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January 16, 2009

Mr. Craig Hults
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Land Quality Division
122 West 25th Street
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Cheyenne, WY 82002

FILED

JAN 16 2009

Jim Ruby, Executive Secretary
Environmental Quality Council

**Re: Environmental Quality Council – Docket No. 08-4101
Comments - WDEQ/LQD Rule Package 1-S - Revegetation Success Performance Standards**

Dear Sirs/Madam:

Thank you for the opportunity to comment on WDEQ/LQD Rule Package 1-S concerning revegetation success performance standards. While the rule package was provided in various formats, please note my comments refer to the "Draft Proposed Rules and Statement of Reasons", consisting of 149 pages.

I have been involved with WDEQ/LQD vegetation rules since 1994, starting with the shrub density rules. This Rule Package 1-S has incorporated many improvements over the existing rules; however, there are a few critical items that make the rules much more stringent than federal regulations and neighboring state regulations. More importantly, the focus for revegetation success has been shifted away from supporting the postmining land use, which in most cases is agriculture, to a focus on statistical analyses and numeric comparisons. While a numeric comparison makes it easy for a regulator to say "Pass" or "Fail", it does not fit the successional biological system we deal with on reclaimed lands.

As a preface, I refer you to two very important rules in the existing regulations:

- Chapter 4, Sec. (2)(a)i – this rule is under "General Environmental Protection Performance Standards", the section is on "Land Uses":

Reclamation shall restore the land to a condition equal to or greater than the "highest previous use". The land, after reclamation, must be suitable for the previous use which was of the greatest economic or social value to the community area, or must have a use which is of more economic or social value than all of the other previous uses.

This rule is at the very beginning of Chapter 4, Environmental Protection Performance Standards and sets the tone for the entire chapter.

- Chapter 4, Sec. (2)(d)(i) – this rule is also in Chapter 4, but in Section (d) which is specific to "Revegetation":

(i) The operator shall establish on all affected lands a diverse, permanent vegetative cover of the same seasonal variety native to the area or a mixture of species that will support the approved postmining land use in a manner consistent with the approved reclamation plan. This cover shall be self-renewing and capable of stabilizing the soil.

This rule is very similar to the federal rule, which is not surprising as much of the Wyoming rules were in effect prior to the federal rules. While Wyoming can continue to improve upon our rules, we must be cautious of the long-term effects of more stringent rules.

My specific comments follow:

Notice of Intent to Adopt Rules and Regulations

The Notice of Intent that was sent out with the public notice answers a boilerplate of questions. Question #10(b) on the bottom of page 3 of 4 indicates "The proposed rules meet but do not exceed federal minimum requirements." This is incorrect, as there are several instances where the proposed changes will make the rules more stringent than the federal minimum requirement. I have noted those instances in my comments below.

Draft Proposed Rules and Statement of Reasons

Purpose and History of Rule Package

Shrub Density - Page 2 of 149

The bottom of Page 2 of 149 notes:

"The group also made the following agreements:

- Retain the shrub standard from Appendix A with no revision as an Appendix to Chapter 4"

It was agreed early on in negotiations between the WDEQ/LQD and the various groups involved that the shrub density standard would not be changed; however, as is outlined in the 2nd item on Page 3 of 149, a revision was made to the definition of "pastureland" and "eligible land". This proposed revision would make certain areas of pastureland eligible for the shrub density standard (see "Eligible land" definition on Page 18 of 149). Please realize this conflicts with a 2003 EQC hearing on the issue of pastureland and shrub density. The Environmental Quality Council Findings of Fact, Conclusions of Law and Order, filed May 6, 2003 specifically addressed this issue. Those Findings of Fact are attached for your information. Also please note that the currently approved Shrub Density standard exceeds the requirements of the federal rules. This proposed revision will make the Wyoming rules even more stringent and will require reclaiming more shrubs (primarily sagebrush) on areas that were pasturelands prior to mining.

Species Diversity and Composition - Page 3 of 149

The 3rd item on Page 3 of 149 describes the "Addition of a species diversity and composition standard" for Grazingland and Pastureland. The currently approved rules simply require that species diversity and composition "support the post-mine land use." This is similar to the federal rule. The addition of a species diversity and composition standard was a noble goal; however, it was not accomplished as the number of vegetative species and the frequency of life forms (i.e. warm season grass, cool season grass, shrub, perennial forb, etc) required for revegetation success was never determined. This was discussed several times between WDEQ/LQD and the various groups involved, but numbers were never agreed upon. It was decided more reclaimed vegetation data should be collected prior to

determining the values for success. The rules as proposed (primarily Chapter 4A starting on Page 125 of 149) only provide a method. The number of species and frequency of life forms required for revegetation success, which is the heart of the entire rule, is simply stated as "...shall be determined by the Administrator."

Our recommendation is the species diversity and composition standard NOT be included in this rule package. It would be more appropriately addressed at a later date when the number of species and frequency of life forms has been agreed upon. While we agree with the concept of the rule (as long as 'other alternative methods' are allowed), we do not agree to the approval of a rule that provides methods only and no values. Please note that several final bond release requests have been approved using the currently approved rule. Also note the currently approved rule is as stringent as the federal requirement so the rule does not have to be changed to address OSM deficiencies.

The species diversity and composition standard can be removed by making the following changes:

- Do NOT add the new text (shown below) at the end of Chapter 4, Sec. 2(d)(ii)(B)(I) – Page 107 of 149:
The species diversity and composition standard must be demonstrated using the semi-quantitative standards defined in Appendix 4A of Chapter 4 which do not require statistical analysis, or demonstrated using other alternative methods as approved by the Administrator.
- Do NOT add the corresponding new Appendix 4A – Species Diversity and Composition Standard (Pages 125 – 129 of 149).

Species Lacking Creditable Value - Page 7 of 149

The proposed new "Species Lacking Creditable Value" definition is described at the bottom of Page 7 of 149. The definition is in Chapter 1, Sec. 2(ef) on page 37 of 149. The addition of the Species Lacking Creditable Value (SLCV) definition is a major shift in the whole concept of defining revegetation success. Historically revegetation success has been determined by three parameters, described below in very simplistic terms:

- Cover – how much of the ground is covered by plants or mulch and how much is bare ground?
- Production – how much grass or browse is there for a cow or a sheep or a deer to eat?
- Species Diversity and Composition – is there a variety of plants?

The federal regulation simply requires the ground cover of living plants to be at least equal to a reference area (similar undisturbed area). The currently approved Wyoming regulations in Chapter 4, Sec. 2(d)(x) require "...the vegetative cover and total ground cover are at least equal to the cover on the area before mining....".

The proposed new definition no longer considers "total cover"; it now becomes selective about which vegetative species are "creditable". While we all agree many annual forbs and grasses are not desirable, those plants do exist in both the native and reclaimed areas and are a part of the ecosystem. The currently approved rules in Chapter 1, Sec. 2(u) define cover as "...vegetation, litter, and rock over the soil which intercept rainfall." Annual forbs and grasses do provide "cover" as they do intercept a raindrop and prevent it from hitting bare soil. Natural succession of disturbed areas typically includes establishment of quick growing annuals soon after disturbance as nature's way of stabilizing the soil. As time goes on the perennial plants become established.

Currently approved rules require mine operators to control noxious weeds:

Chapter 4, Sec. 2(d)(xiv) The operator must control and minimize the introduction of noxious weeds in accordance with Federal and State requirements until bond release.

We agree with not including noxious weeds, annual grasses and annual forbs in the evaluation of production for revegetation success, as that is consistent with currently approved rules. We also agree with not including those plants in the species diversity and composition evaluation. However, we recommend these plants be included in the cover evaluation for revegetation success (again, even cheatgrass intercepts a raindrop). This would require the following change to the proposed rule package:

Delete “cover” from the definition in Chapter 1 on Page 37 of 149:

Chapter 1, Sec. 2(e) – “Species lacking creditable value” means the cover and production of these species will be estimated but will not be credited or counted towards meeting the revegetation success standards for cover, production or species diversity and composition. Species lacking creditable value include noxious weeds listed under the Wyoming Weed and Pest Control Act, Bromus japonicus, Bromus tectorum, Taeniatherum caput-medusae, Halogeton glomeratus, Kochia scoparia and Salsola tragus and all synonyms for these species as listed in the Natural Resources Conservation Service’s Plants Database.

Chapter 4

Timeframe for Revegetation Success Sampling - Page 107 of 149

The proposed rule at Chapter 4, Sec. 2 (d)(ii)(B)(I) defines what is required for revegetation success on Grazingland and Pastureland. The proposed rule also requires the revegetation success sampling be conducted in “...two out of four years beginning no sooner than year eight of the bond responsibility period.” The currently approved rules require sampling for the last two consecutive years of the bonding period. This proposed change was appropriately made to provide more flexibility in sampling and as a result of a similar federal rule change. However, the federal rule allows sampling to take place “during the growing season of any two years after year six of the (bond) responsibility period.”

Our recommendation is the proposed Wyoming rule be revised to be similar to the federal rule and allow sampling to begin in year seven (i.e. after year six), rather than waiting until year eight. Regardless of when sampling takes place, the bond can not be released until ten years after seeding; however, following the federal rule allows more flexibility on sampling times. It would also allow combining several reclamation areas of various ages into one larger logical bond release unit.

Comments on the counterpart federal rule change were published in the Federal Register on August 30, 2006, Vol. 71, No. 168, pages 51684 to 51705. One commenter expressed concern that year seven was too early to sample, as the vegetation community was still undergoing significant changes (page 51701). The Office of Surface Mining’s response was “...OSM does not believe that the fact of continuing change within plant communities is sufficient reason to delay measurement of revegetation success on grazing land...” The OSM also stated the laws “...clearly requires that the operator must fully meet the requirements of the Act and the permit (including revegetation success standards) for a

phase III bond release. Therefore, if the regulatory authority is concerned the vegetation does not meet the revegetation success standards during the final bond release inspection, the regulatory authority can and should require additional investigation to determine whether those standards have been met.”

Additionally, the rule should be clarified to state that cover, production and species diversity and composition sampling do not all have to be conducted during the same two of four years. For example, cover and production could be sampled in years eight and nine, while species diversity and composition could be sampled in years nine and ten. The federal rule and this rule package both require shrub density to be sampled during the last year of the bond release period. It would be common to combine species diversity and composition sampling with shrub density sampling, as both types of sampling require utilization of a belt transect (as opposed to a line transect for cover or a quadrat for production sampling).

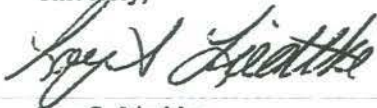
The change to the proposed rule to allow sampling to begin in year seven and to clarify the sampling requirements could be accomplished by the following change to Chapter 4, Sec. 2 (d)(ii)(B)(I). For the sake of simplicity, the proposed rule is shown in a “clean” format, with the strike and underline shown only to reflect our proposed change.

(B) Grazingland and Pastureland

(I) Revegetation shall be deemed to be complete when: (1) the vegetation cover of the affected land is shown to be capable of renewing itself under natural conditions prevailing at the site, and the absolute total vegetative cover is at least equal to the cover on the reference area or technical standard, (2) the annual herbaceous production is at least equal to the annual herbaceous production on the reference area or technical standard, (3) the species diversity and composition are suitable for the approved postmining land use, and (4) the requirements in (1), (2) and (3) are met for two out of four years beginning no sooner than year ~~eight~~ seven of the bond responsibility period. The individual requirements of (1), (2) and (3) are not all required to be met in the same two of four years. The species diversity and composition standard must be demonstrated using the semi-quantitative standards defined in Appendix 4A of Chapter 4 which do not require statistical analysis, or demonstrated using other alternative methods as approved by the Administrator. The following reference area type options are available:

Cordero Rojo Mine appreciates the opportunity to comment on the proposed rules for revegetation success performance standards.

Sincerely,



Roy S. Liedtke
Senior Environmental Engineer
Cordero Rojo Mine

Attachment

BEFORE THE ENVIRONMENTAL QUALITY COUNCIL

STATE OF WYOMING

FILED

MAY 06 2003

Terri A. Lorenzon, Director
Environmental Quality Council

IN THE MATTER OF THE APPEAL OF)
CONDITION 7 OF CHANGE NUMBER 4)
TO THE THUNDERCLOUD AMENDMENT,)
PERMIT 233-T6, BLACK THUNDER MINE)

DOCKET NO. 01-4601

FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

On November 18 and 19, 2002, the Environmental Quality Council ("Council") held a public hearing on Thunder Basin Coal Company LLC's ("TBCC") appeal of a condition the Wyoming Department of Environmental Quality ("DEQ"), Land Quality Division ("LQD") placed on the Thundercloud Amendment to the Black Thunder Mine subject to Permit No. 233-T6. TBCC was represented by Alexandra B. Klass of Dorsey & Whitney LLP and DEQ was represented by John Burbridge, Assistant Attorney General. Council members present at the hearing were Nick Bettas, Thomas Dunn, John N. Morris, Robert Rawlings, Dr. Jason Shogren and Olin D. Sims. Also present for the Council was Terri A. Lorenzon, attorney for the Council, who acted as Hearing Examiner for the proceedings.

At the conclusion of the hearing, on November 19, 2002, the Council, having reviewed the evidence and being advised in the premises, convened a meeting and reached a decision in this matter. In accordance with that decision, the Council hereby issues the following findings of fact and conclusions of law.

FINDINGS OF FACT

1. Thunder Basin Coal Company LLC ("TBCC") operates the Black Thunder Mine in Campbell County, Wyoming. The Black Thunder Mine operates on approximately 21,243 acres subject to Permit No. 233-T6, Change Number 4 (Thundercloud Amendment), approved with conditions on December 15, 2000. The Thundercloud Amendment consisted of adding approximately 5,247 acres to the permitted mine area.
2. Based on vegetation studies of the premine condition, TBCC determined that approximately 760 acres of the 5,247 acres contained in the Thundercloud Amendment

were seeded to crested wheatgrass and thus should be classified as "pastureland" under the DEQ-LQD Coal Rules, even though these acres contained a shrub component. Under the current mine plan, only 514 acres of the 760 acres will be affected by mining. The majority of the remainder of the Thundercloud Amendment was classified as "grazingland."

3. The relevant definitions in Ch. 1, Sec. 2 (ac) and (bc) are as follows:
 - (ac) "Eligible land" means all land to be affected by a mining operation after August 6, 1996. Cropland, pastureland or treated grazingland approved by the Administrator which is to be affected by a mining operation after August 6, 1996 is not "eligible land".
 - (bc) "Land use" means for surface coal mining operations, specific uses or management-related activities rather than the vegetation or cover of the land
 - (ii) Pastureland is land used primarily for the long-term production of adapted, domesticated forage plants to be grazed by livestock or occasionally cut and cured for livestock feed.
 - (iii) Grazingland includes rangelands and forest lands where the indigenous native vegetation is actively managed for grazing, browsing, and occasional hay production, and occasional use by wildlife.
4. DEQ did not agree with TBCC's classification of the 760 acres as pastureland and therefore included Condition No. 7 in the State Decision Document accompanying approval of the Thundercloud Amendment. Condition 7 reads as follow:

Within 90 days following approval of this amendment Thunder Basin Coal Company, LLC shall submit a Chapter 13 revision to their shrub density text, tables and maps to include the premine vegetation community of Crested Wheatgrass Seedings in the eligible 20% Shrub Standard. Thunder Basin Coal Company, LLC shall achieve mutual agreement with Land Quality Division District III on the content and format of the revision prior to submittal.
5. Condition 7 requires that TBCC change its reclamation plan to meet the 20% shrub density requirement for "eligible land" for the 760 acres.
6. Chapter 4, Sec. 2(d)(x)(E)(I) requires that at least 20% of "eligible land" shall be restored to shrub patches supporting an average density of one shrub per square meter unless a lesser density is justified from premining conditions in accordance with DEQ-LQD Coal Rules, Appendix A.

7. TBCC filed a timely appeal and petition for hearing with the EQC on January 12, 2001, and an amended petition for hearing on June 29, 2001.
8. Prior to the hearing, the parties stipulated to the following material facts:
 - the 760 acres are dominated by crested wheatgrass. Crested wheatgrass is a species that is not native to Wyoming; instead, it is an adapted, domesticated forage plant that was introduced to the area to increase forage production.
 - the 760 acres are almost exclusively private land that has historically been used for grazing livestock and is currently used for grazing livestock.
 - the 760 acres are not designated as a crucial winter use area for big game or sagegrouse and have not been designated as a Critical Habitat, Crucial Habitat or Important Habitat for wildlife under Ch. 1, Sec. 2(v), (w) or (ax) of the DEQ-LQD Rules.
9. At the hearing, the testimony and data admitted into evidence established that both vegetative cover and herbaceous production on the 760 acres are dominated by crested wheatgrass.
10. Testimony established that most of the 760 acres were planted in crested wheatgrass in the early part of the 20th century to increase forage production for livestock grazing. Lands that have been seeded to adapted, domesticated forage plants and are used for grazing livestock or occasionally cut and cured for livestock feed are in long-term production of the adapted plants for livestock grazing.
11. The 760 acres of concern in this case continue to be in long-term production of crested wheatgrass for livestock grazing and the crested wheatgrass still outproduces the native vegetation on these lands.

CONCLUSIONS OF LAW

1. The Council has jurisdiction over the parties to and the subject matter of this proceeding. Wyo. Stat. § 35-11-112.
2. The definitions in Chapter 1, Section 2 under (bc) "Land use" are separate definitions, depicting a particular type of land use, with no surmised evolutionary link between one another.
3. The key definitions under (bc) "Land use" in Ch. 1, Sec. 2 are as follows:

(bc) (ii) Pastureland is land used primarily for the long-term production of adapted, domesticated forage plants to be grazed by livestock or occasionally cut and cured for livestock feed.

(bc)(iii) Grazingland includes rangelands and forest lands where the indigenous native vegetation is actively managed for grazing, browsing, and occasional hay production, and occasional use by wildlife.

4. A comparison of the definitions of "grazingland" and "pastureland" reveals that there is no relevant distinction between the activities that fall within the two definitions; both definitions show the primary use as livestock grazing. The definitions, differ, however, with regard to the vegetation described. Despite there being a minor shrub component, "pastureland" consists of "adapted, domesticated forage plants" while "grazingland" consists of "indigenous native vegetation." It is undisputed that the dominant vegetation on the 760 acres is an adapted, domesticated forage plant (crested wheatgrass) as compared to the vegetation on the remaining 4,487 acres on the Thundercloud Amendment, which consists almost exclusively of native grasses and shrubs.

5. The Glossary to Appendix A to the DEQ-LQD Rules directly supports the need to consider the existing plant community to determine land use and states:

"Land Use" refers to the specific uses or management-related activities which a given unit of land experiences. Land use *is directly supported by, but not directly defined by the existing plant communities.* See definitions of cropland, pastureland, grazingland, forestry, or appropriate discussion in LQD Rules and Regulations, Chapter 1, under "land use." Appendix A at A-58 (emphasis added).

6. The definition of "Land Use" in Appendix A as well as regulatory history for the Office of Surface Mining ("OSM") definitions of "pastureland" and "grazingland" (on which the DEQ definitions are based) support the proposition that the vegetative cover may be considered in determining whether land used for grazing is "pastureland" or "grazingland," and that if introduced species are being grazed, the land should be classified as "pastureland" rather than "grazingland."

7. The 760 acres are "pastureland" rather than "grazingland" and thus are not "eligible land" subject to the shrub standard under Ch. 1, Sec. 2 and Ch. 4, sec. 2(d)(x)(E)(I). TBCC should not be required to include the 760 acres in the acreage that is subject to the 20% shrub density standard for purposes of reclamation and bond release for the Thundercloud Amendment or any future permit or permit amendment.

ORDER

TBCC's appeal of Condition 7 for the Thundercloud Amendment to the Black Thunder Mine is hereby granted. DEQ shall remove or consider fulfilled all shrub density requirements arising from Condition 7 to the Form 1 for all purposes, including but not limited to shrub density calculations, reclamation requirements and bond release.

IT IS SO ORDERED THIS 2nd DAY OF ^{MAY}~~APRIL~~ 2003.



Thomas Dunn, Vice-Chair
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