental Quality Council, in accordance with the authority granted to it by W. S. § 35-11-112 As Amended, and having complied with the provisions of the Wyoming Administrative Procedures Act, finds as follows:

- 1: These rules provide for the regulation of surface coal mining and reclamation operations in accordance with the requirements of P.L. 95-87.
- 2: These rules and regulations are as effective as those promulgated by the Secretary of the Interior pursuant to P.L. 95-87.
- 3: These regulations are necessary and appropriate to preserve and exercise the primary responsibilities and rights of the State of Wyoming; to retain for the State the control over its air, land, and water resources and secure cooperation between agencies of the State and Federal Government in carrying out the policy and purposes of the Environmental Quality Act.
- 4: These regulations are reasonable and necessary for the effectuation of W. S. § 35-11-101 through W. S. § 35-11-1304, As Amended.

5: These rules and regulations are necessary and appropriate to protect the public health, safety, welfare, and environment of the State of Wyoming.

Dated this 17 day of April, 2001



Hearing Examiner
Environmental Quality Council