TESTIMONY – FEBRUARY 15 & 16, 2007

Environmental Quality Council Hearing

CHAPTER 1 WATER QUALITY RULES AND REGULATIONS

Resubmitted by

COAL BED NATURAL GAS ALLIANCE

August 26, 2008

we're changing policy, we're going to affect many things. One of them is economics on a local level and on a region level.

The second thing that nobody's touched on on this is domestic energy production is not only an issue here in Wyoming, but it's a national security issue. And this is something that federal government will more than happily get involved with, from my experiences as an administrator. What you're trying to do here is unfairly set stipulations on one industry over another, which is known as selective enforcement.

The EPA would certainly take a look at this, and I've already made recommendations to fellow employees and former employees, and one of the things I found disheartening was this attack on the term "pollution." All water is pollution, and it is discharged through the NPDES program on a federal level. And that federal level is EPA. They administer their program and allow states to take over jurisdiction, as long as those states comply with the spirit of the law, the NPDES program, Title 40.

What I see here is a deviation from the spirit of the law. And it -- like I said, it's affecting economics, energy dependence issues, and again, selective enforcement. If you're going to change the constituents for CBM, those constituents need to be changed for industries across the

board. If you're not doing that, that is selective enforcement and that is essentially unconstitutional.

MR. MORRIS: Excuse me just a minute.

MR. TURNER: Yes, sir.

CHAIRMAN GORDON: Mr. Morris.

MR. MORRIS: We're talking about different chapters here on the rules.

MS. HUTCHINSON: Yeah, I think you're commenting on Chapter 2 and we're here on Chapter 1.

MR. TURNER: I'm actually talking about all policies in place, to change the constituent levels to change enforcement of an industry. I'm going -- I'm not going across and saying Chapter 1, Chapter 2, I'm saying an overall point of view, from my perspective, as former federal employee and administrator, what you're doing is opening a can of worms here that I think you're overstepping your bounds, and I think that ultimately what some -- some people here in the state of Wyoming want is the right to dictate what happens on their land, and what we're going to end up doing is going full circle where the DOE could come in and essentially do a takings on land where there's federal minerals.

So these people that own these ranches that are complaining about CBM, in the long run might stir up enough dust they get their ranches taken in a long-term effect,

because this is a national security issue. All policy change dealing with CBM -- and I'm not saying Chapter 1, Chapter 2, I wanted to comment because you asked about the litigation issues -- it's open-ended. There's probably 10, 15, 20 issues here that would be in litigation at the federal level.

CHAIRMAN GORDON: Okay. Mr. Turner, what I'm trying to do is keep it so everybody has a chance to talk.

MR. TURNER: Right, I understand.

CHAIRMAN GORDON: So I'm going to ask the Council members if they have any questions specifically on Mr. Turner's comments here.

Are there any questions from Council members?

Are there any other points that you --

MR. TURNER: No, basically I want to bring that to the forefront, because this is an issue that's going to eventually leave the jurisdiction of Wyoming.

CHAIRMAN GORDON: Right.

MR. TURNER: And it is going to be an issue that's going to affect a lot of people, and again, goes to the regional context. And I hope -- I want to make sure you people are aware of what you're about to do when you start to get in and change policy that's essentially administered and dictated by the federal government. That,

you know, you're essentially going to take on not only the CBM industry, not only consultants, not only landowners who want to use CBM, but you're going to take on a much larger scale, much bigger issue. And I think that needs to be -- that you need to be aware of that, because this is going to be far beyond this Council here.

CHAIRMAN GORDON: Terrific. Thank you, Mr. Turner.

MR. TURNER: Thank you.

CHAIRMAN GORDON: I have Dan Coolidge has indicated he wants to make a comment.

Can you identify yourself, sir.

MR. COOLIDGE: Yes, Mr. Chairman. Good morning. I'm Dan Coolidge, a Campbell County commissioner.

I just want to make a few comments. I'm not going to reinvent the wheel. I just want to say our local government, our county, supports the CBM industry. We obviously aren't going to argue the technical merits. That's not our position. We just -- our biggest concern is the economic impact. We -- these regulations are potentially devastating, if it could shut down the industry. And that not only affects us at the local level, but also the state level.

We're certainly not advocating that we don't have any regulations. We feel that it's -- the industry is

currently regulated to the point where it needs to be. Also, it appears that it potentially is a violation of private property rights, where these restrictions can actually hamper either the industry or the landowner's right to negotiate a deal and be able to utilize those water resources.

In closing, I would just say, as a county commissioner, and obviously having to sit on a board, I can appreciate the fact that you've got -- you've got a tough decision to make here and I would just ask that you seriously consider the long-term ramifications of this decision as was stated by another testimony. It appears that it targets one specific industry. I think it opens the door to potentially affecting other industries, namely the oil industry on their discharges. And certainly could affect the mining industry as well in their water discharges.

So the long-term ramifications are -- the fact that it can seriously hamstring or shut down an industry that supplies a huge revenue stream to local governments and obviously to state governments.

I guess that sums up what I have to say.

CHAIRMAN GORDON: Thank you, Mr. Coolidge.

I have comments from both Ms. Hutchinson and Mr. Moore, so I'm going to say Miss Hutchinson.

MS. HUTCHINSON: Dan, I know you didn't want to get into the technical merits, but what specific parts of this rule do you think are going to be potentially devastating to the industry?

MR. COOLIDGE: It appears -- and obviously this is -- again, it's not my position to argue the technical merits. I feel like the restrictions are too stringent. When you start talking about, for instance, reservoir construction needs to be able to retain not only the produced water volumes, but also the 50-year, 24-hour flood event, that appears to be too restrictive that almost makes building reservoir not an option for water management.

Some of the effluent levels appear to be too restrictive, as well. For instance, the barium levels already -- it's my understanding they're already lower than the drinking water levels, and then the new rulemaking proposes to make them even more stringent. So all those things combined appear to alleviate quite a few options that the producers have in dealing with their water management issues.

MS. HUTCHINSON: Thank you.

CHAIRMAN GORDON: Okay.

MR. MOORE: My question is just one of clarification. Are you speaking on behalf of the Board of County Commissioners or as a county commissioner?

MR. COOLIDGE: I'm speaking on behalf of the Board of Campbell County Commissioners.

MR. MOORE: Thank you.

MR. MORRIS: I have one question.

CHAIRMAN GORDON: Mr. Morris.

MR. MORRIS: Does agriculture not play any part of the county --

MR. COOLIDGE: No. Actually, I failed to say that in my testimony, but I did supply a -- I faxed a letter -- or our office faxed a letter yesterday, and in that -- in those written comments it did -- and this is a huge agricultural issue as well. We've got landowners in Campbell County that have come to rely on that -- on that water resource for their ranching operations. And I just feel like that goes back to the property rights issue. I feel like those landowners should be allowed to deal with the industry and utilize those resources the way they see fit and not be dictated by the -- by you folks.

MR. MORRIS: And do you perceive, if these rules are passed, that it would shut down the coal-bed methane industry? Is that what you're implying?

MR. COOLIDGE: Yeah, I wouldn't necessarily say it would shut it down, but I think it would have serious impact on it.

MR. MORRIS: Thank you.

CHAIRMAN GORDON: Thank you.

Mr. Moore.

MR. MOORE: I would just like to make a comment for purposes of people who are going to present later on. Bear in mind that the Department of Environmental Quality, Water Quality Division, is required to issue discharge permits for the coal-bed methane, and what we're trying to do is make sure there are procedures and steps in place to -- for them to process those permits and come up with appropriate values for the discharge.

There's nothing in this regulation that talks about whether or not a discharge should be allowed or not allowed. So what you could try to focus your comments on, in the policy, what you think needs to be changed or in the proposed rules what needs to be changed as far as how they would go about issuing a permit. That would be appreciated, so we get better feel for what the issues are rather than just saying generically that we don't agree.

CHAIRMAN GORDON: Okay. Thank you, Mr. Coolidge. Anything else?

MR. COOLIDGE: No, I just appreciate the opportunity to be heard today. Thank you.

CHAIRMAN GORDON: Thank you very much.

MS. FLITNER: Thank you.

COMMENTS – FEBRUARY 15 & 16, 2007

Environmental Quality Council Hearing

CHAPTER 1 WATER QUALITY RULES AND REGULATIONS

Resubmitted by

COAL BED NATURAL GAS ALLIANCE

August 26, 2008

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February 14, 2007

Mr. Mark Gordon, Chairman
Wyoming Environmental Quality Council
Herschler Bldg., Rm. 1714
Cheyenne, WY 82002

Re: Proposed Rulemaking – Section 20, Appendix H – Agricultural Use Protection

Dear Mr. Gordon:

On behalf of the Campbell County Board of Commissioners, I would like to take this opportunity to comment on the Wyoming Department of Environmental Quality's proposed Chapter 1, Wyoming Water Quality Rules and Regulations, referenced above.

The Board of Commissioners strongly supports the Coal Bed Natural Gas Industry. As you are well aware, the mineral industry and specifically the Coal Bed Methane (CBM) industry are the lifeblood of not only Campbell County but also the State of Wyoming. The Board is equally supportive of the agricultural industry and the property rights of landowners. The rulemaking you are currently considering has the potential to hamstring, if not completely shut down the CBM industry. Our fear is that production will be curtailed or even halted, resulting in the loss of a major revenue stream locally and statewide. The stringent regulations this rulemaking would impose do not appear to leave many options for the industry in dealing with water management issues. Also, it appears that, even though this rulemaking is currently targeted specifically to the CBM industry, it has the potential to affect the mining industry as well. It also can greatly affect ranching operations that have come to rely on this water resource.

In closing, I would ask that you seriously consider the long term ramifications to not only our local economy, but that of the State's as well, and not proceed with the rules and regulations as proposed. Thank you for your time and consideration in this matter.

Sincerely,

CAMPBELL COUNTY BOARD OF COMMISSIONERS

Daniel P. Coolidge,
County Commissioner

xc: Office of the Governor, The Honorable Dave Freudenthal
Wyoming Department of Environmental Quality, Mr. Bill Dirienzo

DEQ/Water Quality Division, ATTN: Bill DiRienzo
Herschler Building- 4W
122 W. 25th Street
Cheyenne, WY 82002

February 12, 2007

Re: Comments on proposed revisions to Chapter 1, Section 20 (Agricultural Use Protection Policy)

SENT by FAX: (307) 777-5973 on or before the close of business on February 14, 2007

To the Environmental Quality Council, DEQ/WQD, and Mr. DiRienzo:

The Meeteetse Local Planning Area Advisory Committee (MLPAAC) submits the following comments in accordance with its authority under the **"Meeteetse Local Planning Area Land Use Plan and Policy Statement"**, 1996, and Wyoming statute 35-11-302.

(1)The MLPAAC is opposed to the revised Section 20 as written.

(2) The current revision of Chapter 1 should proceed without further consideration of changes to Section 20.

(3) Section 20, as written, will critically restrict the ability to utilize new sources of produced water from coal bed methane and conventional oil and gas production.

(4) Section 20 is an overly burdensome attempt to craft a statewide rule based on local problems. Discharged water that would be of marginally acceptable quality elsewhere is so valuable in the Big Horn Basin that agricultural producers file with the State Engineer's Office in order to obtain adjudicated water rights on the discharged water to protect the economic stability gained through the use of that water.

(5) Meeting times and venue have burdened and restricted the ability of Wyoming residents to actively participate on a statewide basis. The process used by the EQC has not properly satisfied the requirements of statute in assessing:

(A) The character and degree of injury to or interference with the health and well being of the people, animals, wildlife, aquatic life and plant life affected

(B) The social and economic value of the source of pollution

(D) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution

The preceding comments of the MLPAAC are in accordance with its authority under the **"Meeteetse Local Planning Area Land Use Plan and Policy Statement"**, 1996, specifically, GOALS, OBJECTIVES, AND POLICIES:

Natural Resources (Landscape Description).

Policy #1, "The Board of County Commissioners, Planning and Zoning Commission, and MPLA Advisory Committee should encourage local, state, and federal governmental agencies to manage the natural resources in the MPLA for optimal sustained use", and;

Policy #3, "The Board of County Commissioners, Planning and Zoning Commission, and MPLA Advisory Committee should support management of renewable and non-renewable natural resources to provide for the economic well-being, the local custom culture and changing characteristics of the MPLA, as well as, to reduce the dependence on foreign renewable and non-renewable resources."

Water (Production Description).

Policy #1, "The Board of County Commissioners, Planning and Zoning Commission, and MPLA Advisory Committee support the present state law and regulatory system administering the use and ownership of all surface and ground water within the State of Wyoming, and recognize that the protection and development of the MPLA's water resources are essential to MPLA's short and long term economic and cultural viability."

Wyoming State Statute 35-11-302. Administrator's authority to recommend standards, rules, regulations or permits.

(a) The administrator, after receiving public comment and after consultation with the advisory board, shall recommend to the director rules, regulations, standards and permit systems to promote the purposes of this act. Such rules, regulations, standards and permit systems shall prescribe:

(vi) In recommending any standards, rules, regulations, or permits, the administrator and advisory board shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved including:

(A) The character and degree of injury to or interference with the health and well being of the people, animals, wildlife, aquatic life and plant life affected;

(B) The social and economic value of the source of pollution;

(C) The priority of location in the area involved;

(D) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution; and

(E) The effect upon the environment.

Thank you for your consideration of our comments,

Michael Q. May

Michael Q. May, Chairman
Meeteetse Local Planning Area Advisory Committee
594 Wood River Road, Meeteetse, WY 82433

Original

Meeteetse Conservation District

P.O. Box 237 • 2103 State Street

Meeteetse, WY 82433

(307) 868-2484 • mcd@tctwest.net

February 14, 2007

Mr. Bill DiRienzo
Wyoming DEQ/WQD and EQC
Herschler Bldg., 4th Floor West
122 W.25th Street
Cheyenne, WY 82002

RE: Comments on EQC Draft Chapter 1, December 2006 – Surface Water Standards and Implementation Policy

Dear Mr. DiRienzo and Wyoming EQC:

The Meeteetse Conservation District (MCD) appreciates the opportunity to comment on the proposed revisions to Chapter 1 – Water Quality Rules and Regulations and Implementation Policy.

As local government, the Meeteetse Conservation District fully supports the following comments (received by MCD as a draft copy) to be submitted on the behalf of all conservation districts by the Wyoming Association of Conservation Districts, and, as stated by Bobbie Frank, "commends DEQ for addressing several issues affecting the state's ability to effectively address water quality issues and believes, by in large, that the proposed changes to Chapter 1 will assist in moving the overall effort of protecting Wyoming's water quality forward. Of particular importance are the changes to recognize that not all of Wyoming's water bodies are capable of supporting primary contact recreation uses and that secondary contact recreation criteria are needed to reasonably manage water quality to protect human health."

These comments have been appropriately stated by Bobbie, and rather than attempting to make these comments appear to be of our own wordsmithing the changes to them have been formatting and the global substitution of "MCD" for "WACD". Please understand that the MCD *has* collaborated and discussed topics of concern with other districts as stated in these comments.

> "COMMENT: MCD supports the modification and inclusion of the definitions of "Effluent Dependent" and "Effluent Dominated" water to recognize that there are water resources in the state that are available for use primarily, if not solely, due to discharges that provide environmental benefits that otherwise would not exist.
>
> COMMENT: MCD supports the definitions of "Full Body Contact Water Recreation", "Primary Contact Recreation" and "Secondary Contact Recreation" as these definitions are critical for correctly classifying waterbodies for recreational uses.

COMMENT: MCD supports the definition of "Net Environmental Benefit" as it provides recognition that there are effluent dependent and dominated waters in which the elimination of the discharge would either eliminate availability of water for beneficial uses or water would be of higher quality than existed naturally. MCD has worked with local Districts, such as the Powder River CD, who have that exact situation within their District. It is important to recognize that waters can be made available through these discharges that provide multiple environmental and economic benefits, and still not pose a health risk to humans, livestock or wildlife.

COMMENT: MCD supports the use of the term "recreation" in place of "primary contact recreation" for designated uses of Class 2, 3 and 4 waters as some waterbodies will designated for use as "primary contact recreation" waters and the others as "secondary contact recreation" waters.

COMMENT: MCD again commends DEQ for including "Class 2D" to recognize that there are instances in the State where waters and subsequent fish populations, would not exists without the discharges.

COMMENT: MCD supports the inclusion of "Class 3D" to recognize that there are instances in the State where waters and subsequent aquatic organisms and habitat would be significantly reduced without the discharges.

COMMENT: MCD supports modifying the bacteria standard from fecal coliform to *E.coli*, re-instituting a recreational season, and also the revised uses of primary and secondary contact recreation. First, several local districts have already begun to have samples analyzed for *E. coli* and they are prepared for the transition. There is some question as it relates to listing and delisting of waters and the current requisite that 3 years worth of data indicating use attainment is necessary prior to DEQ being able to proceed with the delisting of a waterbody. For instance, some districts may have a combination of fecal coliform data and e.coli data over the three-year time period and have questioned if the fecal data will still be accepted.

MCD feels it is imperative to protect human health on waters where contact recreational activities occur. The proposed uses of primary and secondary will ensure that efforts to address waters impaired due to elevated counts of e.coli that pose an elevated risk to human health receive the priority in terms of local watershed efforts and effectively utilize the public funds. MCD is concerned that currently a tremendous amount of time, effort and funds are being spent to lower *E.coli* levels on waters that are not primary contact recreation waters and that pose little to no threat to human health.

In the course of preparing comments, MCD consulted with a number of districts on the appropriateness of the proposed recreational season. Due to the varying factors that exist across the state on when primary contract recreation activities occur, MCD supports the proposed May through September times frame and believes it provides sufficient protection and balance.

COMMENT: MCD supports the proposed Secondary Contact recreation standard for *E. coli* as not to exceed a geometric mean of 630 organisms per 100 milliliters based on a minimum 5 samples obtained during separate 24 hour periods for any 30-day period.

COMMENT: MCD supports the proposed approach for single-sample maximum concentrations in the interest of public safety. Of particular importance is the language clarifying that single samples shall not be cause for listing a waterbody on the State 303(d) list or development of a TMDL or watershed plan as there is significant, inherent variability in measuring bacteria concentrations.

COMMENT: MCD supports the proposed allowance for variances to the *E. coli* standards to recognize the fact that regardless of implementation efforts, some waters may not ever be able to achieve the e.coli standard and subsequently attain designated use support. MCD would however suggest that not all wildlife-induced contamination is "natural" in light of population objectives, etc. However, MCD recognizes that this discussion may well be more appropriately debated in other agency rulemaking processes.

COMMENT: MCD commends DEQ for establishing a means to fairly evaluate water quality within effluent dependent waterbodies.

COMMENT: MCD supports the approach outlined in Section 36 for developing site-specific criteria for effluent dependent waters where it has been demonstrated that such waters create an environmental benefit and the removal of the discharge would result in lower water quality.

DOCUMENT: Implementation Policies for Antidegradation, Mixing Zones, Turbidity, Use Attainability Analysis

COMMENT: MCD supports the consideration of flow as one of the factors in determining a waterbody's ability to support a primary contact recreational use. Many of Wyoming's streams do not exhibit sufficient flows to present a reasonable risk of ingestion of water or immersion in the water as a result of recreational activities. Further comment on this issue will be provided related to the section that defines information necessary in a UAA in petition to remove a primary contact recreation use.

COMMENT: MCD recognizes that in the absence of UAAs, DEQ must create a "default" class and supports the proposal that all of those waters appearing on Table A will be, by default, protected as primary contact recreation until such time that a UAA demonstrating otherwise is developed.

Based on feedback from local people and local districts, there are a good number of waterbodies on Table A that do not have flow sufficient for, nor are they currently used or attractive as recreational waters. MCD, therefore, supports the policy outlining the UAA process as being available to change the designation of waterbodies on Table A from primary contact recreation to secondary contact recreation.

COMMENT: MCD appreciates DEQ's recognition that the UAA process for determining recreation support levels should not be a difficult one and also that a recreational use does not imply access to such water.

COMMENT: As stated earlier in the Implementation policy document, flow is proposed to be, and in MCD's opinion, should be one of the factors considered in determining the recreational use protection. Regardless of the land ownership, public accessibility, and geographic location there are simply some "waters" that truly do not have sufficient water

to provide primary contact recreation opportunities. Therefore, the first factor that should be considered is actual flow.

The designation of a waterbody for primary or secondary contact recreation use should be based on the actual use of such a water or the potential use for recreational purposes, not on land ownership, proximity to municipalities, high density housing areas, parks, recreation areas, urban areas or any other geographic boundaries.

COMMENT: MCD recognizes that segmentation of streams into multiple primary and secondary designations may be problematic from an administrative standpoint, but appreciates DEQ's recognition that there needs to be a process for segmentation where applicable. There are instances in the State where designated uses attainable in one segment are not attainable in another segment and that different management strategies are required for each.

COMMENT: MCD supports the allowance of the variance. There are simply circumstances in which the *E. coli* standard cannot be reasonably achieved.

COMMENT: MCD would like to thank DEQ for the language on lines 13-17 of page 48, which recognizes that a UAA to determine recreation use support should be completed whenever a stream is proposed to be listed on the state's 303(d) list. This will help ensure that those impaired waters, which are truly primary contact recreation, receive the highest priority for implementation measures. Otherwise, as previously stated the situation does exist where an extreme amount of time, effort, and financial resources are being expended to address impairments due to a listing on "waters" for which little to no primary contact recreation occurs.

COMMENT: MCD would request that the Primary Use Factors be modified based on previously stated comments in regard to a water's actual ability to support primary contact recreation versus land ownership.

MCD appreciates the opportunity to comment on Chapter 1 Water Quality Rules and Regulations. The proposed revisions are very important and needed to ensure practical water quality management. With regard to on-going discussions involving the Agricultural Use Protection Policy, MCD would urge the EQC to separate this component from the remainder of Chapter 1 if further discussion is required prior to approval. This would allow the remaining provisions of Chapter 1 to be implemented which will assist in clearly identifying which set of rules and regulations are to be attained through water quality improvement efforts."

Respectfully submitted,

Steve Jones

Steve Jones

Resource Management Coordinator
Meeteetse Conservation District

Meeteetse Conservation District

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February 14, 2007

Mr. Bill DiRienzo
Wyoming DEQ/WQD and EQC
Herschler Bldg., 4th Floor West
122 W.25th Street
Cheyenne, WY 82002

RE: Comments on EQC Draft Chapter 1, December 2006 – Section 20, Agricultural Use Protection Policy

Dear Mr. DiRienzo and Wyoming EQC:

The Meeteetse Conservation District (MCD) appreciates the opportunity to provide additional comment on the proposed revisions to Chapter 1, Section 20 - Agricultural Use Protection Policy

As local government, the Meeteetse Conservation District recognizes and appreciates the effort expended by DEQ-WQD in the field visits to discharge sites and affected waterbodies, as well as in conducting the public meeting in Worland.

COMMENT (1): The current revision of Chapter 1 should proceed with the revision of Section 20 set aside. This would allow the remaining provisions of Chapter 1 to be implemented in a timely manner.

COMMENT (2): The MCD is opposed to the revised Section 20 as written.

COMMENT (3): Now, more than ever, the MCD believes that the draft revised Section 20 threatens the future ability to use water produced and discharged in conjunction with extraction of hydrocarbons. Section 20 must provide local flexibility to develop and utilize future water resources associated with mineral development.

COMMENT (4): Local soil and vegetative conditions coupled with the ambiguity and subjectivity of determining and defining measurable decrease in crop production on "naturally irrigated lands" will lead to a myriad of lawsuits and will also lead to a game of controlling watersheds through control of strategic land parcels. This will be exacerbated by the ability of unaffected third parties to sue on behalf or against public land management agencies. Effects on "naturally irrigated lands" must be determined in some other manner with the ability for local considerations to be incorporated.

COMMENT (5): Public review of Section 20 needs to be extended. The ability of Wyoming residents to actively participate on a statewide basis has been limited. The process used by the EQC has not properly satisfied the requirements of Wyoming Statute 35-11-302 requiring the state to consider and evaluate social and economic impacts of proposed rules or regulations to wit (Statute citations);

(vi) In recommending any standards, rules, regulations, or permits, the administrator and advisory board shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved including:

(A) The character and degree of injury to or interference with the health and well being of the people, animals, wildlife, aquatic life and plant life affected

(B) The social and economic value of the source of pollution

(D) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution

Comment (6): The proposed revisions are very important and, while revision may be needed to ensure practical water quality management, Chapter 20 as written falls short of protecting the agricultural industry and actually jeopardizes agricultural producers on a local basis.

The MCD appreciates the opportunity to comment on Chapter 1 Water Quality Rules and Regulations, Section 20 - Agricultural Use Protection Policy.

Respectfully submitted,

Steve Jones

Steve Jones

Resource Management Coordinator
Meeteetse Conservation District

COMMENTS & TESTIMONY

JUNE 15, 2007

Waste & Water Advisory Board Meeting

CHAPTER 1 WATER QUALITY RULES AND REGULATIONS

Resubmitted by

COAL BED NATURAL GAS ALLIANCE

August 26, 2008

Meeteetse Conservation District

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June 13, 2007

Sent By FAX

Mr. David Waterstreet
Wyoming DEQ/WQD and EQC
Herschler Bldg., 4th Floor West
122 W.25th Street
Cheyenne, WY 82002

RE: Comments regarding Appendix H, Agricultural Use Protection and associated language in Section 20 of Chapter 1

Dear Mr. Waterstreet and Wyoming WWAB:

The Meeteetse Conservation District (MCD) appreciates the opportunity to provide additional comment on the proposed revisions to Chapter 1, Section 20 - Agricultural Use Protection Policy

COMMENT (1): Section 1 should remain a policy and should not be implemented as a rule. Policy will have more flexibility and allow the DEQ to make better site-related decisions.

COMMENT (2): The MCD is opposed to the revised Section 20 as written.

COMMENT (3): Now, more than ever, the MCD believes that the draft revised Section 20 threatens the future ability to use water produced and discharged in conjunction with extraction of hydrocarbons. Section 20 must provide local flexibility to develop and utilize future water resources associated with mineral development.

COMMENT (4): Whether policy or rule, attempts to use the classification "naturally irrigated lands must be eliminated. Local soil and vegetative conditions coupled with the ambiguity and subjectivity of determining and defining measurable decrease in crop production on "naturally irrigated lands" will lead to a myriad of lawsuits and will also lead to a game of controlling watersheds through control of strategic land parcels. This will be exacerbated by the ability of unaffected third parties to sue on behalf or against public land management agencies. Effects on "naturally irrigated lands" must be determined in some other manner with the ability for local considerations to be incorporated.

COMMENT (5): Public review of Section 20 needs to be extended. Having this hearing prior to conclusion of the Raisbeck review of effects of sulfates on livestock is premature. The ability of Wyoming residents to actively participate on a statewide basis has been limited. The process used by the EQC has not properly satisfied the requirements of Wyoming Statute 35-11-302

requiring the state to consider and evaluate social and economic impacts of proposed rules or regulations to wit (Statute citations);

(vi) In recommending any standards, rules, regulations, or permits, the administrator and advisory board shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved including:

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(D) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution

COMMENT (6): The proposed revisions are very important and, while revision may be needed to ensure practical water quality management, Chapter 20 as written falls short of protecting the agricultural industry and actually jeopardizes agricultural producers on a local basis.

The MCD appreciates the opportunity to comment on Chapter 1 Water Quality Rules and Regulations, Section 20 - Agricultural Use Protection Policy.

Respectfully submitted,

Steve Jones

Steve Jones

Resource Management Coordinator
Meeteetse Conservation District

recognizing that.
MR. WELLES: Is that what you meant?
MR. BURRON: That's a good question.
MR. WELLES: Do you have an answer?
MR. BURRON: My -
MR. WELLES: Seriously, I think that's an important point.
MR. BURRON: I agree with you. My sense is we have urged in the past that this be a policy and I think that is still maybe the better way to implement this, basically because we're implementing Section 20 of the regulations. And if we're writing another rule to implement a rule, then, you know, we're really rewriting the rule.
So I think it can work in either form as long as the interpretation has enough flexibility to accomplish, I guess, the range of or the spectrum of what we see in different permitting contexts.
MR. WELLES: Thank you.
CHAIRMAN SUGANO: Thank you, Mr. Burron.
MR. BURRON: Thank you.
CHAIRMAN SUGANO: Do we have someone else that would like to come forward?
Yes, ma'am.
MS. YETTER: Good morning, Mr. Chairman,

and members of the Board. My name is Monica Yetter, Y E T T E R. I live in Kirby, Wyoming, and I'm here with the Coalbed Natural Gas Alliance. I have three brief points to make to you today.

The first point is that we have to remember that this proposed draft rule instead of policy will affect the entire state and not just the Powder River Basin, so we believe that this will affect the future for coalbed natural gas development for landowners in the Big Horn Basin if, in fact, development does move that way which would, therefore, affect the discharges from coalbed natural gas development in the Big Horn Basin.

The second two points I would like to make I am speaking on behalf of landowners in the Big Horn Basin. And as Mr. Olson mentioned previously, there were many landowners concerned and these are just a handful of those that I'm speaking for today. And as you had asked Miss Tweedy earlier to write down those names, I can do that, or I can e-mail you the names with the addresses and phone numbers.

So the landowners I am speaking for today are Antlers Ranch from Meeteetse, Wyoming; Butterfield's Farm and Livestock, L.L.C. from Thermopolis, Wyoming; McCarty Ranch from Cody, Wyoming; High Island Ranch from Thermopolis, Wyoming; Mr. and Mrs. Darwin and Kim Emmett

from Cody, Wyoming; and Mr. and Mrs. Ginger and Paul Ward from Thermopolis, Wyoming.

And they agree with Powder River Basin landowners on the point of naturally irrigated land. Basically they are concerned about their future ability to handle the water that they are handling now. They're concerned about the definition. They believe that the naturally irrigated lands are poorly defined along the water course. So, for example, in many areas where there's presence of vegetation, it is not necessarily proof that the vegetation comes from the ephemeral stream. In many instances the vegetation can come from a tributary stream or other water sources such as an adjacent stream or a stream that cuts through. So it is a big concern to them. They think that the term "naturally irrigated land" is very unclear.

The second concern that they had is also a concern that many others previously mentioned today and that, again, is rule versus policy. These landowners hope that the ag protection policy should remain a policy instead of a rule because a rule is very rigid and a policy is much more flexible and will allow the site-specific solutions that the DEQ and Big Horn Basin landowners need.

And that's all I have to say for today. And I

would be more than happy to write the names down or e-mail you. Do you have any questions?

CHAIRMAN SUGANO: Questions?

Thank you. Thank you for your time.

Do we have someone else that would like to come forward?

MR. JELLIS: Mr. Chairman, ladies and gentlemen of the Board, my name is Rich Jellis, J E L L I S. I come from Sheridan, Wyoming. We are on the edge of the natural gas -- the CBM play. We're right directly north of Sheridan. And we've got a fair amount of wells on our ranch. We've been trying for a number of years, since about 2001, to be able to get to use the water. We have done a number of tests with the companies. They're running some water on there.

We had great results on growing upland, dryland grass. We didn't see any problems with the soils. The soils didn't change and start changing to get sodic. We also use the water in our pivots. We don't get a lot of water, like I say, because we get a lot of water out of Goose Creek which is below Sheridan, so we get a lot of the water which is runoff from Sheridan and ranches up above us. As far as I'm concerned, water is water. We know how to handle it. We check our soils yearly. If I was -- if I was trying to be like some other

COMMENTS & TESTIMONY

SEPTEMBER 14, 2007

Waste & Water Advisory Board Meeting

CHAPTER 1 WATER QUALITY RULES AND REGULATIONS

Resubmitted by

COAL BED NATURAL GAS ALLIANCE

August 26, 2008

Hot Springs Conservation District
318 North 6th Street
Thermopolis, WY 82443
864-3488
Fax: 307-864-4167
E-mail: Carla.Thomas@wy.nacdnet.net

September 12, 2007

Wyoming Waste and Water Advisory Board
c/o David Waterstreet
Herschler Building – 4W
122 West 25th Street
Cheyenne, WY 82002

Dear Mr. Waterstreet,

Thank you for the opportunity to comment on Water Quality for Wyoming Livestock & Wildlife – A Review of the Literature Pertaining to Health Effects of Inorganic Contaminants by M.F. Raisbeck DVM, PhD., et al. The Hot Springs Conservation District is in support of the review process pertaining to the potential revisions to the State's water quality standards.

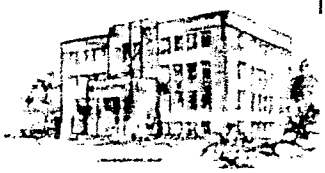
The Hot Springs Conservation District would like to recommend that the Wyoming Waste and Water Advisory Board commission additional scientific studies, review of studies and literature and field investigations prior to formulating recommendations on water quality standards for livestock and wildlife.

Dr. Raisbeck's review of scientific literature is extensive with a bibliography which lists 663 publications. Dr Raisbeck still has research needs that he recommended; which leaves the Conservation District to agree with his statement "*We anticipate that this report represents a reasonable starting point for evaluating the adequacy of water quality for animals.*"

Sincerely,

Terry Wilson
District Chairman

HOT SPRINGS COUNTY COMMISSIONERS



415 ARAPAHOE
THERMOPOLIS, WYOMING 82443
307/864-3515
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Date: September 14, 2007

To: Wyoming Waste and Water Advisory Board
c/o David Waterstreet
Herschler Building – 4W
122 West 25th Street
Cheyenne, Wyoming 82002

Dear Sir:

Thank you for the opportunity to review and comment on *WATER QUALITY FOR WYOMING LIVESTOCK & WILDLIFE - A Review of the Literature Pertaining to Health Effects of Inorganic Contaminants* by M.F. Raisbeck DVM, PhD. We encourage and support the methodical review process which the Wyoming Waste and Water Advisory Board, the Environmental Quality Council and the Department of Environmental Quality have employed while evaluating the potential revisions to the State's water quality standards. Dr. Raisbeck's review of literature has most assuredly been a prudent and essential step in the right direction.

SUMMARY

The Hot Springs County Board of County Commissioners (BOCC) agrees with the statement "*We anticipate that this report represents a reasonable starting point for evaluating the adequacy of water quality for animals.*"

The BOCC recommends to the Wyoming Waste and Water Advisory Board (WWAB) that additional scientific studies, field investigations and review of literature be commissioned prior to the WWAB formulating a recommendation on water quality standards for livestock and wildlife.

The BOCC recommends that site specific reviews of the effects of actual water consumption on Wyoming livestock and wildlife be given equal or greater credence to world wide literature search citations.

The BOCC suggests that Wyoming livestock and wildlife consume water under radically different conditions than most citations contained in the Raisbeck report.

The BOCC is also concerned that the proposed water quality standards will have a greater effect on conventional oil/gas and mining operations than coal bed methane operations primarily in the Powder River Basin.

DISCUSSION

1.) **The Wyoming *"short grass prairies"* are famous for their ability to carry livestock on high protein short grasses especially during "summer range". The BOCC is concerned that most of the citations in *WATER QUALITY FOR WYOMING LIVESTOCK & WILDLIFE* are not site specific research results and may or may not apply to Wyoming short grass/high protein conditions. At best, the citations contained in *WATER QUALITY FOR WYOMING LIVESTOCK AND WILDLIFE* seem to be highly generalized and should not be interpreted to apply to Wyoming livestock and wildlife across the board. A more accurate subtitle for additional investigation might be:**

The Health Effects of Inorganic Contaminants on Wyoming Livestock and Wildlife Grazing on High Protein Short Grass Praririe.

2.) **Discharge of producer water from coal bed methane operations in the Powder River Basin have instigated the current review of water discharge standards as they apply to livestock and wildlife. It is extremely important to note that most of these CBM discharge waters originate in Eocene sub-bituminous coal beds; and therefore, have been filtered by a largely undiagnosed activated carbon process. CAW, or carbon activated water, is widely recognized in the water treatment industry but varies enormously under specific site conditions in the field.**

The BOCC asserts that it is significant failure of the report entitled *WATER QUALITY FOR WYOMING LIVESTOCK & WILDLIFE – A Review of the Literature Pertaining to Health Effects of Inorganic Contaminants* to over look the potential effects of CBM producer discharge water having been filtered through sub-bituminous Wyoming coal. The filtering effect of Eocene Wasatch coal upon discharge waters may have a beneficial impact on livestock and wildlife health, and that potential effect, should be included in additional research studies, field investigations and literature reviews.

The BOCC recommends that site specific field investigations (in Wyoming only), be conducted which document field observations by ranchers and wildlife biologists of the potential effects of activated carbon/coal filtering on producer discharge waters ingested by livestock and wildlife. These field investigations should then be augmented with scientific research which analyzes the effect of activated carbon/coal filtering on CBM discharge water quality and its effect on livestock and wildlife.

3.) **The BOCC suggests that the Raisbeck report represents about 30% of the information which the WWAB needs to review in order to make a**

3.) **The BOCC suggests that the Raisbeck report represents about 30% of the information which the WWAB needs to review in order to make a recommendation on water quality standards for discharge waters as they affect Wyoming livestock and wildlife. Therefore, the BOCC recommends that the WWAB take no action on the current proposed water quality standards, and instead, recommend that additional research and field investigations be performed which augment Dr. Raisbeck's report.**

In the "Introduction" section of Dr. Raisbeck's report, the complexities of water consumption on livestock and wildlife health is thoroughly discussed. The final sentence in the "Introduction" seems to support the BOCC's contention that additional research, field investigations and literature review is warranted:

" We anticipate that this report represents a reasonable starting point for evaluating the adequacy of water quality for animals."

Brad W. Basse, Chairman of the Board of County Commissioners

John P. Lumley, Vice-Chairman of the Board

Frank T. Manning, Commisssioner

COPY

Meeteetse Conservation District

P.O. Box 237 • 2103 State Street

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(307) 868-2484 • mcd@tctwest.net

September 14, 2007

via FAX

Wyoming Waste and Water Advisory Board
c/o David Waterstreet
Herschler Bldg. - 4W
122 W. 25th street
Cheyenne, WY 82002

Esteemed Board Members:

The Meeteetse Conservation District Board of Supervisors (MCD), representing the citizens that elected it, makes the comments presented herein on the document "Water Quality for Wyoming Livestock & Wildlife, A Review of the Literature Pertaining to Health Effects of Inorganic Contaminants".

MCD Summary Excerpts with Comments (emphasis added)

The amount (dose) of any water-borne toxicant ingested by a given animal is determined by the concentration of the substance in water *and* by the amount of water the animal drinks. Water intake is technically defined as free-drinking water plus the amount contained in feedstuffs. However, **for purposes of simplicity in this report, we have assumed animals are consuming air dry hay or senescent forage with a minimal (10%) water content and will use the term "intake" to describe the amount of water consumed voluntarily by animals from streams, ponds, etc.** The amount an animal drinks is determined by true thirst and appetite. By definition, true thirst is the physiologic drive to consume sufficient water to meet minimum metabolic needs; however, most animals also exhibit an "appetite" for water and consume more than is strictly necessarily to assuage thirst.[7] Reasons for the latter are many, varied and do not lend themselves to quantitative prediction. **We therefore disregarded appetite in calculating doses from water intake, but instead used fairly conservative estimates of thirst in such calculations by disregarding forage water content. Most calculations of potential toxic doses in this report are thus based upon 273 kg (600 lb) feeder cattle that drink approximately 20% of their body weight [54.6 L], or about 8 L per kg of dietary dry matter, [6.8 kg] per day, at 32 C (90 F).** This *may* not provide adequate protection for high-producing dairy cattle, which drink significantly more under similar environmental conditions, but is reasonably conservative for range livestock (beef and sheep) and weather conditions typical of Wyoming. Higher temperatures would also result in higher consumption than our "standard" steer, but sustained periods of such weather are not that common in Wyoming.[8] Finally, there is virtually no information on water consumption by the major wildlife species covered in this report, but it is reasonable to assume that species that evolved in the northern Great Plains would not have greater requirements than domestic cattle.

This report, and the project which created it, was funded by the Wyoming Department of Environmental Quality. Although we (the authors) anticipate that they will find it useful, our intended audience is much broader and includes ranchers, conservationists, veterinarians, extension personnel and animal owners. The last concerted effort in the U.S. to summarize the literature regarding water quality for animals occurred more than 30 years ago and there have been many additions to the knowledge base since that time. **We anticipate that this report represents a reasonable starting point for evaluating the adequacy of water quality for animals.**

MCD: MCD also anticipates that this report represents a reasonable starting point for evaluating the adequacy of water quality for animals.

MCD: Thorough review by the veterinary community (veterinarians familiar with range livestock and livestock consuming produced water) of this report and the proposed limits is needed before instituting the proposed standards.

MCD: Before creating a rule, evidence should support the need for the rule.

MCD: Effects on landowners, and the local community may be immense if the recommended changes are made, especially on those discharges that have been occurring for years and even decades. The WWAB must adhere to requirements of Wyoming Statute 35-11-302 requiring the state to consider and evaluate social and economic impacts of proposed rules or regulations to wit (Statute citations);

(vi) In recommending any standards, rules, regulations, or permits, the administrator and advisory board shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved including:
(A) The character and degree of injury to or interference with the health and well being of the people, animals, wildlife, aquatic life and plant life affected
(B) The social and economic value of the source of pollution
(D) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution

Fluoride

The effects of F in feedstuffs and water are additive; what really counts is the *total* dose of biologically available F- ingested by the animal. Most of the reports we have reviewed, when reduced to mg F-/kg BW, indicate that the threshold dose for chronic osteo-dental fluorosis in cattle is approximately 1 mg F-/kg BW. This is in agreement with the NRC[147], which indicates that 30-40 ppm dietary F- (which translates to 0.75-1.0 mg F-/kg BW) is the tolerance level for the more sensitive classes of cattle.

Assuming that Wyoming forages normally contain less than 10 ppm F-[213], a water concentration of 3.75 mg F-/L would be required to achieve the 1 mg F/kg BW necessary to cause fluorosis in cattle and waters containing less should not cause measurable production problems.

We recommend that water for cattle contain less than 2.0 mg/L F-. By extension, these waters should also be safe for sheep, cervids and probably horses.

MCD: What evidence for chronic osteo-dental fluorosis in cattle exists in Wyoming range cattle or wildlife using produced water exceeding 2.0 mg F-/L? *If evidence for chronic osteo-dental fluorosis exists, then that would be evidence supporting the standard. If non-existent, then strong consideration should be given to an increased limit.*

Sodium

If the only water available is also the major source of dietary Na, long-term impacts will occur at lower dosages. Chronic health effects, mainly decreased production, have been reported at water concentrations as low as 1000 mg Na^+/L in dairy cows; however other studies with beef heifers in cooler climates reported only minimal effects at 1600-2000 mg Na^+/L. Interestingly, the actual *doses* of Na consumed by the cattle in all of these studies (250- 400 mg Na^+/kg BW) were similar. Dosages greater than 800 mg Na/kg BW have resulted in effects ranging from weight loss and diarrhea to death. *Therefore, assuming water consumption typical of a rapidly growing steer (see Introduction) and only background feed Na concentrations, the no effect level would be about 1000 mg Na^+/L or 2500 mg NaCl/L. Serious effects, including death, become likely at 5000 mg Na^+/L. We recommend keeping drinking water Na concentrations less than 1000 mg/L.*

Sulfate

In ruminants, high dietary S may cause acute death, PEM, trace mineral (especially Cu) deficiencies and/or chronic, as-yet-poorly-defined ailments that decrease production efficiency. All dietary sources of S (water, forage, concentrates, feed supplements) contribute to total S intake and thus to potential toxicity. The S contribution of water, usually as the SO_4^{2-} ion, varies dramatically with environmental conditions as water consumption goes up and down.

From a strictly theoretical standpoint, the NRC maximum tolerable dose of S for cattle is 0.5% of the total diet (0.3% for feedlot animals).[589] Wyoming grasses are reported to contain between 0.13%- 0.48% S.[638] Conservatively assuming forage S concentrations of 0.2% and water consumption typical of young, rapidly growing cattle at summer temperatures (30 C), a water SO_4 concentration of 1125 mg/L will meet or exceed the NRC's maximum tolerance limit for S in cattle. Adult bulls, which consume half as much water, could theoretically be impacted by 2250 mg/L and lactating cows would fall somewhere in between.

In practice, water SO_4 concentrations as low as 2000 mg/L have caused PEM and/or sudden death in cattle. This observation is supported by many field cases investigated by the WSVL and other regional diagnostic labs during the last 18 years. It *seems* to be contradicted by some of the early studies mentioned above, notably Digesti and Weeth[585], but both probability and the morbidity of poisoning increase with progressively larger SO_4 concentrations; thus, studies with small numbers of animals easily overlook marginally toxic doses. Anecdotal data also indicates that cattle are able to adapt to elevated S concentrations, *if* introduced gradually to potentially toxic waters over a period of several days to weeks. **The details (i.e. how rapidly dietary S can change) of this process and the effect(s) of other dietary factors such as energy and protein on the process are still a matter of conjecture.**

Waterborne SO_4 is reported to decrease Cu uptake at concentrations as low as 500 mg S/L as SO_4^{2-}.[602,606] Whether or not overt Cu deficiency results depends upon the dietary concentration of Cu, and excess dietary Cu may compensate for some or all of the effect of SO_4^{2-}.[308] Unfortunately, most Wyoming forages are marginally to drastically deficient in Cu for cattle. Elevated dietary S also

interferes with the uptake of Zn and Se. Trace element deficiencies are multifactorial diseases that do not normally manifest themselves unless animals are exposed to other stressors such as bacterial pathogens, bad weather, shipping, etc. Therefore, it is difficult, if not impossible, to settle upon a single number that consistently results in deficiency or guarantees safety; however, the NRC recommends "that the sulfur content of cattle diets be limited to the requirement of the animal, which is 0.2% dietary sulfur for dairy and 0.15% in beef cattle and other ruminants".[589] Relatively low S concentrations (equivalent to 500 – 1500 mg SO_4^{2-}/L in water) have also impacted performance (e.g. ADG, feed efficiency) in feedlot and range cattle via a variety of mechanisms that are not completely understood.[614,616,639,640] Loneragan et al.[597] suggested that H_2S produced from SO_4^{2-}, eructated and then inhaled, resulted in pulmonary damage and increased susceptibility to respiratory infections. Elevated SO_4^{2-} also results in decreased water intake under experimental conditions. Finally, it is possible that some, as yet unrecognized, interactions with other dietary components results in decreased utilization and feed efficiency. These effects have obvious implications for animal health, but are difficult to quantify under field conditions.

Monogastrics, such as horses, are at less risk of S effects that involve generation of sulfide. In these species, the principle effect of elevated drinking water SO_4 seems to be an osmotic diarrhea. The relative contributions of the SO_4^{2-} ion and its associated cation are unclear, but the literature indicates that 1) the effect is transient and not life-threatening and 2) probably only occurs at concentrations considerably in excess of those toxic in ruminants. Therefore, concentrations that are safe in ruminants should provide adequate protection for horses.

Assuming normal feedstuff S concentrations, keeping water SO_4^{2-} concentrations less than 1800 mg/L should minimize the possibility of acute death in cattle. Concentrations less than 1000 mg/L should not result in any easily measured loss in performance.

MCD: Anecdotal evidence from local livestock producers indicates the ability of livestock to utilize much higher sulfate content than the 1000/1800 mg/L recommendation. Though anecdotal, this information is still evidence that should be considered and properly evaluated. Local veterinarians involved with herd health issues should be able to comment on this standard without breaching confidentiality at the least, and with permission of the client for full disclosure at best.

MCD: It is disturbing that the authors do not include further work with sulfates' effects on livestock, under range conditions, in the summary of research needs, yet do include a need for further work with wildlife. MCD encourages the WWAB to support further research regarding sulfates' effects on both livestock and wildlife.

Respectfully submitted,

Steve Jones

Steve Jones
Resource Management Coordinator

of the Grass Creek drainage, they saw wildlife, antelope, deer, sage grouse and a very good stream bank flora of trees, cottonwoods, grasses, et cetera. So in our estimation, and particularly mine, we can demonstrate the total benefit of this discharge water and prove that it is not a detriment to the production of forage and livestock in this area.

Thank you.

MR. SUGANO: Thank you.

Any questions from our board?

(No response.)

MR. SUGANO: Any other commenters from Worland?

MR. CAMPBELL: Yes. This is Lee Campbell, the Hot Springs County planner. I had forwarded written comments from our county commissioners that I believe are -- have been received in Jackson.

First of all, I'd like to say that the quality of the comments that we've heard today are just superior. It's just been wonderful to listen in and see the way that people have done such good, methodical, scientific work.

I did pick up a terminology from Dr. Raisbeck's presentation that kind of caught my ear. And he used the terminology "geothermal watersheds." And I just lit up

and said, you know, that's us. You know, we have the hot springs here in Hot Springs State Park. The discharge coming out of Hamilton Dome that our economy, ranches and sage grouse are totally dependent on, is geothermal. And we're just close enough to Yellowstone that that terminology that Dr. Reisbeck used just described us to a tee. And that's what makes us different from the rest of the state, is that we do have a highly mineralized water here.

But in the case of something like the Big Spring, this water has been flowing for tens of millions of years into the Big Horn River. And we feel that a lot of our aquatic species and other species have adapted to highly mineralized water in this corner of the state. We're just totally different.

When we reviewed Dr. Raisbeck's report, the last sentence in the introduction caught our attention, too. And it says, we anticipate that this report represents a reasonable starting point for evaluating the adequacy of water quality for animals. And we agree that it's an excellent and superb starting point to look at this issue. Probably we're only 20, 25, 30 percent of the way along in the process. And I think the testimony of the gentleman from Casper on the Amoco Refinery showed the benefits of taking a slowed-back and doing additional

research and investigations and look at the impacts, look at the risk management and socioeconomic issues, and we support that entirely.

We've been very fortunate in that DEQ has helped us here in Hot Springs County by funding three water studies in the period of 1999 to 2004. They were funded through our conservation district. And I'll just read the title of one of them. Hot Springs County Groundwater Study Phase 1. But we're putting tremendous work in up here on our CRM working groups through our conservation district. We're addressing our apparent stream problems and everything like that. But it is very slow and time-consuming.

And on this particular issue that we're looking at here today, I can see another three to five years of research in order to get a definitive answer. But the advantage, of course, is that we'll make the right decision, and we'll end up leading the nation in some of these. And I think the Department of Agriculture at the University of Wyoming can really take the lead on this and do a lot of that work. But we're in favor of a slow approach and a whole lot more research.

Thank you.

MR. SUGANO: Thank you, Mr. Campbell.

Any questions from board members?

(No response.)

MR. SUGANO: We want you to know that we do have the letter from your county commissioners. So that will be passed on to the DEQ staff and our court reporter.

Any other commenters from Worland?

MR. JONES: Yes, sir, Mr. Chairman. My name is Steve Jones. I reside at 15 Road 3KD in Meeteetse. I'm the resource management coordinator for the Meeteetse Conservation District, elected local government. And my board wants me to bring to you the following comments. The conservation district also anticipates that this report represents a reasonable starting point for evaluating the adequacy of water quality for animals.

A thorough review by the veterinary community familiar with range livestock and livestock consuming produced water of this report and the proposed limits is needed before instituting the proposed standards.

The district believes that before creating a rule, evidence should support the need for the rule, and the effects on the landowners and local community may be immense if the recommended changes are made, especially on those discharges that have been occurring for years and even decades.

The WWAB must adhere to the requirements of Wyoming Statute 35-11-302, requiring the State to consider and evaluate social and economic impacts of the proposed rules or regulations. And I'll skip the citations on that.

I've followed five, now, very excellent presenters and comments. And I guess it's really important that the State utilize local expertise and evaluate the effects of the -- local evidence for the effects of water before writing rules. For example, what evidence for chronic osteo-dental fluorosis of cattle exists in Wyoming range cattle or wildlife using produced water exceeding 2.0 milligrams of fluoride per liter?

And anecdotal evidence from local livestock producers indicates the ability of livestock to utilize a much higher sulfate content than the 1,000 to 1,800 milligram per liter recommendation. Though anecdotal, this information is still evidence that should be considered and properly evaluated. Local veterinarians involved with herd health issues should be able to comment on this standard without breaching confidentiality and perhaps can get permission of the client for full disclosure.

And finally, it's disturbing that the author did not include further work with sulfates effects on

livestock under range conditions in the summary of research needs, yet do include a need for further work with wildlife. The conservation district encourages the WWBA to support further research regarding sulfates effects on both livestock and wildlife. And thank you.

MR. SUGANO: Thank you, Mr. Jones.

Any questions from board members?

(No response.)

MR. SUGANO: Do we have anyone else in Worland that would like to address the board?

MR. HAMILTON: Yeah, Mr. Chairman. This is Ken Hamilton with the Wyoming Farm Bureau. And maybe some clarification. Because we sort of came in, I think, on the middle or the end of the conversation as far as establishing the next meeting. Was there a discussion on how this process is going to go ahead and going to proceed?

MR. SUGANO: Yes. I can recap what we've been discussing. We've taken public comment today on the Raisbeck report. We also took public comment in June. What DEQ says they'll do now is put all the comments together from the previous meeting, today's meeting, and any written comments that are received between now -- and I guess we didn't set a deadline. But we are going to leave our written comment period open for just a little

TESTIMONY – DECEMBER 7, 2007

Waste & Water Advisory Board Meeting

CHAPTER 1 WATER QUALITY RULES AND REGULATIONS

Resubmitted by

COAL BED NATURAL GAS ALLIANCE

August 26, 2008

experience.

MR. WAGNER: Lee Campbell.

VICE CHAIRMAN WELLES: Lee Campbell.

MR. CAMPBELL: Yes, sir.

MR. BASSE: Can I just give a speech?

VICE CHAIRMAN WELLES: Sure. Why don't you just stand there and introduce yourself and speaking on behalf of Lee, who has --

MR. BASSE: Actually, I'm not going to propose to speak on behalf of Lee.

VICE CHAIRMAN WELLES: Well, you're substituting for Lee.

MR. BASSE: Yes. Okay. I'll go in his place.

I'm Brad Basse. I'm the chairman of the Hot Springs County Commission. I thank you for allowing us to give you our opinion on this issue, and I thank you for having a meeting in Thermopolis that allows people in this area of the state to comment. From our standpoint of the county commission, we did submit written comments, and I ask that you consider those in your decision-making process.

We feel that at this time it would be prudent to keep the standards the same as they are, as they historically have been decades long in Hot Springs County.

It's been a -- been a beneficial use of that discharge water.

We've got significant discharges from the Hamilton Dome oil field. We've got other smaller fields and smaller discharges through the county, but those discharges are put to beneficial use by the ranchers in that area for livestock, for crops, the wildlife utilized that, sage grouse, any of those. We've given tours of those drainages, that Cottonwood drainage below that discharge, and you go above the discharge. And we're in the eighth year of the drought here in the county that's real significant, and that water is very well used.

We're concerned that tightening of those standards would result in that company re-injecting that water instead, and once that process starts, it's never going to turn around. They'll never not inject it. We're also concerned about the economic impacts of that down the road, making the usable life of that field, as well as others, significantly less. And the economy of Hot Springs County is very much dependent upon that tax base. We've got over 70 percent of our tax base is oil and gas, and it's a very significant economic impact to our county, and we are real concerned that a tightening of those standards, we can't go backwards. Once those are made more stringent, we can't go back. And we all know in the issues of the day

with oil and gas and production and trying to get more domestic production, we're going to -- we're going to impact that and impact significantly for Hot Springs County.

Once again, I just thank you for the time and I don't -- I probably didn't cover all the points that Lee did, but I think our written comments are very complete and I was kind of quickly put into this position, but thank you.

VICE CHAIRMAN WELLES: We thank you.

And thank you, Lee.

(Applause.)

MR. WAGNER: Ken Hamilton.

MR. HAMILTON: My name is Ken Hamilton, H-A-M-I-L-T-O-N. I represent the Wyoming Farm Bureau Federation on this issue.

And I'd like to just mention our members have -- our organization has members throughout the state, and this issue has become a pretty significant issue for a lot of our members, at least in this area. I submitted written comments to the Water and Waste Advisory Board, so I'm not going to go into depth on those comments, but I'd like to reiterate a couple of things that I had in those comments for the Water and Waste Advisory Board.

Before I do that, I'd like to mention, we've

these ephemeral water bodies that's difficult to get to. I don't want to discount it. I think those are important, but if you go forward -- and again, I reiterate, I don't think you should, but if you do go forward, those are important things.

We mentioned earlier about the landowner versus livestock producer, and that is a significant change. And it's got problems both ways, but I believe that we should consider looking at the word "livestock producer," because in a lot of areas in the state, landowner is the federal government. And the livestock producer has a pretty vested interest in maintaining water. There are some folks in some of these federal agencies that aren't that interested in maintaining water or having livestock on those lands, so I think with that wording change, you could jeopardize some livestock producers out there.

I guess that's the major points that I would like to reiterate, but, again, I think that we've got to be very, very careful with this, because the impact if we make the wrong decision on livestock producers in this state are going to be significant. Thank you.

VICE CHAIRMAN WELLES: Thank you, Ken. We appreciate your comments.

MR. WAGNER: Sorry, Marie Fontaine.

MS. FONTAINE: I'm Marie Fontaine and I'm

representing Park County. I'm county commissioner. And I want to thank you for the opportunity to speak today.

I'm here, as I said, representing Park County commissioners. I'm not a rancher or farmer. I have lived in the country, but I do know many farmers and ranchers in Park County.

I can't speak to the technical data that has been provided, but what I want to speak to today, on the effect of these rules that there will be on ag lands for both crops and livestock. And in the bigger picture, it's my understanding that Wyoming currently has policies in place and they allow for a lot of flexibility, and I think that's very important.

I'm concerned about some of the numbers. You know, I'm not that familiar, but from what I've heard from people here, as well as constituents, that is a concern.

I also believe that this was brought on by the coal-bed methane, and yet it has a far more reaching effect in Big Horn Basin, where we don't have it, than it is in the eastern part of the state.

Now I want to tell you about one of the ranchers near Meeteetse. They run the Larson Farm, and it's Rich and Abby Hermann. The wells on their property dried up and they have been there and had not been affected since 1930. Because of the drought, they have dried up. And the only

water they have for their livestock was the water that was produced by the oil wells. So, you know, their livelihood has been affected by those and been saved because of those water from the wells.

Also, I think -- I want to bring to you some of my closing thoughts, and that is that I think we can all agree that farmers and ranchers are not going to risk making their cattle sick or jeopardizing their crops by using bad water, and I think that they used a lot of common sense. And they know that it will affect their income.

Secondly, it's my belief that these rules will have far-reaching adverse affects to the future of agriculture in Wyoming, be that raising livestock or irrigating crops. Our farmers and ranchers, for the most part, are just barely making a living as it is. Under the current policies, the water quality has not been detrimental to the crops or livestock. And if we want to save our agricultural lands from development, we must help the farmer or rancher continue growing crops or raising livestock and not overregulating the water quality, causing them to no longer to be able to make a living.

If Wyoming farmers and ranchers are unable to use the water, they'll be forced to develop the property, sell it to developers or to big corporations. And as far as for Park County, I can see that this will also have effect on

the county as far as our assessed valuation, as the commissioner from Hot Springs kind of spoke to. And I think it could also have a trickle-down effect in other areas, too. Your property taxes could change, there's just a lot of effects.

So I support the historic uses and continued use of the policies. Thank you.

VICE CHAIRMAN WELLES: Thank you very much.

MR. WAGNER: Jack Turnell.

VICE CHAIRMAN WELLES: Jack Turnell.

MR. TURNELL: Thank you, Bill, the Board, for allowing us to speak today.

I'm a rancher from Meeteetse, Wyoming and Pitchfork Ranch and Turnell Cattle, and been involved in this stuff for a long time with the Wyoming Stock Growers. Jim Magagna called and I guess I'm it for the stock growers today, plus ranchers. But on the other hand, I grew up in Grass Creek and my dad worked for Amoco. I'm an oil brat and a rancher for the last 40 years. And I taught ag, so that's my background.

However, these kinds of things, we've been doing this now for I don't know how many years. Whether it's the Powder River Basin or the Big Horn Basin or wherever, we just keep talking about this water or this thing or that thing. And we always become site specific, which we're

on the ground and see what's happening. And maybe those disgruntled ranchers, the few over there in the Powder River Basin, ought to just put on their big girl panties and learn to live with the water. Thank you.

VICE CHAIRMAN WELLES: Thank you, Joe.

MR. DENNIS: If you're not clear where I stand, I can clarify in those words.

VICE CHAIRMAN WELLES: Okay. We're working our way down the list, and we're going to keep going. It's 20 to 12:00. We may set a record here.

Steve Jones.

MR. JONES: Thank you. My name is Steve Jones, J-O-N-E-S. That got a laugh last time, too.

I'm the resource management coordinator for the Meeteetse Conservation District. Like Jack Turnell, I have kind of a varied background. As long as we've got the adrenaline level up with those comments, let's keep it there for a moment.

For the record, would all of the board members indicate to the recorder whether or not they have read the comment letter submitted by the Meeteetse Conservation District on November 30, 2007.

MS. BEDESSEM: You bet.

VICE CHAIRMAN WELLES: Yes, sir.

MR. OLSON: Excuse me.

MR. JONES: Thank you.

VICE CHAIRMAN WELLES: Put your Blackberry away.

MR. OLSON: It was pertaining to this, by the way. I'm trying to shut the dang thing off. I am sorry about that.

MR. JONES: And does the board have any questions with regard to that comment letter? Great.

I've got a lot of notes I've made here as I went through that's got a lot more on paper than I was hoping to say, but I really want to thank the Board and the Water Quality Division for the grandfathering language. That came out of the Worland meeting right back at the very beginning, came out of a public meeting in Thermopolis that the Hot Springs Conservation District facilitated as a properly held public meeting. But my board, my elected board, with statutory authority regarding agricultural viability and water and soil resources shares the same concerns that Devon's comments presented. We think that it is vulnerable. We would sure hope not, because we wanted it, and we looked at it back in time as something that was maybe one of the best things we could do, based on our perception then. But we've come quite a little ways now, and that's why we would probably support Devon's concerns.

We also would support Marathon's comments

regarding "or" in the waiver language. We did not catch that in our original comments and I wanted to make sure I had it here.

I want to, while we're there, address the Board, because they had asked for comments regarding the producer/landowner provisions. And that change in language, according to David Waterstreet's comment to me on the phone, was that they needed that for authority, because it was the DEQ's belief that the landowner had the authority, not the livestock producer, when the livestock producer did not own the land.

And then other comments I've gone along with regard to that ownership and authority and who's really benefitting from the discharged water and what might happen in the future with federal lands, that some of that is in our original letter.

Matt Brown was mentioned a few minutes ago. I found out yesterday that Matt lost the use of his Watt Dome allotment due to producer re-injecting water. That's beginning today. Watt Dome's an old field, but Matt lost use of the allotment due to lack of water. He would like to be in here today, but he's out gathering cattle.

We need to know that this discharge water is invaluable to livestock producers and to wildlife, and it's important to maintain effluent limits that are as liberal

as possible. Like John said earlier, ranchers have been using the water forever. They want to keep it.

We had asked in the past if local vets had been -- veterinarians, excuse me, had been consulted yet regarding injury and need for these limits. Can DEQ or the Board answer the question as if they have started to be consulted in the Big Horn Basin?

MR. WAGNER: No.

MR. JONES: I'd like to reference the field tours. We had a good time out there looking at what the produced water was doing for the land. I'd like to reference the North Sunschied field where that water was going to the creek that was dry. It was the only water in the area right there at the confluence with the creek. There was still some minnows. We had a pond that supported waterfowl. It was the only water in that grazing section on Antlers Ranch, and that was pointed out by the owners.

It's my belief that that water exceeds the proposed criteria for sulfates and it's my belief that the DEQ has not put that in their list of waters that they acknowledge as having a sulfate problem.

There are regional differences in the water produced. We have Big Horn Basin water and there's some high sulfate water up in the northeast corner of the state. There is no reason not to have a higher effluent limit

statewide, the same one you're using now, 3,000 parts, because there's no -- if the water is less than that anyway, so what statewide, but when we start tightening down the squeeze, it's going to hurt people.

Ranchers can reduce the risk with management practices. Many management practices are designed to reduce problems with water, feeds and other things like that that these cattle ingest. And getting back to the local veterinary situation, a parallel track, the Antlers Ranch has asked for research to be done on their bison herd. To my knowledge's no one's responded for an idea for a project and gotten back to them.

So we're sort of ignoring a potential for finding out what, at least in one area, the wildlife component might be. Livestock don't always drink at the discharge point. The water -- the water gets mixed with other water, goes over the soil, changes palatability.

When we look at the discharge points, that's not necessarily the place that the rancher gets his water. That's not where the livestock are impacted. The importance of produced water goes way beyond palatability and chemistry. The warm water in the winter, the loss of livestock through ice on reservoirs. I happen to know that three cattle can go through 6 inches of ice and the water's about that deep. They can't get

out and they have to be pulled out. I had an allotment right next door to Matt's Watt Dome allotment. Didn't have any produced water. I had a reservoir and had the complications that go along with that. Both are winter allotments.

I'd like to say there's many research projects ongoing. And with respect to Dr. Raisbeck's report, it's very possible that he has missed some significant reports, and they're not all out there on the Internet that he's defined.

And I guess based on what I've heard at all of these meetings, and what the intent of this policy or rule -- and you've heard the districts comment, then, on what they think of a rule -- if you can't make it work for agriculture, can you please rename it, so it's not the Agricultural Use Protection. There's got to be a better name to describe what it is.

And then finally, I'd like to say Meeteetse Conservation District will formally review the WQD comments -- comment analysis of the district's June, September and December comments at its regularly scheduled meeting, Tuesday, January 8th, and I present the Board the notice.

VICE CHAIRMAN WELLES: Thank you, Steve.

MR. JONES: Any other questions?

VICE CHAIRMAN WELLES: Thank you, Steve.

MR. JONES: Thank you.

VICE CHAIRMAN WELLES: Are there any other folks here who would like to speak, not on the list necessarily?

Okay. We have no other commenters. How do we want to proceed at this point? Any questions from the board for DEQ?

MR. OLSON: Just one, I guess. We'll schedule the next meeting, John, and at that meeting, as of today, just so we're clear, no more comments will be taken on this; is that correct?

MR. WAGNER: That's correct. That's what the public notice said. As of today the comments shut off. That will give us time to process all the comments and provide it to you well ahead of the next meeting. And the next meeting will be strictly a decision-making process. You won't be taking any more comments.

MR. OLSON: Okay.

VICE CHAIRMAN WELLES: Okay. So I guess that brings the subject up as to the date of the next meeting.

MR. WAGNER: We feel it needs to be in March. It's going to take us some time to process the comments that we received. We got a lot of good comments

COMMENTS – DECEMBER 7, 2007

Waste & Water Advisory Board Meeting

CHAPTER 1 WATER QUALITY RULES AND REGULATIONS

Resubmitted by

COAL BED NATURAL GAS ALLIANCE

August 26, 2008

Marie Fontaine, Commissioner

County of Park
Commissioners' Office

PARK COUNTY, WYOMING
ORGANIZED 1911

ORIGINAL PARK COUNTY COURTHOUSE
CODY, WYOMING
COMPLETED 1912

December 6, 2007

Water and Waste Advisory Board
% David Waterstreet
Wyoming Department of Environmental Quality
122 West 25th Street
Herschler Building
Cheyenne, Wyoming 82001

RE: Proposed Revisions to Agricultural Use Protection Document

Dear Mr. Waterstreet and Members of the Board:

Thank you, Chairman and Committee members for allowing me the opportunity to comment.

I am here representing the Park County Board of County Commissioners. I am not a rancher or farmer but I grew up in the country and I know many farmers and ranchers in Park County.

I cannot speak to the technical data that has been provided but what I do want to speak to are the effects these rules will have on agricultural lands – both for crops and livestock.

- It is my understanding Wyoming currently has **policies** regarding water used for livestock and irrigation of crops;
- It is my understanding these **policies** have worked well across the State until CBM drilling began;
- It is my understanding that the majority of ranchers and farmers located in the areas of CBM drilling **are not** adversely affected by the proposed **rules**;
- It is my understanding that these proposed **rules will have** an adverse effect on areas outside of CBM activity;
- I know ranchers in Park County who depend on water from producing oil/gas wells and could be affected by these proposed **rules**.

1002 Sheridan Avenue Cody, Wyoming 82414 (307)527-8510 Fax: 527-8515

Just a couple of suggestions:

- Continue with **policies** rather than **rules** to allow for more flexibility;
- Possibly send out questionnaires to some ranchers and farmers across the State as to whether these proposed **rules** would affect their operation and if so, how.

I would like to close with a couple of thoughts for you to ponder.

First, I think we all agree that farmers and ranchers are not going to risk making their cattle sick or jeopardize their crops by used "bad water". They know it would affect their income.

Secondly, it is my belief that these rules will have far-reaching adverse effects to the future of agriculture in Wyoming, be it raising livestock or irrigating crops. Our farmers and ranchers, for the most part, are just barely making a living as it is. Under the current policies, the water quality has not been detrimental to crops or livestock. If we want to save our agricultural lands from development, we must help the farmer or rancher continue growing crops or raising livestock and not over-regulate the water quality causing them to no longer be able to make a living. If Wyoming farmers and ranchers are unable to use the water, they will be forced to develop the property or sell out to developers or big corporations.

Again, thank you for allowing me to comment.

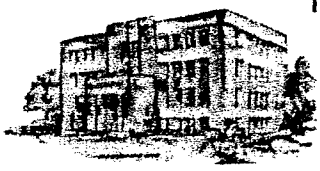
Sincerely,

Marie Fontaine

Marie Fontaine
Park County Commissioner

1002 Sheridan Avenue Cody, Wyoming 82414 (307)527-8510 Fax: 527-8515

HOT SPRINGS COUNTY COMMISSIONERS



415 ARAPAHOE
THERMOPOLIS, WYOMING 82443
307/864-3515
FAX: 307/864-3333 EMAIL: hscc@state.wy.us

Date: **December 4, 2007**

To: **Mr. David Waterstreet, DEQ/WQD and the Wyoming Water and Waste Advisory Board**
122 West 25th Street, Herschler Building
Cheyenne, Wyoming 82443

Re: **Comments on the Response Summaries from the previous two Board meetings and received proposed rule revisions to Chapter 1, Appendix H, Agricultural Use.**

Dear Madam/Sir:

The Hot Springs County Commissioners again thank you for the opportunity to comment on the Agricultural Use Provisions of Chapter 1, and desire to take this opportunity to comment on the Analysis of Comments responses. In addition, the Board of County Commissioners desire to resubmit their September 5, 2006 comments to Mr. John Wagner, Administrator of DEQ/WQD. The reason for resubmitting is that we are concerned about whether or not the comments submitted during the 2006 proceedings before the Environmental Quality Council were forwarded to the Water and Waste Advisory Board when they began their current deliberation on the proposed revisions to Chapter 1, Appendix H, Agricultural Use. It is our desire that the September 5, 2006 comments be considered by the WWAB especially since the earlier comments thoroughly outline the County's social and economic impact concerns.

Comments on Analysis of Comments Responses

7. **Response: ..... Prior to this time, the total number of oil and gas outfalls was approximately 470 at any given time. Today there are over 8000, and almost all of this growth is attributable to CBM discharges. Many of the historic outfalls pre-dated the existence of DEQ.**

   Comment: Hot Springs County's has expressed concern that repercussions from intense CBM development in the Powder River Basin would eventually impact the " have not" Counties in Wyoming including Hot Springs County. The dramatic increase in CBM related outfalls has demonstrated to Hot Springs County that our fears of new regulatory provisions designed to address CBM development, will have a profound affect on Hot Springs County equal to or greater than the effect of new regulations on the CBM industry. We

remain concerned that the proposed revisions to Chapter 1, Appendix H, AG Use Protection may have the opposite effect as intended; that is, the "have not" Counties end up suffering due to intense development in other basins.

6. **Response: The EQC remanded Appendix H back to the DEQ to address, at minimum, four areas of the policy before bringing it back before the EQC for a rulemaking hearing. Those four areas included: 1) putting the policy into rule form; 2) dealing with protection of irrigation uses; 3) setting default standards with regard to SAR and EC; and 4) developing livestock and wildlife watering limits following completion of the University of Wyoming Report.**

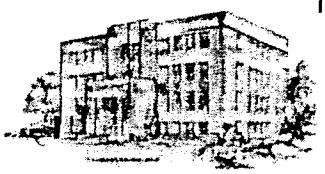
   Comment: The EQC remanding of "four areas of the policy" to the WWAB for further consideration, was in error for not including a 5th "area of the policy" which the WWAB must consider. That 5th " area of the policy" needs to address the social and economic impact of the proposed rule on the local governments and citizens. Hot Springs County in its September 5, 2006 comment letter to John Wagner, clearly outlined the statutory requirement to consider the social/economic effect of the proposed rule. By not recognizing or not remanding the statutory requirement to consider the social/economic effect of the proposed rule, the current review of Chapter 1, Appendix H, Ag Use Protection rule, is incomplete and materially flawed. Hot Springs County continues to assert that the social/economic impact is a statutory requirement; and that, the social/economic impact of the proposed rule has not been adequately addressed.

   DEQ, WQD, EQC and the WWAB have all recognized that "best available science" as evidenced by Dr. Raisbeck's report is crucial to the decision making process. However, at the same time, the "best available science" relating to the social and economic effects of the proposed rule, HAVE NOT been utilized during the reviews by the EQC and the WWAB. Hot Springs County asserts that independent, arms length, third party analysis of the social and economic impacts of the proposed rule, must be completed prior to the WWAB and/or the EQC finalizing the Ag Use Protection rule; and that, Federal, State and County regulatory requirements mandate that social and economic issues be considered on equal footing with scientific considerations.

5. **Original Comment: HSC is concerned that the proposed water quality standards will have a greater effect on conventional oil/gas and mining operations than coal bed methane operations primarily in the Powder River Basin.**

   Response: The vast majority of existing conventional oil and gas producers will be able to meet the prescribed effluent limits in the proposed rule through the provisions that grandfathers those permit conditions if approved prior to January 1, 1998 or by meeting the proposed effluent limits.

HOT SPRINGS COUNTY COMMISSIONERS



415 ARAPAHOE
THERMOPOLIS, WYOMING 82443
307/864-3515
FAX: 307/864-3333 EMAIL: hscc@state.wy.us

Date: December 4, 2007

To: Mr. David Waterstreet, DEQ/WQD and the Wyoming Waste and Water Advisory Board 122 West 25th Street, Herschler Building Cheyenne, Wyoming 82443

Re: Comments on the proposed Agricultural Use Protection Policy Revision of Chapter 1, Water Quality Rules and Regulations

Dear Mr. Waterstreet and Board Members:

The Hot Springs County Commissioners desire to resubmit the following comments which were originally submitted on September 5, 2006 to Mr. John Wagner, Administrator of the DEQ/WQD. These comments were intended to bring to the attention of the DEQ, EQC and WWAB the social/economic considerations which the Revision of Chapter 1 of the Water Quality Rules and Regulations entails.

Thank you very much for the opportunity to comment on the proposed Chapter 1 revisions to the State of Wyoming's water quality discharge standards. We wish to thank you for taking time out of your busy schedule on August 23 rd and 24th to conduct a successful field inspection of the beneficial uses of discharge water and for the public meeting in Worland the night of August 14th. Extension of the comment period to the close of business on September 13, 2006 is greatly appreciated.

BACKGROUND:

Hot Springs County has been actively involved in commenting on the PRBRC's petition to amend the State's water quality discharge standards, and was instrumental in efforts to create a separate Appendix I (see attachments A and B) which clearly separates the issue of CBM discharge water from other more traditional discharges. It was the County's position that specific problems related to CBM development, primarily in the Powder River Basin, should not be allowed to impact the entire State; and that, CBM water discharge problems and concerns, would best be addressed separately.

STATE OF THE COUNTY ANALYSIS:

Hot Springs County has not shared in the current economic boom in Wyoming, and to date, has not been the target of exploration drilling and development for oil, gas and/or CBM gas. The County is one of a several small County's in Wyoming which

have not been able to sustain the productivity of the State and Federal lands within the County; and as a result, incurred reductions in oil/gas productivity and overall losses in the agricultural industry. As a result, the US Census Bureau has recently shown a loss in population of 7.1% during the period 2000-2005 (see attachment C).

As a result, Hot Springs County government has adopted pro-active policies and measures, in an attempt to stabilize the economy and reverse the economic trends of the past 25 years. In addition to attempting to attract new businesses, the County has also participated in the decision making process on a number of issues in order to prevent further erosion of the economic base. It is the County's position that our economy is fragile and cannot endure further reductions in economic activity particularly in the oil/gas and agricultural sectors of the economy.

Hot Springs County has the oldest mean average age of any County in Wyoming and is a classic example of aging-in-place. When one considers the large number of retirees and disabled citizens, it becomes apparent that an increasingly smaller number of producers must carry the burden for stimulating the economy and contributing to the County's tax base. The County does in fact, derive approximately 70% of its revenue from the oil/gas industry and is largely dependent on this industry for tax revenue (see attachment D for Hot Springs County economic indicators).

The County's oil/gas industry is based on older oil fields, commonly dating back to the 1915-1925 era, which are on secondary or tertiary production methods. Productivity of the aging fields is clearly indicated by a text book (declining exponential curve) production graph (attachment E). As can be seen by inspection of the graph, very substantial losses of production have occurred in the last 25 years.

The agricultural industry has experienced loss of productive cropland to housing, a continuing drought and a huge reduction in the sheep industry, due in part to ESA listings of the grizzly bear and wolf. The industry is likewise fragile and not capable of enduring further reductions in productivity – especially from the public lands within the County.

RADICALLY CONTRASTING ECONOMIC SITUATIONS AMONG THE VARIOUS WYOMING COUNTIES:

Comparing Hot Springs County's economic situation with the other Counties in the State, reveals a sharp contrast in economic situations, essentially "have" Counties and "have not" Counties. The 7-8 Wyoming Counties currently experiencing energy related "booms" are challenged to provide adequate public infrastructure to cope with the development, while at the same time, some of the "have not" Counties are struggling to make ends meet. The contrast couldn't be more apparent or pronounced.

Both of the proposed revisions to the State's water quality standards, are written to primarily address the "new" problems created by the CBM industry and heightened interest in the oil/gas industry. However, the County cautions State regulators and boards, to consider the impact of their actions such as rule and regulation making, upon the small "have not" Counties. Strengthened regulations intended to address exploding development in "have" Counties, should not have the consequences of further depressing the economic condition of the "have nots".

SUSTAINABILITY OF THE COUNTY'S SOCIAL/ECONOMIC ACTIVITY

Hot Springs County asserts that it has not been able to sustain the productivity from the Federal lands within the County, and that, consideration must be given to the County's overall economic health during rule and regulation formulation. Federal law governing the administration of the Federal lands in the west, dictate that the Federal lands be managed for multiple use, sustainability or increased productivity for the Federal lands.

Hot Springs County has adopted the Hot Springs County Natural Resources Plan for State and Federal Lands by Resolution of the Board of County Commissioners on April 5, 2005. The Natural Resources Plan contains various provisions governing the management of State and Federal lands within the County including:

"Public lands are to be managed for sustainability and/or increase in all of the resources to include the social-economic affect on the County and its residents. To that end, no net loss in total economic activity, adjusted for inflation, shall be acceptable; and in order to meet this goal, mitigation measures are to be employed by State and Federal land managers. (page 72)."

"2. As required by Federal statute, Hot Springs County shall require that both State and Federal agencies assess the effect of their actions on the economy, custom and culture of Hot Springs County by utilization of economic studies such as cost/benefit analysis, economic impact analysis, lowest cost alternatives, most economical benefit analysis and analysis of the economy of the County in order to protect its general economic health. Hot Springs County at its discretion may be involved in this process. (page 73)."

"3. As required by the Administrative Procedures Act, Hot springs County shall require the various agencies to document that their decisions adequately took into account the health, safety, custom, culture, and general welfare (including the economic impact) of their actions on the County. (page 73)."

ENABLING LEGISLATION REQUIRES THE ADMINISTATOR TO CONSIDER SOCIAL/ECONOMIC IMPACTS DURING RULE MAKING:

Hot Springs County asserts that enabling legislation for the Wyoming Department of Environmental Quality, Water Quality Division (Wyoming Statute 35-11-302) requires:

> **"(vi) In recommending any standards, rules and regulations, or permits, the administrator and advisory board shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved Including:**
>
> **(A) The character and degree.....**
> **(B) The social and economic value of the source of pollution;"**

Based on the above mentioned provisions in the Statutes, Hot Springs County requests that the Administrator and Environmental Quality Council, consider the social/economic impacts of the proposed rule and regulation making upon Hot Springs County's economy and social structure.

In addition to the State provisions requiring the Administrator and Environmental Quality Council to consider the economic impacts of its actions, Federal NEPA legislation require State actions which are "connected" to Federal actions to be undergo a full NEPA review along with the associated economic impact studies required by Federal law.

In both cases (State statutes and Federal NEPA legislation) the administrative record should show evidence of the economic impact studies and analyses which the Water and Waste Advisory Board, Director, Administrator and Environmental Quality Council utilized during the rule and regulation formulating process.

<u>UNIQUE GEOTHERMAL, HYDROTHERMAL, GEYSER, AND HOT SPRINGS CAUSE DRASTICALLY DIFFERENT DISCHARGE WATER QUALITY</u>

Northwest Wyoming's unique geothermal and hydrothermal resources, including Yellowstone National Park's world famous geysers and Thermopolis's Hot Springs State Park, result from tectonically active mountain building processes oftentimes related to volcanic and earthquake activity. Although the hydrothermal resources are well known in Yellowstone and Thermopolis, there are 38 inventoried hot springs in Wyoming and an identified geothermal/hydrothermal area outside of Cody in Park County.

Many of the inherent groundwater resources in the northwest Wyoming area, especially the deeper wells and oil field discharge waters, are highly mineralized indicating close association with mountain building activities oftentimes deriving from deep within the earth. These naturally occurring mineralized waters cannot be compared to the quality of other waters in Wyoming, and are literally in "a class of their own".

The immediate affect of the highly mineralized water, both naturally occurring such as the Big Springs, or discharges by man such as the Hamilton Dome discharge water, is to establish highly mineralized water as the background standard for the respective river and/or drainage they flow into. Since Hamilton Dome has been discharging for decades, the County asserts that the established, historical discharge has not only established a highly mineralized background standard for Cottonwood Creek, but has also created dependent agricultural and wildlife uses for the continuously discharged water.

The June 2004 Final Report entitled Hot Springs County Groundwater Study: Phase II by Gretchen Hurley reported that:

"Because they were occasionally or often found to exceed state standards for domestic use in Hot Springs County wells, the following are "Parameters of Concern" for the Phase II groundwater study:

(1) Total Dissolved Solids
This parameter exceeded the state standard for domestic use in 49 out of 52 wells (94% of wells tested).

(2) Sulfate
This parameter exceeded the state standard for domestic use in 49 out of 52 wells (94% of wells tested – this correlates with TDS results).

(3) Gross alpha radiation
This parameter exceeded the state standard for domestic use in 17 of 52 wells (37% of wells tested)."

The report was prepared for the Wyoming Department of Environmental Quality, Water Quality Division, and clearly indicates the naturally occurring, highly mineralized domestic well water prevalent within Hot Springs County.

SEPERATION OF CBM DISCHARGE WATER STANDARDS FROM HISTORICAL DISCHARGE WATER STANDARDS

Hot Springs County strongly recommends separation of CBM discharge water standards from the historically occurring discharge standards in Wyoming in order to prevent CBM problems from impacting the other activities in Wyoming, particularly in "have not" Counties. The proposed separation of the discharge standards, as proposed in Appendix "H" and Appendix "I" of the Chapter 2 revisions petitioned by the PRBRC, are deemed essential to protect the social/economic structure of Hot Springs County.

Hot Springs County strongly recommends additional language for Chapter I revisions being formulated by WQD, which clearly establish the "grandfathering" of historic and existing discharge water standards. Although the intent is implied

within the existing text of the draft Chapter 1 - Agricultural Use Protection Policy, it should be reworded to leave no doubt.

WILDLIFE USE PROTECTION POLICY

As evidenced by the number of sage grouse on the Cottonwood Creek irrigated alfalfa field during the August 23, 2006 tour, many species of wildlife are thriving on the creek bottoms which have continuous flow of discharge waters. Sage grouse in particular have been the subject of vigorous efforts to restore population levels – a process which is ongoing throughout Wyoming. The enduring drought in Wyoming has affected wildlife populations and caused wildlife populations to seek out those streams and creeks which have sustainable flow and irrigated fields. In other words, continuous discharges of water from industrial activities, have helped populations of wildlife survive a brutal drought cycle, and in some cases such as the sage grouse, have been instrumental in preventing the listing of the species.

The Agricultural Use Protection Policy as currently drafted, does not adequately recognize the importance of wildlife with respect to discharge water. The County highly recommends that language be added which stresses wildlife uses during UAA analysis's, and for those species listed or being considered for listing, recognizes the habitat created by discharge water as being vital for survival of the species. With respect to sage grouse, habitat loss has been a significant factor in population declines in many states; however, Hot Springs County has had thousands of acres of high quality brood raising habitat created by irrigation with discharge water.

PROVISIONS OF THE CLEAN WATER ACT, INVOLVEMENT OF THE EPA AND THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) MAY MANDATE PREPARATION OF A FULL ENVIRONMENTAL IMPACT STATEMENT BY DEQ AND/OR THE EQC

Although Wyoming has no State statute requiring State agencies to prepare an EIS with the associated economic impact studies, certain "connected" actions, whereby a State agency is implementing rule and regulation adoption required by Federal law, partly financed by Federal funds, reviewed by a Federal agency or with the involvement of a Federal agency, may in fact require an EIS. For example, WYDOT prepares Environmental Assessments since approximately 90% of the funding for US Highway projects derives from Federal funds. Each situation is different, and the decision as to whether or not an EIS is required, is not fully legally clear. The attached legal opinion (attachment " F") discusses the matter and summarizes when an NEPA level EIS may or may not be required.

Hot Springs County asserts that revision of the State's water quality discharge standards is mandated by the CWA, reviewed by the EPA and has significant impact on the social-economic structure of the County; and therefore, may require a full NEPA analysis.

We request that these comments be entered into the public record concerning the Chapter 1, Section 20 revision to the State of Wyoming's Water Quality Rules and Regulations. In addition we request that the entire Hot Springs County Natural Resources Plan for State and Federal Lands be recognized as extant and amended to the public records in its entirety.

Thank you very much for the opportunity to publicly comment and submit written comments concerning the Chapter I revisions.

Brad W. Basse, Chairman
Hot Springs County Board of County Commissioners

John P. Lumley, Vice-Chairman
Hot Springs County Board of County Commissioners

Frank T. Manning, Commissioner
Hot Springs County Board of County Commissioners

ATTACHMENT "A"

APPENDIX H

Additional Requirements Applicable to Produced Water Discharges from Traditional Oil and Gas Production Facilities (excluding coal bed natural gas a/k/a coalbed methane gas "CBM")

(a) Application requirements specific to all produced water discharges from oil and gas production facilities must provide the following information in addition to that described in Section 5 (a) (v), to the administrator, using the application form provided by the administrator.

(i) The produced water discharged into surface waters of the state shall have use in agriculture or wildlife propagation. The produced water shall be of good enough quality to be used for wildlife or livestock watering or other agricultural uses and actually be put to such use during periods of discharge.

(b) Permits for all produced water discharges from oil and gas production facilities shall include the following conditions and limitations:

(i)In no case shall any produced water discharge contain toxic materials in concentrations or combinations which are toxic to human, animal or aquatic life.

(ii)Diffuse discharges. Water shall not be discharged in a diffuse manner such that damage to land and/or vegetation occurs.

(iii) Facility identification. All facilities authorized to discharge produced water shall be clearly identified with an all-weather sign posted at a visually prominent location. The sign shall be securely mounted and maintained to prevent the sign from being knocked down by livestock or wind. In the case where multiple outfalls are permitted or authorized, a sign shall be posted to identify each outfall. Signs shall, as a minimum, convey the following information:

(A) The name of the company, corporation, person or persons who hold(s) the discharge permit;

(B) The name of the facility (lease, tank battery number, etc.) as identified by the discharge permit; and

(C) The WYPDES permit number assigned to the facility and outfall identification number assigned to each outfall.

(iv) Measures must be implemented to minimize erosion of the

drainage at the point of discharge.

(v) Discharges of produced water will not contain substances that will settle to form sludge, bank or bottom deposits in quantities sufficient to result in significant aesthetic degradation, significant degradation of habitat for aquatic life or adversely affect public water supplies, agricultural or industrial water use, plant life or wildlife.

(vi) Discharges of produced water may not result in the formation of a visible hydrocarbon sheen on the receiving water.

(vii) The following effluent limitations are protective for stock and wildlife consumption. Limitations on additional parameters or limitations more stringent will be imposed when such limitations are necessary to assure compliance with Wyoming Water Quality Rules and Regulations, Chapter 1.

(A) Chlorides. The chloride content of any produced water discharge shall not exceed 2,000 mg/l in any single properly preserved grab sample except in those cases where a modification is granted in accordance with paragraph (c) of this appendix.

(B) Sulfates. The sulfate content of any produced water discharge shall not exceed 3,000 mg/l in any single properly preserved grab sample except in those cases where a modification is granted in accordance with paragraph (c) of this appendix.

(C) Total dissolved solids and specific conductance. The total dissolved solids content of any produced water discharge shall not exceed 5,000 mg/l for total dissolved solids or 7500 µmhos/cm for specific conductance in any single properly preserved grab sample except in those cases where a modification has been granted in accordance with paragraph (c) of this appendix.

(D) pH. In no case shall the pH of any produced water discharge be less than 6.5 or greater than 9.0 standard units as measured by a single grab sample.

(viii) Samples collected to demonstrate compliance with effluent limitations specified in this appendix shall be collected as grab samples and reported as an instantaneous maximum, unless otherwise specified.

(ix) There shall be no discharge of waste pollutants into surface waters of the state from any source (other than produced water) associated with

production, field exploration, drilling, well completion, or well treatment (i.e., drilling muds, drill cuttings, and produced sands). These materials shall be managed in accordance with applicable state and federal regulations.

(x) All water quality samples collected by the Department and discharge permit holders subject to this Appendix shall be taken from the free fall of water from the last treatment unit which is located out of the natural drainage. The sample must not be mixed with waters of any other surface water or with water from another discharge point.

(c)Additional Permit Conditions and Limitations ~~Specific to Oil and Natural Gas (other than coal bed natural gas) Production Facilities.~~

(i) For existing permits where the original permit application was submitted prior to September 5, 1978, modification of the effluent limits described in paragraphs (b) (vii) of this appendix may be granted on a case-by-case basis if a signed "letter of beneficial use" from the land owner was provided specifically requesting that the discharge in question be allowed to continue; or a signed statement by the Wyoming Game and Fish Department was provided in which it was stated that the discharge in question is of value to fish or wildlife; or documentation was provided by the owner or operator of the discharging facility that, because of extenuating circumstances (volume of discharge, individual chemical constituents, nature of the area in which the discharge occurs, etc.), an exemption should be considered. The user must have indicated the exact beneficial use of the water (stock watering, irrigation, etc.) and the history of such use. No action taken by the department under this paragraph or any other paragraph of these regulations shall be interpreted as the granting of a water right or any other water use authority.

(ii) For discharge permit applications filed after the date of adoption of these regulations, modification of effluent limits described in paragraph (b) (vii) of this appendix may be granted on a case-by-case basis. The Water Quality Administrator shall review all requests for modification of effluent limits submitted under this section and make a determination based upon the technical merits of a Use Attainability Analysis. Such requests shall also provide a signed "letter of agricultural or wildlife use" by the land owner specifically requesting that the discharge will serve a specific agricultural or wildlife use.

(iii) In no case will a modification as described in paragraph (b) (i) or (b) (ii) of this appendix be permitted which would result in a violation of Wyoming Water Quality Rules and Regulations, Chapter 1.

(iv) Location of skim ponds and disposal pits. Location of skim ponds and disposal pits shall be managed in accordance with applicable state (e.g. Oil and Gas Conservation Commission) and federal (e.g. Bureau of Land Management) regulations.

(v) An effluent limitation of 10 mg/l for oil and grease as measured by EPA method 1664 or 10 mg/l for net oil and grease as measured by alternate test procedure method 1664-Cu.

~~(d) Additional Permit Conditions and Limitations Specific to Coal Bed Natural Gas Production Facilities.~~

~~Where discharge water is accessible to livestock and/or wildlife; meets the effluent limitations as specified in this appendix; and meets the criteria for the protection of livestock and wildlife as specified in Wyoming Water Quality Rules and Regulations Chapter 1, Wyoming Surface Water Quality Standards, the discharge will be considered in compliance with the requirements of Appendix H (a) (i) of these regulations.~~

~~For discharge permit applications filed after the date of adoption of these regulations, modification of effluent limits described in paragraph (b) (vii) of this appendix may be granted on a case by case basis. The Water Quality Administrator shall review all requests for modification of effluent limits submitted under this section and make a determination based upon the technical merits of a Use Attainability Analysis. Such requests shall also provide a signed "letter of agricultural or wildlife use" by the land owner specifically requesting that the discharge will serve a specific agricultural or wildlife use or a demonstration that the conditions of Appendix (H) (d) (i) have been met.~~

~~Location of disposal pits. Location of disposal pits shall be managed in accordance with applicable state (e.g. Oil and Gas Conservation Commission) and federal (e.g. Bureau of Land Management) regulations.~~

~~The permittee shall take all reasonable measures to prevent downstream erosion that would be attributable to the discharge of produced water.~~

ATTACHMENT "B"

APPENDIX I

Additional Requirements Applicable to Produced Water Discharges from Coal bed Natural Gas (coalbed methane "CBM") Facilities

(a) Application requirements specific to all produced water discharges from oil and gas production facilities must provide the following information in addition to that described in Section 5 (a) (v), to the administrator, using the application form provided by the administrator.

(i) The produced water discharged into surface waters of the state shall have use in agriculture or wildlife propagation. The produced water shall be of good enough quality to be used for wildlife or livestock watering or other agricultural uses and actually be put to such use. ~~during periods of discharge.~~

(b) Permits for all produced water discharges from oil and gas production facilities shall include the following conditions and limitations:

(i) In no case shall any produced water discharge contain toxic materials in concentrations or combinations which are toxic to human, animal or aquatic life.

(ii) Diffuse discharges. Water shall not be discharged in a diffuse manner such that damage to land and/or vegetation occurs.

(iii) Facility identification. All facilities authorized to discharge produced water shall be clearly identified with an all-weather sign posted at a visually prominent location. The sign shall be securely mounted and maintained to prevent the sign from being knocked down by livestock or wind. In the case where multiple outfalls are permitted or authorized, a sign shall be posted to identify each outfall. Signs shall, as a minimum, convey the following information:

(A) The name of the company, corporation, person or persons who hold(s) the discharge permit;

(B) The name of the facility (lease, tank battery number, etc.) as identified by the discharge permit; and

(C) The WYPDES permit number assigned to the facility and outfall identification number assigned to each outfall.

(iv) Measures must be implemented to minimize erosion of the drainage at the point of discharge.

(v) Discharges of produced water will not contain substances that will settle to form sludge, bank or bottom deposits in quantities sufficient to result in significant aesthetic degradation, significant degradation of habitat for aquatic life or adversely affect public water supplies, agricultural or industrial water use, plant life or wildlife.

(vi) Discharges of produced water may not result in the formation of a visible hydrocarbon sheen on the receiving water.

(vii) The following effluent limitations are protective for stock and wildlife consumption. Limitations on additional parameters or limitations more stringent will be imposed when such limitations are necessary to assure compliance with Wyoming Water Quality Rules and Regulations, Chapter 1.

(A) Chlorides. The chloride content of any produced water discharge shall not exceed 2,000 mg/l in any single properly preserved grab sample except in those cases where a modification is granted in accordance with paragraph (c) of this appendix.

(B) Sulfates. The sulfate content of any produced water discharge shall not exceed ~~3,000~~500 mg/l in any single properly preserved grab sample except in those cases where a modification is granted in accordance with paragraph (c) of this appendix.

(C) Total dissolved solids and specific conductance. The total dissolved solids content of any produced water discharge shall not exceed ~~5,000~~2,000 mg/l for total dissolved solids or 7500 µmhos/cm for specific conductance in any single properly preserved grab sample except in those cases where a modification has been granted in accordance with paragraph (c) of this appendix.

(D) pH. In no case shall the pH of any produced water discharge be less than 6.5 or greater than 9.0 standard units as measured by a single grab sample.

(E) Barium. The barium content of any produced water discharge shall not exceed .2 mg/l in any single properly preserved grab sample except in those cases where a modification is granted in accordance with paragraph (c) of this appendix.

(viii) Samples collected to demonstrate compliance with effluent limitations specified in this appendix shall be collected as grab samples and reported as an instantaneous maximum, unless otherwise specified.

(ix) There shall be no discharge of waste pollutants into surface waters of the state from any source (other than produced water) associated with production, field exploration, drilling, well completion, or well treatment (i.e., drilling muds, drill cuttings, and produced sands). These materials shall be managed in accordance with applicable state and federal regulations.

(x) All water quality samples collected by the Department and discharge permit holders subject to this Appendix shall be taken from the free fall of water from the last treatment unit which is located out of the natural drainage. The sample must not be mixed with waters of any other surface water or with water from another discharge point.

~~(c)Additional Permit Conditions and Limitations Specific to Oil and Natural Gas (other than coal bed natural gas) Production Facilities.~~

~~(i) For existing permits where the original permit application was submitted prior to September 5, 1978, modification of the effluent limits described in paragraphs (b) (vii) of this appendix may be granted on a case by case basis if a signed "letter of beneficial use" from the land owner was provided specifically requesting that the discharge in question be allowed to continue; or a signed statement by the Wyoming Game and Fish Department was provided in which it was stated that the discharge in question is of value to fish or wildlife; or documentation was provided by the owner or operator of the discharging facility that, because of extenuating circumstances (volume of discharge, individual chemical constituents, nature of the area in which the discharge occurs, etc.), an exemption should be considered. The user must have indicated the exact beneficial use of the water (stock watering, irrigation, etc.) and the history of such use. This exemption shall be limited to that quantity of water that can be demonstrated to have actually been put to beneficial use. No action taken by the department under this paragraph or any other paragraph of these regulations shall be interpreted as the granting of a water right or any other water use authority.~~

~~(ii) For discharge permit applications filed after the date of adoption of these regulations, modification of effluent limits described in paragraph (b) (vii) of this appendix may be granted on a case by case basis. The Water Quality Administrator shall review all requests for modification of effluent limits submitted under this section and make a determination based upon the technical merits of a Use~~

~~Attainability Analysis. Such requests shall also provide a signed "letter of agricultural or wildlife use" by the land owner specifically requesting that the discharge will serve a specific agricultural or wildlife use.~~

~~(iii) In no case will a modification as described in paragraph (b) (i) or (b) (ii) of this appendix be permitted which would result in a violation of Wyoming Water Quality Rules and Regulations, Chapter 1.~~

~~(iv) Location of skim ponds and disposal pits. Location of skim ponds and disposal pits shall be managed in accordance with applicable state (e.g. Oil and Gas Conservation Commission) and federal (e.g. Bureau of Land Management) regulations.~~

~~(v) An effluent limitation of 10 mg/l for oil and grease as measured by EPA method 1664 or 10 mg/l for net oil and grease as measured by alternate test procedure method 1664-Cu.~~

(c~~d~~) Additional Permit Conditions and Limitations ~~Specific to Coal Bed Natural Gas Production Facilities.~~

(i) ~~Where~~ To the extent discharge water is ~~accessible to~~ actually used by livestock and/or wildlife; meets the effluent limitations as specified in this appendix; and meets the criteria for the protection of livestock and wildlife as specified in Wyoming Water Quality Rules and Regulations Chapter 1, Wyoming Surface Water Quality Standards, the discharge will be considered in compliance with the requirements of Appendix H (a) (i) of these regulations.

(ii) For discharge permit applications filed after the date of adoption of these regulations, modification of effluent limits described in paragraph (b) (vii) of this appendix may be granted on a case by case basis. The Water Quality Administrator shall review all requests for modification of effluent limits submitted under this section and make a determination based upon the technical merits of a Use Attainability Analysis. Such requests shall also provide a signed "letter of agricultural or wildlife use" by the land owner specifically requesting that the discharge will serve a specific agricultural or wildlife use. ~~or a demonstration that the conditions of Appendix (H) (d) (i) have been met.~~

(iii) Location of disposal pits. Location of disposal pits shall be managed in accordance with applicable state (e.g. Oil and Gas Conservation Commission) and federal (e.g. Bureau of Land Management) regulations.

(iv) The permittee shall take all reasonable measures to prevent downstream erosion that would be attributable to the discharge of produced water.

ATTACHMENT "C"

U.S. Census Bureau

State & County QuickFacts

Hot Springs County, Wyoming

People QuickFacts	Hot Springs County	Wyoming
Population, 2005 estimate	4,537	509,294
Population, percent change, April 1, 2000 to July 1, 2005	-7.1%	3.1%
Population, 2000	4,882	493,782
Population, percent change, 1990 to 2000	1.5%	8.9%
Persons under 5 years old, percent, 2004	4.8%	6.1%
Persons under 18 years old, percent, 2004	18.8%	23.1%
Persons 65 years old and over, percent, 2004	21.5%	12.1%
Female persons, percent, 2004	51.7%	49.6%
White persons, percent, 2004 (a)	96.7%	94.8%
Black persons, percent, 2004 (a)	0.4%	0.9%
American Indian and Alaska Native persons, percent, 2004 (a)	2.0%	2.4%
Asian persons, percent, 2004 (a)	0.4%	0.6%
Native Hawaiian and Other Pacific Islander, percent, 2004 (a)	0.0%	0.1%
Persons reporting two or more races, percent, 2004	0.5%	1.2%
Persons of Hispanic or Latino origin, percent, 2004 (b)	2.7%	6.7%
White persons, not Hispanic, percent, 2004	94.3%	88.6%
Living in same house in 1995 and 2000, pct age 5+, 2000	54.2%	51.3%
Foreign born persons, percent, 2000	1.3%	2.3%
Language other than English spoken at home, pct age 5+, 2000	3.4%	6.4%
High school graduates, percent of persons age 25+, 2000	84.2%	87.9%
Bachelor's degree or higher, pct of persons age 25+, 2000	17.9%	21.9%
Persons with a disability, age 5+, 2000	956	77,143
Mean travel time to work (minutes), workers age 16+, 2000	14.6	17.8
Housing units, 2004	2,567	232,637
Homeownership rate, 2000	68.4%	70.0%
Housing units in multi-unit structures, percent, 2000	12.1%	15.2%
Median value of owner-occupied housing units, 2000	$80,400	$96,600
Households, 2000	2,108	193,608
Persons per household, 2000	2.25	2.48
Per capita money income, 1999	$16,858	$19,134
Median household income, 2003	$32,248	$41,554

Persons below poverty, percent, 2003	11.6%	10.8%

Business QuickFacts	Hot Springs County	Wyoming
Private nonfarm establishments, 2003	200	18,917[1]
Private nonfarm employment, 2003	1,387	180,959[1]
Private nonfarm employment, percent change 2000-2003	-8.8%	3.6%[1]
Nonemployer establishments, 2003	411	38,785
Manufacturers shipments, 2002 ($1000)	NA	4,061,516
Retail sales, 2002 ($1000)	23,391	5,783,756
Retail sales per capita, 2002	$4,949	$11,586
Minority-owned firms, percent of total, 1997	F	4.3%
Women-owned firms, percent of total, 1997	F	22.6%
Housing units authorized by building permits, 2004	5	3,317
Federal spending, 2004 ($1000)	38,281	4,393,308[1]

Geography QuickFacts	Hot Springs County	Wyoming
Land area, 2000 (square miles)	2,004	97,100
Persons per square mile, 2000	2.4	5.1
FIPS Code	017	56
Metropolitan or Micropolitan Statistical Area	None	

1: Includes data not distributed by county.

(a) Includes persons reporting only one race.
(b) Hispanics may be of any race, so also are included in applicable race categories.

FN: Footnote on this item for this area in place of data
NA: Not available
D: Suppressed to avoid disclosure of confidential information
X: Not applicable
S: Suppressed; does not meet publication standards
Z: Value greater than zero but less than half unit of measure shown
F: Fewer than 100 firms

Source U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, 2000 Census of Population and Housing, 1990 Census of Population and Housing, Small Area Income and Poverty Estimates, County Business Patterns, 1997 Economic Census, Minority- and Women-Owned Business, Building Permits, Consolidated Federal Funds Report, 1997 Census of Governments

Last Revised: Thursday, 08-Jun-2006 09:36:14 EDT

APPENDIX "D"

GENERAL INFORMATION ABOUT HOT SPRINGS COUNTY - 2006

1,294,080 Acres (2,022 square miles) in Hot Springs County

48,640 Acres are National Forest	4%
80,501 Acres are State Land	6%
242,320 Acres are Reservation & U.S. In Trust Land	19%
518,000 Acres are B.L.M. Land	40%
404,619 Acres are Taxable (**31% of land in county is taxable**)	31%
388,046 Ag	30%
16,573 Market Value	1%

2006 INFORMATION

Total County Valuation is $152,355,226.

In Valuation, Hot Springs County ranks 17th out of the 23 counties.

Highest valuation is Sublette County - $4,401,618,317

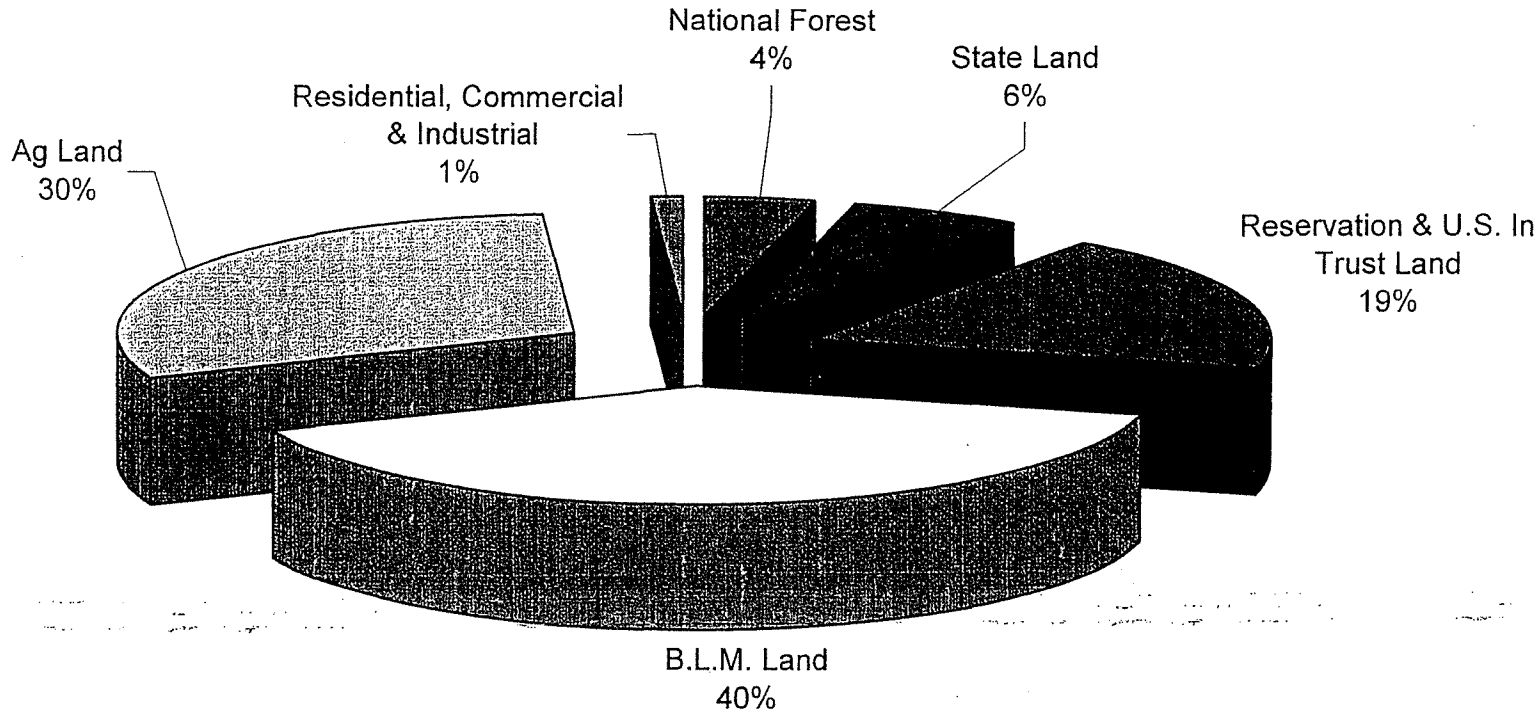
Lowest valuation is Niobrara County - $56,929,604.

Washakie County Valuation is $117,297,645.

TEN LARGEST TAXPAYERS IN HOT SPRINGS COUNTY

1. Merit Energy Company
2. Marathon Oil Company
3. Phoenix Production Company
4. Nance Petroleum Corporation
5. Exxon Mobil Corporation
6. Citation Oil & Gas Corporation
7. Burlington Northern Santa Fe
8. Voyager Exploration, Inc.
9. Thorofare Resources Inc.
10. Express Pipeline Corporation

Hot Springs County
Land Ownership



TEN LARGEST TAXPAYERS IN HOT SPRINGS COUNTY

2003	Valuation		Taxes
1. Merit Energy Company	$28,105,379		$1,951,216
2. Marathon Oil Company	$28,032,976		$1,946,189
3. Exxon Mobil Corporation	$3,000,156		$208,286
4. Citation Oil & Gas Corporation	$2,738,495		$190,120
5. Burlington Northern Santa Fe	$2,212,224		$156,560
6. Flying J Oil & Gas Inc	$1,970,556		$136,806
7. Express Pipeline LLC	$1,233,316		$85,623
8. Voyager Exploration Inc	$1,074,899		$74,625
9. Pacificorp	$958,115		$67,245
10. Thorofare Resources Inc	$868,488		$60,295
	$70,194,604	72%	$4,876,964

2004	Valuation		Taxes
1. Merit Energy Company	$28,105,379		$1,951,216
2. Marathon Oil Company	$28,032,976		$1,946,189
3. Exxon Mobil Corporation	$3,000,156		$208,286
4. Citation Oil & Gas Corporation	$2,738,495		$190,120
5. Burlington Northern Santa Fe	$2,212,224		$156,560
6. Flying J Oil & Gas Inc	$1,970,556		$136,806
7. Express Pipeline LLC	$1,233,316		$85,623
8. Voyager Exploration Inc	$1,074,899		$74,625
9. Pacificorp	$958,115		$67,245
10. Cork Petroleum	$922,035		$68,876
	$70,248,151	64%	$4,885,546

2005	Valuation		Taxes
1. Merit Energy Company	$38,917,384		$2,742,041
2. Marathon Oil Company	$29,364,399		$2,068,957
3. Phoenix Production	$12,465,709		$878,309
4. Exxon Mobil Corporation	$4,823,894		$339,882
5. Citation Oil & Gas Corporation	$3,785,501		$266,719
6. Nance Petroleum Corporation	$3,279,134		$231,041
7. Burlington Northern Santa Fe	$1,870,521		$134,310
8. Voyager Exploration Inc	$1,831,375		$129,035
9. Express Pipeline LLC	$1,242,826		$87,567
10. Cork Petroleum	$1,199,542		$84,517
	$98,780,285	75.00%	$6,962,378

2006	Valuation		Taxes
1. Merit Energy Company	$43,135,231		$3,053,198
2. Marathon Oil Company	$34,293,606		$2,427,369
3. Phoenix Production	$16,594,640		$1,174,389
4. Nance Petroleum Corporation	$6,594,466		$466,769
5. Exxon Mobil Corporation	$5,533,643		$391,382
6. Citation Oil & Gas Corporation	$3,986,460		$282,170
7. Burlington Northern Santa Fe	$2,072,267		$149,467
8. Voyager Exploration Inc	$1,953,429		$138,268
9. Thorofare Resources Inc	$1,363,952		$96,543
10. Express Pipeline	$1,310,394		$92,752
	$116,838,088	75.00%	$8,272,307

2006 ASSESSED VALUATIONS

ALPHABETICAL		RANKING BY VALUE	
1 ALBANY	$270,747,259	1 SUBLETTE	4,401,618,317
2 BIG HORN	206,614,955	2 CAMPBELL	4,263,561,953
3 CAMPBELL	4,263,561,953	3 SWEETWATER	2,380,640,895
4 CARBON	898,683,428	4 FREMONT	1,375,639,617
5 CONVERSE	457,386,031	5 NATRONA	944,105,934
6 CROOK	137,177,910	6 LINCOLN	943,624,031
7 FREMONT	1,375,639,617	7 TETON	925,755,686
8 GOSHEN	102,310,738	8 CARBON	898,683,428
9 HOT SPRINGS	152,355,226	9 UINTA	749,433,861
10 JOHNSON	446,981,976	10 LARAMIE	724,134,645
11 LARAMIE	724,134,645	11 PARK	624,820,620
12 LINCOLN	943,624,031	12 SHERIDAN	564,662,814
13 NATRONA	944,105,934	13 CONVERSE	457,386,031
14 NIOBRARA	56,929,604	14 JOHNSON	446,981,976
15 PARK	624,820,620	15 ALBANY	$270,747,259
16 PLATTE	121,675,601	16 BIG HORN	206,614,955
17 SHERIDAN	564,662,814	17 HOT SPRINGS	152,355,226
18 SUBLETTE	4,401,618,317	18 CROOK	137,177,910
19 SWEETWATER	2,380,640,895	19 PLATTE	121,675,601
20 TETON	925,755,686	20 WASHAKIE	117,297,645
21 UINTA	749,433,861	21 WESTON	112,501,024
22 WASHAKIE	117,297,645	22 GOSHEN	102,310,738
23 WESTON	112,501,024	23 NIOBRARA	56,929,604
	$20,978,659,770		$20,978,659,770

ABSTRACT OF ASSESSMENT ROLL

HOT SPRINGS COUNTY, WYOMING

2006

LINE	CLASSIFICATION	MARKET OR PRODUCTIVITY VALUE	ASSESSED VALUE
A	AGRICULTURAL LANDS	34,040,714	3,233,876
B	RESIDENTIAL AND COMMERCIAL REAL PROPERTY	208,411,500	19,799,251
C	RESIDENTIAL AND COMMERCIAL PERSONAL PROPERTY	23,339,150	2,217,234
D	INDUSTRIAL REAL AND PERSONAL PROPERTY	43,954,723	5,054,799
E	**TOTAL, COUNTY ASSESSED PROPERTY**	**309,746,087**	**30,305,160**

STATE OF WYOMING)
) ss.
County of Hot Springs)

I, **Shelley Deromedi**, County Assessor in and for said County, in the State aforesaid, do hereby certify that the within and foregoing abstract of the assessment roll of the County of **Hot Springs** for the year 2006, was compiled from the official returns made by me for said year, after the same had been corrected and equalized by the Board of County Commissioners sitting as a Board of Equalization in and for said County, and the said abstract embraces the entire amount of locally assessed taxable property of said County as shown by said Assessment Roll.

IN TESTIMONY WHEREOF, I have hereunto set my hand this 31st day of May, A.D., 2006

Shelley Deromedi
County Assessor

TAX YEAR	COUNTY VALUATION	% STATE ASSESSED	% LOCALLY ASSESSED	% OIL PRODUCTION
1977	$86,573,343	85.00%	15.00%	67.00%
1978	$92,743,208	87.00%	13.00%	73.00%
1979	$101,110,116	87.00%	13.00%	76.00%
1980	$109,060,433	87.00%	13.00%	81.00%
1981	$230,526,443	93.00%	7.00%	90.00%
1982	$303,920,594	94.00%	6.00%	92.00%
1983	$259,674,197	93.00%	7.00%	90.00%
1984	$222,732,863	92.00%	8.00%	88.00%
1985	$220,769,209	91.00%	9.00%	88.00%
1986	$195,696,817	91.00%	9.00%	88.00%
1987	$112,503,122	85.00%	15.00%	79.00%
1988	$131,624,458	87.00%	13.00%	84.00%
1989	$102,056,517	85.00%	15.00%	80.00%
1990	$112,746,565	87.00%	13.00%	83.00%
1991	$130,090,915	89.00%	11.00%	85.00%
1992	$105,492,693	86.00%	14.00%	80.00%
1993	$93,496,294	84.00%	16.00%	79.00%
1994	$85,272,398	82.00%	18.00%	76.00%
1995	$80,998,028	80.00%	20.00%	73.00%
1996	$93,873,764	81.00%	19.00%	74.00%
1997	$101,912,405	81.00%	19.00%	73.00%
1998	$92,180,926	76.90%	23.10%	67.33%
1999	$65,466,986	64.86%	35.14%	50.65%
2000	$86,657,298	72.32%	27.68%	62.07%
2001	$122,270,535	79.66%	20.34%	73.19%
2002	$95,903,360	73.29%	26.71%	65.75%
2003	$97,925,165	72.66%	27.34%	65.39%
2004	$108,946,451	74.92%	25.08%	68.09%
2005	$130,981,868	78.34%	21.66%	72.93%
2006	$152,355,226	80.11%	19.89%	74.96%

HOT SPRINGS COUNTY MILL LEVYS - District 0100

YEAR	LEVY
1939	23.218
1940	22.396
1945	23.369
1946	23.745
1947	24.400
1948	25.428
1949	28.256
1950	27.705
1951	24.705
1952	30.986
1953	28.951
1954	26.864
1955	31.140
1956	30.621
1957	33.370
1958	33.450
1959	33.736
1960	31.031
1961	31.402
1962	31.282
1963	28.138
1964	22.018
1965	23.901
1966	27.258
1967	37.322
1968	33.133
1969	37.201
1970	36.996
1971	39.957
1972	41.010
1973	45.344
1974	49.350
1975	47.091
1976	46.755
1977	49.064
1978	45.142
1979	53.182
1980	60.720
1981	58.102
1982	53.661
1983	59.703
1984	60.307
1985	56.446
1986	58.283
1987	57.962
1988	58.870
1989	58.319
1990	59.509
1991	60.106
1992	61.584
1993	60.889
1994	61.697
1995	60.456
1996	69.650
1997	72.802
1998	69.241
1999	74.162
2000	69.287
2001	68.081
2002	70.316
2003	69.425
2004	74.700
2005	70.458
2006	70.782

HOT SPRINGS COUNTY
2006 VALUATION

Locally Assessed		% of Total
Agricultural Lands	$3,347,262	2.20%
Agricultural Improvements	$2,544,559	1.67%
Agricultural Personal Property	$504,701	0.33%
Other Land & Improvements	$17,141,306	11.25%
Other Personal Property	$6,767,332	4.44%
Total Locally Assessed	$30,305,160	19.89%

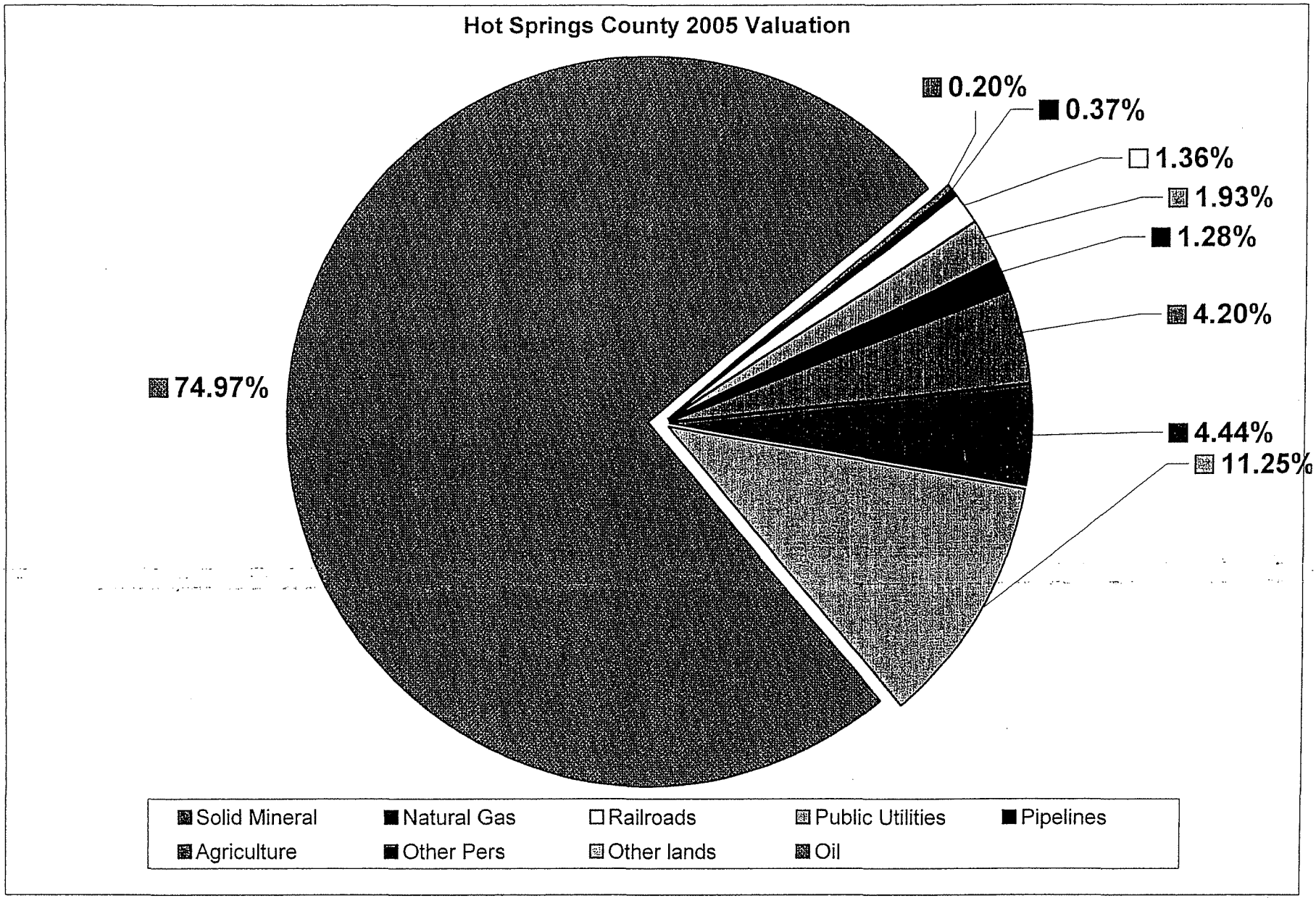
State Assessed		% of Total
Oil	$114,206,691	74.96%
Natural Gas	$556,466	0.37%
Solid Minerals	$311,177	0.20%
Public Utilities	$2,947,089	1.93%
Railroads	$2,072,267	1.36%
Pipelines	$1,956,376	1.28%
Total State Assessed	$122,050,066	80.11%
Total County Valuation	$152,355,226	

STATE ASSESSED MINERAL VALUATION BY CATEGORY

	1997	1998	1999	2000	2001	2002	2003
Oil	$74,607,535	$62,068,613	$33,156,295	$53,788,718	$89,491,541	$63,059,090	$64,035,288
Natural Gas	$543,488	$498,747	$722,831	$360,118	$430,621	$397,884	$223,223
Hard Minerals **	$58,813	$89,077	$78,436	$87,985	$46,208	$45,152	$31,515
Total	$75,209,836	$62,656,437	$33,957,562	$54,236,821	$89,968,370	$63,502,126	$64,292,029

	2004	2005	2006
Oil	$74,181,518	$95,525,342	$114,206,691
Natural Gas	$266,645	$424,641	$556,466
Hard Minerals **	$86,098	$63,385	$311,177
Total	$74,534,261	$96,013,368	$115,074,334

** Hard Minerals include Sand, Gravel & Bentonite


Hot Springs County 2005 Valuation
0.20%
0.37%
1.36%
1.93%
1.28%
4.20%
74.97%
4.44%
11.25%
Solid Mineral
Natural Gas
Railroads
Public Utilities
Pipelines
Agriculture
Other Pers
Other lands
Oil

Hot Springs County Valuation Comparison

LOCALLY ASSESSED	1999		2000		2001		2002	
Agricultural Land	$2,144,697		$2,205,316		$2,136,924		$2,478,589	
Agricultural Improvements	$1,300,965	5.92%	$1,407,355	4.69%	$1,489,029	3.36%	$1,581,413	6.86%
Agricultural Personal Property	$430,035		$447,898		$477,406		$458,650	
Other Lands & Improvements	$14,131,770		$14,738,904		$14,876,166		$14,497,897	
Other Personal Property	$4,995,178		$5,187,207		$5,885,745		$6,595,176	
TOTAL LOCALLY ASSESSED	$23,002,645	35.15%	$23,986,680	27.68%	$24,865,270	20.34%	$25,611,725	26.71%
STATE ASSESSED								
Oil	$33,156,295	67.33%	$53,788,718	62.07%	$89,491,541	73.19%	$63,059,090	65.75%
Natural Gas	$722,831		$360,118		$430,621		$397,884	
Hard Minerals	$78,436		$87,985		$46,208		$45,152	
Public Utilities	$3,292,179		$3,051,641		$2,635,147		$2,695,673	
Railroads	$1,524,595		$1,957,612		$2,129,832		$2,241,035	
Pipelines	$3,670,005		$3,424,544		$2,824,315		$1,852,801	
TOTAL STATE ASSESSED	$42,444,341	64.85%	$62,670,618	72.32%	$97,557,664	79.79%	$70,291,635	73.29%
TOTAL VALUATION	$65,446,986		$86,657,298		$122,270,535		$95,903,360	

LOCALLY ASSESSED	2003		2004		2005		2006	
Agricultural Land	$2,527,615		$3,001,752		$3,201,671		$3,347,262	
Agricultural Improvements	$1,659,090	4.73%	$1,707,198	4.75%	$1,820,765	4.18%	$2,544,559	4.85%
Agricultural Personal Property	$440,363		$454,572		$447,275		$504,701	
Other Lands & Improvements	$15,678,972		$15,475,767		$16,834,221		$17,141,306	
Other Personal Property	$6,465,360		$6,680,930		$6,063,745		$6,767,332	
TOTAL LOCALLY ASSESSED	$26,771,400	27.34%	$27,320,219	25.08%	$28,367,677	21.66%	$30,305,160	19.89%
STATE ASSESSED								
Oil	$64,035,288	65.39%	$74,181,518	68.09%	$95,525,342	72.93%	$114,206,691	74.96%
Natural Gas	$223,223		$266,645		$424,641		556466	
Hard Minerals	$31,515		$86,098		$63,385		311177	
Public Utilities	$2,724,671		$2,818,625		$2,761,195		2947089	
Railroads	$2,212,224		$2,154,608		$1,870,521		2072267	
Pipelines	$1,926,844		$2,118,738		$1,969,107		1956376	
TOTAL STATE ASSESSED	$71,153,765	72.66%	$81,626,232	74.92%	$102,614,191	78.34%	$122,050,066	80.11%
TOTAL VALUATION	$97,925,165		$108,946,451		$130,981,868		$152,355,226	

2006 MILL LEVY- HOT SPRINGS COUNTY

TAX DISTRICT-	RURAL	RURAL STW&SD	RURAL LW & SD	RURAL RLW & SD	EAST THERMOP	KIRBY	THERMOP	THERMOP STW&SD
	100	101	102	106	150	151	152	153
State & Co.	27.091	27.091	27.091	27.091	27.091	27.091	27.091	27.091
Mandatory School	6.000	6.000	6.000	6.000	6.000	6.000	6.000	6.000
Spec. School Levy	26.500	26.500	26.500	26.500	26.500	26.500	26.500	26.500
School Bond -1996	4.415	4.415	4.415	4.415	4.415	4.415	4.415	4.415
School Bond -2004	3.776	3.776	3.776	3.776	3.776	3.776	3.776	3.776
City Levy	0.000	0.000	0.000	0.000	8.000	8.000	8.000	8.000
Special Dist	3.000	11.000	7.000	3.000	0.000	0.000	0.000	8.000
TOTAL DIST MILL LEVY	70.782	78.782	74.782	70.782	75.782	75.782	75.782	83.782

2006 ASSESSED VALUATION		$152,355,226
Dist #100	Rural	$132,791,987
Dist #101	Rural STW&SD	$2,376,693
Dist #102	Rural LW&SD	$2,484,901
Dist #106	Rural RLW&SD	$463,722
Dist #150	E. Thermop	$835,952
Dist #151	Kirby	$176,158
Dist #152	Thermop	$13,182,652
Dist #153	Thermop STW&SD	$43,161
COUNTY WIDE SCHOOL		$152,355,226

Breakdown of State & County Levies	Mills
State General Fund	0.000
State School Foundation Fund	12.000
TOTAL STATE LEVY	12.000
County General Fund	9.951
Library	0.736
County Fair Levy	0.709
County Hospital	0.604
COUNTY (12 MILL LIMIT) TOTAL	12.000
County Cemetery District Levy	1.091
County Weed & Pest District Levy	1.000
County Weed & Pest Special 1 Mill Levy	1.000
COUNTYWIDE SPECIAL DIST	3.091
TOTAL STATE AND COUNTY MILL LEVY	27.091

Town of Thermopolis Levy	Mills
General Fund	8.000

Town of East Thermopolis Levy	Mills
General Fund	8.000

Town of Kirby	Mills
General Fund	8.000

S. Thermopolis W&S Dist. Levy	Mills
Operating	8.000

Lucerne Water & Sewer District	Mills
Operating	4.000

Red Lane Water & Sewer Dist.	Mills
Operating	0.000

Rural Fire Protection District	Mills
Operating	3.000

REPORT OF VALUATION, LEVIES & TAXES - 2006
HOT SPRINGS COUNTY, WYOMING

TOTAL ASSESSED VALUATION - $152,355,226

PURPOSE FOR WHICH LEVIED		LEVY (MILLS)	AMOUNT OF TAX	
STATE LEVY				
State General Fund		0	0	
State School Foundation Fund		12.000	1,828,263	
TOTAL STATE LEVY		12.000	1,828,263	
GENERAL COUNTY FUND		MILLS	TAX	
Roads & Bridges		2.750	418,977	
General Operating		5.046	768,785	
Civil Defense		0.139	21,177	
Museum		0.459	69,931	
Airport		0.459	69,931	
Public Health		0.736	112,133	
Co Ag & Extension Service		0.362	55,153	
County Fair		0.709	108,020	
County Library		0.736	112,133	
County Hospital		0.604	92,023	
TOTAL GENERAL FUND		12.000	1,828,263	
Special District Levies				
County Cemetery District		1.091	166,220	
County Weed & Pest Control District		2.000	304,710	
TOTAL COUNTY WIDE SPECIAL DISTRICT		3.091	470,930	
TOTAL COUNTY MILL LEVY		15.091	2,299,193	
TOTAL STATE & COUNTY MILL LEVY		**27.091**		**4,127,456**
County Wide School Dist. #1				
	Mandatory Levy	6.000	914,131	
	Special District Levy	25.000	3,808,881	
	Recreation Levy	1.000	152,355	
	BOCES	0.500	76,178	
	Bonds & Interest-1996	4.415	672,648	
	Bonds & Interest-2004	3.776	575,293	
TOTAL SCHOOL LEVY		**40.691**		**6,199,486**
Municipal Levies				
Town	VALUATION	MILL LEVY	AMOUNT OF TAX	
Thermopolis(152 & 153)	13,225,813	8.000	105,807	
East Thermopolis	835,952	8.000	6,688	
Kirby	176,158	8.000	1,409	
TOTAL MUNICIPAL TAX				**113,904**
Special Purpose Districts Levies				
Lucerne Water & Sewer Dist	2,484,901	4.000	9,940	
Red Lane Water & Sewer Dist.	463,722	0.000	0	
S Thermop Watr & Sewr(101&153)	2,419,854	8.000	19,359	
Hot Springs Co. Fire Dist.	138,117,303	3.000	414,352	
Total Special Purpose Districts		**15.000**		**443,651**
TOTAL TAXES TO BE COLLECTE	70.782		83.782	**10,884,497**

Special District Mill Levy and Fee Requests – Tax Year 2006
8/1/2006 – Revised 8/17/06

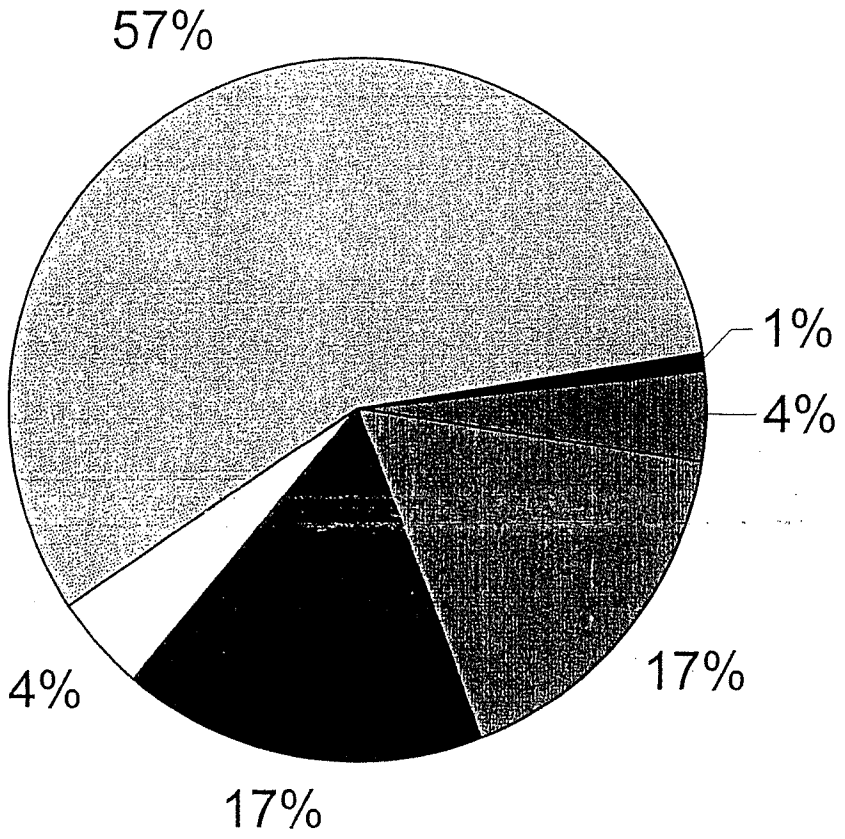
COUNTYWIDE SPECIAL DISTRICT LEVIES	Valuation	Levy	Tax Amt
County Cemetery District	$152,355,226	1.091	166,220
County Weed & Pest Cont District	$152,355,226	2.000	304,710
TOTAL COUNTY WIDE SPECIAL DISTRICT		**3.091**	470,930

SPECIAL PURPOSE DISTRICT LEVIES	Valuation	Levy	Tax Amt	
Lucerne Water & Sewer Dist	2,484,901	4.000	9,940	
Red Lane Water & Sewer Dist.	463,722	0.000	0	
S Thermop Watr & Sewr(101&153)	2,419,854	8.000	19,359	
Hot Springs Co. Fire Dist.	138,117,303	3.000	414,352	
		15.000	443,651	
Total Special Purpose Districts Mill levy		**18.091**		**$914,581**

	ACRES		FEE/ACRE	DIST TOTAL
103 Owl Creek Irrigation District - Lower	4028.27	O & M	$8.73	$35,166.88
104 Owl Creek Irrigation - Middle & Upper	9282.53	O & M	$3.66	$33,974.07
105 Red Lane Watershed Improvement	201.43	O & M		$3,487.80
107 Kirby Ditch Irrigation District	3196.88	Contingency	$0.06	$191.82
		Repayment	$1.44	$4,603.51
				$77,424.08

Total Special Purpose District Mill Levy and Fee Request **$992,004.98**

PURPOSE FOR TAXES - 2006

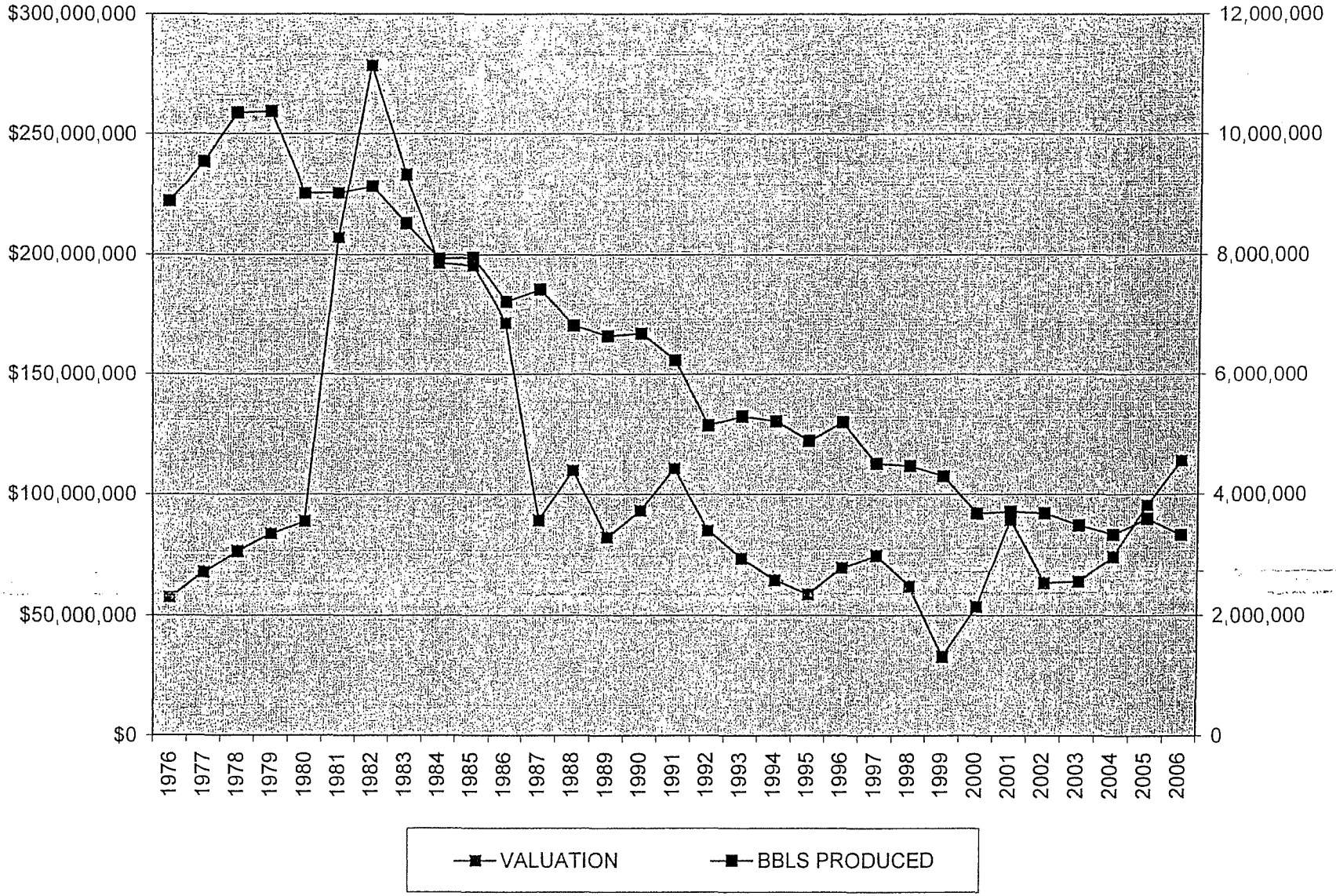


- SCHOOL FOUNDATION FUND
- GENERAL COUNTY
- COUNTYWIDE SPECIAL DISTRICT
- COUNTYWIDE SCHOOL DISTRICT
- MUNICIPAL PURPOSES
- SPECIAL PURPOSE DISTRICTS

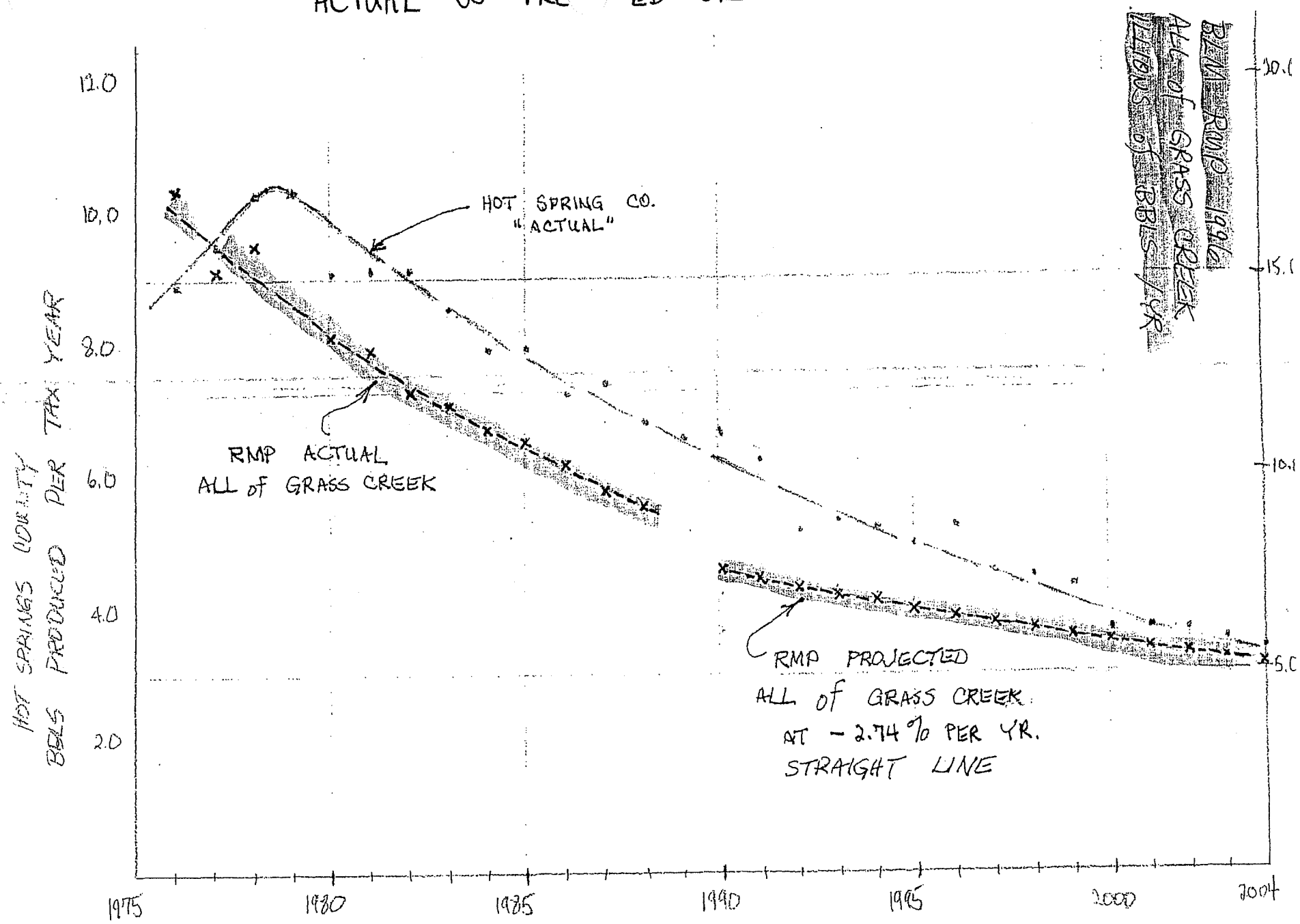
OIL PRODUCTION HISTORY - HOT SPRINGS COUNTY

TAX YEAR	BBLS PRODUCED	% CHANGE	AVERAGE PRICE/BBL	VALUATION	% CHANGE
1976	8,896,667		$6.49	$57,725,554	
1977	9,547,962	7.32%	$7.12	$67,971,737	17.75%
1978	10,354,763	8.45%	$7.37	$76,367,740	12.35%
1979	10,378,229	0.23%	$8.06	$83,627,536	9.51%
1980	9,031,753	-12.97%	$9.83	$88,744,551	6.12%
1981	9,034,240	0.03%	$22.94	$207,246,019	133.53%
1982	9,149,952	1.28%	$30.44	$278,589,311	34.42%
1983	8,524,553	-6.83%	$27.40	$233,566,723	-16.16%
1984	7,931,758	-6.95%	$24.81	$196,430,483	-15.90%
1985	7,951,624	0.25%	$24.57	$195,430,483	-0.51%
1986	7,211,811	-9.30%	$23.79	$171,621,268	-12.18%
1987	7,418,211	2.86%	$12.00	$89,068,356	-48.10%
1988	6,818,222	-8.09%	$16.14	$110,023,854	23.53%
1989	6,640,726	-2.60%	$12.36	$82,065,553	-25.41%
1990	6,683,978	0.65%	$13.93	$93,077,391	13.42%
1991	6,242,841	-6.60%	$17.76	$110,860,513	19.11%
1992	5,151,956	-17.47%	$16.49	$84,883,047	-23.43%
1993	5,298,722	2.85%	$13.86	$73,453,927	-13.46%
1994	5,220,929	-1.47%	$11.16	$64,522,744	-12.16%
1995	4,897,253	-6.20%	$10.45	$58,902,441	-8.71%
1996	5,203,320	6.25%	$12.63	$69,679,768	18.30%
1997	4,519,343	-13.15%	$16.86	$74,607,535	7.07%
1998	4,477,360	-0.93%	$14.31	$62,068,613	-16.81%
1999	4,300,192	-3.96%	$7.84	$33,156,295	-46.58%
2000	3,671,203	-14.63%	$14.75	$53,788,718	62.23%
2001	3,704,342	0.90%	$24.77	$89,336,300	66.09%
2002	3,676,411	-0.75%	$17.58	$63,456,974	-28.97%
2003	3,481,067	-5.31%	$18.48	$64,035,288	1.54%
2004	3,330,188	-4.33%	$22.35	$74,181,518	15.85%
2005	3,590,217	7.81%	$27.95	$95,525,342	28.77%
2006	3,322,281	-7.46%	$34.37	$114,206,691	19.56%

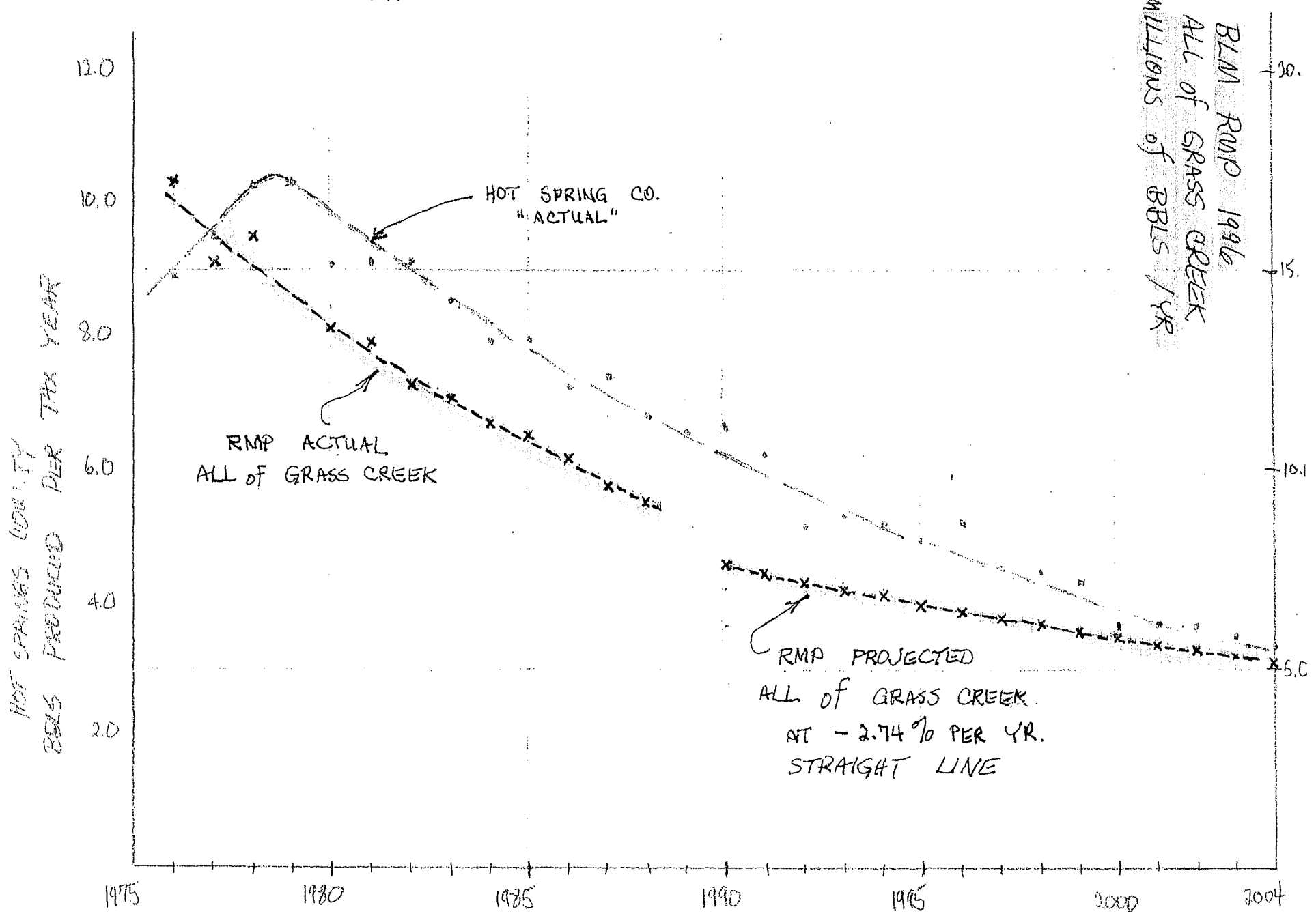
OIL PRODUCTION 1976-2006



ACTUAL VS PRE ED OIL PRODUCTION



ACTUAL VS PRE[illegible]ED OIL PRODUCTION



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MEMORANDUM

CONFIDENTIAL
ATTORNEY–CLIENT PRIVILEGE

TO: Karen Budd–Falen, Budd–Falen Law Offices, LLC

[redacted]

FROM: Brandon L. Jensen, Budd–Falen Law Offices, LLC

DATE: February 8, 2005

RE: Application of the requirements of the National Environmental Policy Act ("NEPA") to non–federal projects.

QUESTION PRESENTED:

Whether the provisions of the National Environmental Policy Act ("NEPA"), specifically 42 U.S.C. § 4332(2)(C), requiring a statement on the environmental impact for "major federal actions significantly affecting the quality of the human environment," applies to non–federal (i.e. state agency) projects?

SHORT ANSWER:

There is no litmus test that exists to determine what constitutes a "major Federal action" under the National Environmental Policy Act such that a non-federal i.e. state or private project is required to have NEPA analysis. Each non-federal project requires a situation-specific analysis of the factors set forth in detail below. In general, those factors are (1) whether the project is federal or non-federal; (2)

whether the project receives federal funding and (3) if the project is being undertaken by a non-federal entity, whether the connected federal agency must undertake "affirmative conduct" before the non-federal agency can act. (See also Conclusion section of this Memorandum).

I. NATIONAL ENVIRONMENTAL POLICY ACT ("NEPA")

Among the purposes of NEPA, 42 U.S.C. §§ 4321–4370f, are "[t]o declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man." See 42 U.S.C. § 4321. Accordingly, NEPA requires, to the fullest extent possible, that all agencies of the Federal Government:

> [I]nclude in every recommendation or report on proposals for legislation and other ***major Federal actions*** significantly affecting the quality of the human environment, a detailed statement by the responsible official on —
>
> (i) the environmental impact of the proposed action,
> (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
> (iii) alternatives to the proposed action,
> (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
> (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

See 42 U.S.C. § 4332(2)(C) (emphasis added). NEPA requires all federal agencies to consider the environmental consequences of "major federal actions significantly affecting the quality of the human environment" by preparing an environmental assessment, and, in some cases, an environmental impact statement. See id.

NEPA is one of our most important tools for ensuring that all federal agencies take a "hard look" at the environmental implications of their actions or non-actions. See Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976). However, unless a project involves a "***major federal action***," NEPA does not apply. See Macht v. Skinner, 916 F.2d 13, 16 n.4 (D.C. Cir. 1990).

NEPA is procedural in nature and does not require "that agencies achieve particular substantive environmental results," but it is "action-forcing" in that it compels agencies to collect and disseminate

information about the environmental consequences of proposed actions that fall under their respective jurisdictions. See Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 371 (1989). NEPA's focus is to ensure that the agency, in reaching its decision, will have available and will carefully consider detailed information concerning significant environmental impacts. See Goos v. Interstate Commerce Commission, 911 F.2d 1283, 1293 (8th Cir. 1990).

NEPA requires ***federal agencies*** – not states or private parties – to consider the environmental impacts of their proposed actions. See Macht v. Skinner, 916 F.2d at 18. "[F]or any major Federal action funded under a program of grants to States," however, NEPA allows a state agency to prepare an Environmental Impact Statement for a federal agency if certain conditions are met. See 42 U.S.C. § 4332(2)(D). NEPA thus focuses on activities of the federal government and does not require federal review of the environmental consequences of private decisions or actions, or those of state or local governments. See Goos v. Interstate Commerce Commission, 911 F.2d at 1293. Regardless of whether the Environmental Impact Statement is prepared by a federal or state agency, the twofold purpose of NEPA is "to inject environmental considerations into the ***federal*** agency's decisionmaking process," and "to inform the public that the [***federal***] agency has considered environmental concerns in its decisionmaking process." See Weinberger v. Catholic Action of Hawaii/Peace Education Project, 454 U.S. 139, 143 (1981) (emphasis added).

II. MAJOR FEDERAL ACTIONS WHICH MAY ARISE FROM A NON-FEDERAL PROJECT

Federal agencies may be bound by NEPA to perform additional environmental review of non-federal projects, notwithstanding the fact that the project is not federally funded. According to the regulations promulgated by the Council on Environmental Quality "("CEQ"), situated in the Executive Office of the President, major federal actions "include actions with effects that may be major and which are potentially subject to Federal control and responsibility." See 40 C.F.R. § 1508.18. These actions may be "entirely or partly financed, assisted, conducted, regulated, or approved by federal agencies." See 40 C.F.R. § 1508.18(a).

The regulation, 40 C.F.R. § 1508.18, further provides that "major federal actions" tend to include the "[a]pproval of specific projects, such as construction or management activities located in a defined geographic area. Projects include actions approved by permit or other regulatory decision as well as federal and federally assisted activities." See 40 C.F.R. § 1508.18(b)(4). These regulations are due substantial deference from reviewing courts. See Andrus v. Sierra Club, 442 U.S. 347, 358 (1979).

The regulations clearly indicate that "major federal actions" need not be federally funded to invoke NEPA requirements. See 40 C.F.R. § 1508.18(a); see also Southwest Williamson County Community Association, Inc. v. Slater, 243 F.3d 270, 279 (6th Cir. 2001); Save Barton Creek Association v. Federal Highway Administration, 950 F.2d 1129, 1134 (5th Cir. 1992); Macht v. Skinner, 916 F.2d at 18; Historic Preservation Guild of Bay View v. Burnley, 896 F.2d 985, 990 (6th Cir. 1989); and Maryland Conservation Council, Inc. v. Gilchrist, 808 F.2d 1039, 1042 (4th Cir. 1986). Of course, federal funding is a significant indication that a project constitutes a major federal action; however, the absence of funding is not conclusive proof of the contrary. See Southwest Williamson County Community Association, Inc. v. Slater, 243 F.3d at 279; and Historic Preservation Guild of Bay View v. Burnley, 896 F.2d at 990.

In addition, it is apparent that a non-federally funded project may become a major federal action by virtue of the aggregate of federal involvement from numerous federal agencies, even if one agency's role in the project may not be sufficient to create major federal action in and of itself. See 40 C.F.R. §§ 1508.25(a)(3) (noting that agencies "may wish to analyze these actions in the same impact statement."); and 1508.27(b) (noting that "more than one agency may make decisions about partial aspects of a major [Federal] action."); see also Maryland Conservation Council, Inc. v. Gilchrist, 808 F.2d at 1042 (holding that "[b]ecause of the inevitability of the need for at least one federal [agency] approval, . . . the construction of the [state] highway will constitute a major federal action."). Thus, a federal agency's argument that it was only involved in one aspect of the non-federal project's design and approval process, does not necessarily serve to defeat a claim that the pervasiveness of federal activity required to complete the project converts the project into a "major federal action." See Southwest Williamson County Community Association, Inc. v. Slater, 243 F.3d at 279.

III. STANDARDS FOR EVALUATING WHEN A NON-FEDERAL PROJECT BECOMES A MAJOR FEDERAL ACTION

As set forth above, NEPA requires ***federal agencies*** – not states or private parties – to consider the environmental impacts of their proposed actions. See Macht v. Skinner, 916 F.2d at 18. However, federal involvement in a non-federal project may be sufficient to "federalize" the project for purposes of NEPA. See id.

"[N]o litmus test exists to determine what constitutes 'major Federal action.'" See Save Barton Creek Association, 950 F.2d at 1134. Federal courts have not agreed on the amount of federal involvement necessary to trigger the applicability of NEPA. See Village of Los Ranchos de Albuquerque v. Barnhart, 906 F.2d 1477, 1480 (10th Cir. 1990). In order to determine whether a

non-federal project is or is not a "major federal action," within the meaning of 42 U.S.C. § 4332(2)(C), courts shall consider the following factors. First, whether the project is federal or non-federal; Second, whether the project receives significant federal funding; and finally, when the project is undertaken by a non-federal party, whether the federal agency must undertake "affirmative conduct" before the non-federal party may act. See Mineral Policy Center v. Norton, 292 F.Supp.2d 30, 54–55 (D.D.C. 2003), citing Macht v. Skinner, 916 F.2d 13 (D.C. Cir. 1990). No single factor of these three is dispositive, however, a non-federal project is generally considered a "major federal action" if it cannot begin or continue without prior approval of a federal agency. See Maryland Conservation Council, Inc. v. Gilchrist, 808 F.2d at 1042, citing Biderman v. Morton, 497 F.2d 1141, 1147 (2nd Cir. 1974); and Foundation on Economic Trends v. Heckler, 756 F.2d 143, 155 (D.C. Cir. 1985).

A. Federal vs. Non-Federal Projects

State and Private parties are not subject to NEPA. See Mineral Policy Center v. Norton, 292 F.Supp.2d at 54 n.29, citing Macht v. Skinner, 916 F.2d at 18. Accordingly, federal projects are, by definition, more likely to constitute "major federal action" than non-federal projects. See id.

B. Financial Assistance

"Typically, a project is considered a major federal action when it is funded with federal money." See Mineral Policy Center v. Norton, 292 F.Supp.2d at 5 n.30, citing Southwest Williamson County Committee Association v. Slater, 243 F.3d at 278; see also Indian Lookout Alliance v. Volpe, 484 F.2d 11, 16 (8th Cir. 1973) (stating that "any project for which federal funds have been approved or committed constitutes a major federal action bringing into play the requirements of NEPA.").

However, where the federal financial assistance to the planning process in no way implies a commitment by any federal agency to fund any project(s) or to undertake, fund or approve any action that directly affects the human environment, the non-federal project receiving the financial assistance is not a "major federal action." See Macht v. Skinner, 916 F.2d at 16–17 (holding that the Federal funding of preliminary studies is not the firm commitment that could transform an entirely state-funded project into major federal action affecting the environment within the meaning of NEPA); see also Atlanta Coalition on the Transportation Crisis, Inc. v. Atlanta Regional Commission, 599 F.2d 1333, 1347 (5th Cir. 1979) (holding that development of regional transportation plan is not major federal action). An adequate Environmental Impact Statement would, of course, be a necessary prerequisite for the expenditure of federal funds on the project itself. See id. at 17.

In most cases in which a federal agency makes a direct grant for a non-federal project, the use of federal funds for the project is sufficient to bring it under NEPA if the federal financial commitment is clear. See Daniel R. Mandelker, NEPA LAW AND LITIGATION § 8:20 (2nd ed. 2004). However, a court may find a project is not federalized if federal funding is minimal. See id., citing Ka Makani 'O Kohala Ohana Inc. v. Department of Water Supply, 295 F.3d 955 (9th Cir. 2002) (federal funding 1.3% of project); and Friends of Earth, Inc. v. Coleman, 518 F.2d 323 (9th Cir. 1975) (federal funding 10% of project). Finally, a project is not federalized if a federal funding commitment has not been made. See id.

C. Federal Permits, Approvals, and Control

Federal participation sufficient to make a non-federal action "federal" arises most clearly when a federal agency takes an action that authorizes a non-federal entity to undertake an activity or a project. In order for NEPA to apply to non-federal projects, the federal agency must engage in some "affirmative conduct." See Mineral Policy Center v. Norton, 292 F.Supp.2d at 5 n.31, citing State of Alaska v. Andrus, 429 F.Supp. 958, 962–63 (D. Alaska 1977). Federal permits, leases, and other approvals in federal agency programs are the typical examples. "If . . . the agency does not have sufficient discretion to affect the outcome of its actions, and its role is merely ministerial, the information that NEPA provides can have no effect on the agency's actions, and therefore, NEPA is inapplicable." See Mineral Policy Center v. Norton, 292 F.Supp.2d at 5 n.31, citing Citizens Against Rails-to-Trails v. Surface Transp. Bd., 267 F.3d 1144, 1151 (D.C. Cir. 2001); see also Maryland Conservation Council, Inc. v. Gilchrist, 808 F.2d at 1042 (stating that a "non-federal project is considered a 'federal action' if it cannot begin or continue without prior approval of a federal agency."); South Dakota v. Andrus, 614 F.2d 1190, 1193 (8th Cir. 1980) (holding that "ministerial acts . . . have generally been held outside the ambit of NEPA's EIS requirement."); Minnesota v. Block, 660 F.2d 1240, 1259 (8th Cir. 1981) (stating that because "the Secretary has no discretion to act, no purpose can be served by requiring him to prepare an EIS, which is designed to insure that decisionmakers fully consider the environmental impact of a contemplated action."); and Sierra Club v. Hodel, 848 F.2d 1068, 1089 (10th Cir. 1988) (stating that the "EIS process is supposed to inform the decisionmaker. This presupposes he has judgment to exercise. Cases finding 'federal' action emphasize authority to exercise discretion over the outcome.").

1. Substantial federal participation

There are two alternative bases for finding that a non-federal project constitutes a "major federal action" such that NEPA requirements apply. First, when the federal decisionmakers have

authority to exercise sufficient control or responsibility over the non-federal project so as to influence the outcome of the project. Second, when the non-federal project restricts or limits the statutorily prescribed federal decisionmakers' choice of reasonable alternatives. If either test is satisfied, the non-federal project must be considered a "major federal action." Both tests require a situation-specific and fact-intensive analysis. See Southwest Williamson County Community Association, Inc. v. Slater, 243 F.3d at 281.

a. Federal control or responsibility for outcome

If the federal participation in the project is substantial, then the state should not be allowed to move forward until all of the federal approvals have been granted in accordance with NEPA. See Macht v. Skinner, 916 F.2d at 18–19. For example, Maryland Conservation Council, Inc. v. Gilchrist, 808 F.2d 1039 (4th Cir. 1986), involved an attempt to enjoin construction of a county highway designed to pass through a state park. The court found that the county highway project involved "major federal action," because (1) the highway crossed a state park that had been purchased with a substantial federal grant; therefore, the county needed the approval of the Secretary of the Interior to convert the park land to other than recreational use; (2) the county needed a § 404 permit from the Army Corps to dredge wetlands; and (3) the county might need the approval of the Secretary of Transportation to use park land for a transportation project. See Maryland Conservation Council, Inc. v. Gilchrist, 808 F.2d at 1042. On these facts, the Fourth Circuit Court of Appeals held that the district court should have considered the motion to enjoin the county's construction until the federal officials complied with NEPA. See id. at 1043.

Importantly, the court in Gilchrist did not hold that the state had to comply with NEPA, because the approval of several federal agencies was a necessary precondition to the state project. Instead, Gilchrist held that because the state need permits and discretionary approval from several federal agencies in order to build a substantial part of the highway, the state could not construct any portion of the highway until the federal agencies had approved the project in compliance with NEPA.

Furthermore, in general, "a non-federal project is considered a 'federal action' if it cannot begin or continue without prior approval by a federal agency and the agency possesses authority to exercise discretion over the outcome." See Sugarloaf Citizens Association v. Federal Energy Regulatory Commission, 959 F.2d 508, 513–14 (4th Cir. 1992). The mere approval by the Federal government of an action by a state/private party, where that approval is not required for the non-federal project to move forward, will not constitute a "major federal action" under NEPA. See Mayaguezanos Por La Salud Y El Ambiente v. United States, 198 F.3d 297, 301–02 (1st Cir. 1999) (held that voluntary

notification of the Coast Guard by shippers of nuclear waste pertaining to transit through territorial waters did not constitute major federal action; the United States has chosen not to regulate shipments of nuclear waste through its territorial waters – there are no requirements that it do so, nor is it immediately evident that it would have that authority if it so chose); see also Citizens Awareness Network, Inc. v. United States Nuclear Regulatory Commission, 59 F.3d 284, 292–93 (1st Cir. 1995) (found major federal action where a federal agency approved the release of funds from a trust held by the agency that were necessary for a project to go forward; the effect of this action was explicitly to permit the private actor to decommission a nuclear facility).

When the federal government has actual power to control a non-federal project (*i.e.*, the federal agency's action must be a legal condition precedent that authorizes the other party to proceed with the action), the project constitutes a "major federal action." See Ross v. Federal Highway Admin., 162 F.3d 1046, 1051 (10th Cir. 1998); Ringsred v. City of Duluth, 828 F.2d 1305, 1308 (8th Cir. 1987); and NAACP v. Medical Center, Inc., 584 F.2d 619, 628 n.15 (3rd Cir. 1978). If federal approval is the prerequisite to the action taken by the state/private parties, or if the federal agency possesses some form of authority over the outcome, then the non-federal project constitutes "major federal action." See Mayaguezanos Por La Salud Y El Ambiente v. United States, 198 F.3d at 301–02 (held no major federal action under NEPA, because United States was not assigned a role, nor had any control, over the shipment of nuclear waste through its territorial waters); see also United States v. South Florida Water Mgmt. Dist., 28 F.3d 1563, 1572 (11th Cir. 1994) (holding that the touchstone of a major federal activity constitutes a federal agency's authority to influence non-federal activity); and Save Barton Creek Association v. Federal Highway Administration, 950 F.2d at 1134 (stating that the "distinguishing feature of 'federal' involvement is the ability to influence or control the outcome in material respects.").

Moreover, the need for a federal license or approval could sometimes trigger NEPA, but not where the approval did not involve close scrutiny of the action or anything more than notice for safety purposes. See Citizens for Responsible Area Growth v. Adams, 680 F.2d 835, 839–40 (1st Cir. 1982) (held that construction of an airport hangar by private parties with private monies was not federal action for NEPA purposes, and that the mere appearance of the proposed construction on a federally approved Airport Layout Plan did not create sufficient federal involvement to require an Environmental Impact Statement).

Finally, if no federal agency has jurisdiction over the non-federal project, the federal agency lacks sufficient control or responsibility over the non-federal project to influence the project's outcome. See Southwest Williamson County Community Association, Inc. v. Slater, 243 F.3d at 284. Stated

another way, whether an agency action or project is part of some other concededly "major federal action" depends largely on whether the agency exercises legal control over the allegedly non-federal action or project. See Goos v. Interstate Commerce Commission, 911 F.2d at 1294. In determining whether a federal agency exercises legal control, a court must consider whether some federal action "is a legal condition precedent to accomplishment of an entire non-federal project." See id., citing Winnebago Tribe v. Ray, 621 F.2d 269, 272 (8th Cir. 1980). A "major federal action" occurs when a federal agency has discretion in its enabling decision to consider environmental consequences and that decision forms the legal predicate for another party's impact on the environment. See id. at 1295, citing NAACP v. Medical Center, Inc., 584 F.2d at 633. In such a situation, it is fair to say that the agency has significantly contributed to the environmental impact. See id.

b. Restricting choice of reasonable alternatives

A state may not begin construction of any part of a project if the effect of such construction would be to limit significantly the options, or choice of reasonable alternatives, of the federal officials who have discretion over substantial portions of the project. See Macht v. Skinner, 916 F.2d at 19 (held that compliance with NEPA was not required where the only federal involvement was the issuance of a wetlands permit covering a maximum of 3.58 acres of the 22.5-mile project); see also Sierra Club v. Alexander, 484 F.Supp. 455, 572 (N.D. N.Y. 1980) (held that the court was empowered to enjoin private construction of shopping mall until Army Corps complied with NEPA where completion of the project will require Army Corps approval to re-channel 2,000 linear feet of creek and fill 38 acres of wetlands).

If the federal decisionmakers' choices were limited by state/private actions, then the non-federal project would constitute a "major federal action," despite the agencies' lack of jurisdiction. See Southwest Williamson County Community Association, Inc. v. Slater, 243 F.3d at 284 n.13. Where there is no pressure on federal decisionmakers, however, then the absence of jurisdiction becomes the determinative factor. See id.

Moreover, non-federal actors may not be permitted to evade NEPA by completing a project without an Environmental Impact Statement and then presenting the responsible federal agency with a *fait accompli* (*i.e.*, fact or deed accomplished, presumably irreversible). See Maryland Conservation Council, Inc. v. Gilchrist, 808 F.2d at 1042.

2. Federal partnership/joint venture

It is well settled that non-federal parties may be enjoined, pending completion of an Environmental Impact Statement, where those non-federal entities have entered into a partnership or joint venture with the Federal Government to obtain goods, services, or financing. See Biderman v. Morton, 497 F.2d 1141, 1147 (2nd Cir. 1974). A joint venture between a state/private party and the Federal government to obtain goods or services from a Federal agency clearly constitutes a major federal action subject to NEPA. See Sierra Club v. Hodel, 544 F.2d 1036, 1044 (9th Cir. 1976) (holding that construction of hydroelectric power plant may be enjoined until federal agency prepared Environmental Impact Statement, because the Bonneville Power Administration federalized the project by contracting to construct a transmission line and supply power to the plant).

IV. CONCLUSION

No litmus test exists to determine what constitutes "major Federal action" under the National Environmental Policy Act. Federal courts have not agreed on the amount of federal involvement necessary to trigger the applicability of NEPA. However, the following guidelines may assist non-federal actors in determining whether a non-federal project is subject to the requirements of NEPA:

A. The Provisions Of NEPA Will Apply Under The Following Circumstances —

1. The non-federal project is entirely or partly financed, assisted, conducted, regulated, or approved by federal agencies;
2. The project receives significant federal funding;
3. The federal agency must undertake "affirmative conduct" before the non-federal party may act;
4. The project cannot begin or continue without prior approval of a federal agency;
5. The federal decisionmakers have authority to exercise sufficient control or responsibility over the non-federal project so as to influence the outcome of the project;
6. The non-federal project restricts or limits the statutorily prescribed federal decisionmakers' choice of reasonable alternatives;

7. The federal agency possesses authority to exercise discretion over the outcome of the project;
8. The federal agency's action is a legal condition precedent that authorizes the other party to proceed with the project; or
9. The non-federal entities have entered into a partnership or joint venture with the Federal Government to obtain goods, services, or financing.

B. The Provisions Of NEPA Will Not Apply Under The Following Circumstances —

1. The federal financial assistance to the planning process in no way implies a commitment by any federal agency to fund any project(s) or to undertake, fund or approve any action that directly affects the human environment;
2. The federal funding is minimal;
3. The federal agency does not have sufficient discretion to affect the outcome of non-federal project;
4. The role of the federal agency is merely ministerial;
5. The approval by the Federal government of non-federal project, where that approval is not required for the non-federal project to move forward;
6. The approval did not involve close scrutiny of the non-federal project;
7. The federal agency lacks jurisdiction over the non-federal project;

These guidelines are not intended to be exhaustive, nor apply to any particular situation, but should provide sufficient guidance to determine whether a non-federal project may or may not be subject to the provisions of NEPA. Each non-federal project requires a situation-specific and fact-intensive analysis of the aforementioned factors.

Meeteetse Conservation District

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November 30, 2007 Via FAX

Mr. David Waterstreet
Wyoming DEQ/WQD and WWAB
Herschler Bldg., 4th Floor West
122 W.25th Street
Cheyenne, WY 82002

RE: Comments regarding the Agricultural Use Protection document and proposed revisions to Section 20 of Chapter 1, including the adoption of Chapter 1, Appendix H as a Rule.

Dear Mr. Waterstreet and Wyoming WWAB:

As locally elected government, the Meeteetse Conservation District (MCD) appreciates the opportunity to provide continuing comment on the proposed revisions to Chapter 1, Section 20 which has become known as the Agricultural Use Protection document.

Furthermore, the MCD wishes you to understand that it had received no communication that its comments previously made to WWAB and WDEQ/WQD had been analyzed and responded to by WQD until this morning, when the content analysis documents were unexpectedly found at the WQD website. It should be noted that content analysis of comments and WQD response to those comments for the Water and Waste Advisory Board (Board) meeting on June 15, 2007 in Casper, appear to have been made after the September 14, 2007 meeting in Jackson. Regrettably, since there had been no response between the June and September meetings, there was no expectation of formal response following the September meeting prior to the upcoming December meeting.

The MCD will incorporate response to WQD content analysis to the best of its ability herein where relevant, but reserves the right to respond further to the content analysis due to this document's deadline and the time needed to obtain additional supporting information.

From the comment response documents, the MCD now understands the WQD desire for a Rule to better the agency's enforcement ability. The MCD believes that ease of enforcement should not come at the expense of citizen rights to the use and benefit from the use of natural resources.

COMMENT (1): The ability of Wyoming's citizens to benefit from the use of natural resources, including those people making their living through agriculture, must be protected through adoption of properly crafted policy.

COMMENT (2): Section 20 should remain a policy and should not be implemented as a rule. Policy will have more flexibility and allow the DEQ to make better site-related decisions. This flexibility should provide Wyoming to manage its water resources in harmony with local and regional custom and culture.

For example, from recent experience with the WQD presentations on TMDL implementation, it is known that analogies are a desired way to provide explanation. Wyoming manages its highways (a resource used by the public) by regulating speed of vehicles (a parameter, similar to the amount of sulfate in the water). The parameter is measurable and it is regulated by instituting a speed limit (similar to an effluent limit). The State regulates the speed parameter based on risk factors, and there is a standard statewide speed limit of 65 MPH (similar to the current 3000 mg/L effluent limit on sulfate). The State reduces the speed limit (similar to effluent limit) where risk factors, and there is a wide variety of risk factors, indicate that the reduction is appropriate. The process is fairly simple, is generally based on public input, requires some level of technical assessment, and changes are made from time to time as new information becomes available or conditions and risk factors change. The parameter is not regulated to the point that absolute safety is achieved (effluent limit lowered to the point where injury can not occur). In fact, human fatalities occur. In fact, injury through use of the highway (use of the resource) commonly involves a number of factors in addition to speed (regulated parameter) whether or not the speed limit (effluent limit) is violated. In fact, exceeding the speed limit (effluent limit) does not result in a certainty of injury. Finally, the State is able to regulate speed effectively without a complicated, time-consuming, expensive rulemaking process that results in one speed limit (effluent limit) over the whole state.

COMMENT (2): It would appear that extensive research currently in progress makes it premature to arbitrarily reduce the effluent limit on sulfates from 3000mg/L to 2000 mg/L.

While the MCD acknowledges that the WQD would like to institute a "safe" effluent limit on sulfate, Dr. Merle Raisbeck's report may be interpreted in a variety of ways, not necessarily in agreement with WQD's interpretation.

There is abundant ongoing research right now. Both water and feedstuff-related, in part as a result of increased brewer's grains from ethanol production in the upper Midwest. The MCD agrees with Dr. Merle Raisbeck's statement that his report "represents a reasonable starting point for evaluating the adequacy of water quality for animals".

In preparing these comments, I found "Effects of Water Quality on Cow/Calf Production", Johnson, P. S, et al., Animal and Range Sciences, South Dakota State University.

Its non-technical summary stated: "Water high in TDS and sulfates can kill livestock, however the effects of moderate concentrations are poorly understood. This project examines the effects of water with **moderate TDS and sulfates** on cow/calf performance..." (Emphasis added.)

Its impact statement related: "Sulfate levels in water in western South Dakota range from minimal to extremely high. **The sulfate levels in drinking water available to livestock on many pastures in the region often exceed the levels of sulfate used in this study (2700 mg/l sulfates in 2003 and 3000 mg/l sulfates in 2004).** Our study shows very clearly that water sulfate levels of 2700 mg/l or greater can have detrimental effects on cow-calf herds. Alternative sources or management to avoid water when salts are most concentrated need to be considered in these situations."(Emphasis added.)

It is important to note that 2700mg/L and 3000mg/L are considered to be "moderate" in this study.

In following up on that study, I contacted Dr. Ken Olson at SDSU. He agreed to let me pass on to you his statement that while "3000 ppm water has real issues, cattle die, and 2000 ppm water is

safer, cattle generally don't get brain lesions" symptomatic of polio, "sometimes 4000 ppm water can be consumed with no effects, and sometimes 2000ppm water results in polio".

The real key to our conversation though, was that he believed that current ongoing research and technical developments in water treatment on the horizon made the proposed rule with an effluent limit of 2000 mg/L problematic, with the loss of available range potentially more damaging to the producer than the water. Furthermore, he was optimistic that the future ability to manage moderate levels of sulfate would improve.

I have spoken with UW's Kristi Cammack, Ph.D., Assistant Professor, Quantitative and Molecular Genetics.(Summary vitae is provided at http://uwadmnweb.uwyo.edu/Anisci/Cammack.asp) She is involved with research efforts are aimed at determining underlying genomic variations that are responsible for phenotypic differences in animals. This includes interest in determining genomic differences between animals resistant and susceptible to sulfate toxicity and research to identify genetics markers that may be used to identify those animals that are more susceptible, allowing producers to better manage their livestock. Additionally, her laboratory interacts with other faculty to study the effects of these toxicities on physiology and reproduction. **She related to me that with respect to sulfate toxicity, there is no "hard and fast rule right now"** Furthermore, she supported Dr. Raisbeck's statement that there is deficit of quantitative toxicologic data in big game wildlife.

It is of note that both of these researchers placed Dr. Raisbeck and his work in their highest esteem.

COMMENT (3): It is also of note that both Dr. Cammack and Dr. Olson, each having experience with range livestock and range-based research, stated that on the basis of the information which I presented to them, they believed that instituting a 2000mg/L effluent limit at the present would be too restrictive and premature, given the potential results of ongoing research.

Agricultural producers are accustomed to operating with multiple risk factors. Alfalfa is an important feedstuff, is grazed by many operators and yet has killed many cattle due to bloat and crippled many horses due to founder. Oat, wheat, barley and other small grain hay has poisoned livestock through accumulated nitrates. Prussic acid poisoning from sorghum and Sudan grass is not uncommon. Acidosis poisons cattle that graze corn harvest aftermath and those in the feedlot. Grass tetany in cattle and founder in horses occurs from grazing spring grass. And so on. The relationship between sulfate in water and other feed, water, and environmental factors is complex. To the agricultural producer, how to balance the risk associated with moderate levels of sulfate is no different than balancing other production risks.

COMMENT (4): The MCD urges the WWAB to recognize that there is a very real risk to the agricultural producer of completely losing an existing water source under the proposed 2000 mg/L effluent limit for sulfate, and to recognize that the greater agricultural use protection may come from the ability to use a water source with sulfate content of up to 3000mg/L.

There are additional risks to the livestock producer grazing Federal lands in the proposed language change, page H2:

"~~(ii)~~(iii) Livestock watering waiver - An exception to the limits above may be made whenever the background water quality of the receiving water is ~~worse~~ of poorer quality than the value listed for the associated pollutant ~~or when the livestock producer~~ and the landowner requests use of the water and thereby accepts any potential risk to his livestock."

The first is that the landowner is presumed to be the livestock owner, and the second is that Federal land managers are subject to outside influences from those that wish to eliminate grazing of livestock on Federal lands, from internal influences that do not consider the well being of the livestock owner or permittee, and from administrative procedure necessities such as NEPA compliance in the case of modifications to existing uses.

COMMENT (5): In order to provide agricultural use protection, the MCD urges the WWAB to continue to use the existing 3000mg/L effluent limit until further research validates a real need for change, based on locally confirmed production losses.

The MCD believes that the DEQ-WQD should provide a more complete analysis of existing discharges before recommending the proposed 2000mg/L effluent limit for sulfate. At the previous WWAB hearing, the presentation by Jeremy Zumberge, WY DEQ, "Analysis of ambient water quality conditions in relation to recommended thresholds for livestock and wildlife consumption", September 12, 2007 provided the following table:

Sulfates—Oil Treater Discharges

Population	Exceed Chronic Threshold (1000 mg/l)	Exceed Short Threshold (1800 mg/l)	Total Population Count (N)
Samples	25.11%	5.96%	235
Outfalls	38.30%	12.77%	47
Permits	36.96%	13.04%	46

Data Source: WDEQ Inspection Report Data, 46 randomly sampled oil treater permits

The statement was made that there was no obvious geographical patterns for oil treater discharges greater than UW report values for sulfates, qualified by noting a limited dataset for oil treater sulfates. While the data set is composed of 46 permits and 47 outfalls, a DEQ-WQD Permit Search (http://deq.state.wy.us/wqd/npdes/QLstPermits.asp) made November 29, 2007 returned 127 records for Park County alone. Agricultural producers in Park County and elsewhere in the Big Horn Basin, know that the Basin is a geographical area of relatively high sulfate values. Those producers have been vocal in their concern about their future ability to use discharges that they know exceed the proposed reduced effluent limit for sulfate. They have been vocal in their belief that produced water from infill wells, and other new permits, as well as renewed or amended permits, will be unavailable.

COMMENT (6): Now, more than ever, the MCD believes that the draft revised Section 20 threatens the future ability to use water produced and discharged in conjunction with extraction of hydrocarbons. Section 20 must provide local flexibility to develop and utilize future water resources associated with mineral development.

COMMENT (7): The MCD is opposed to the revised Section 20 as written. Whether policy or rule, attempts to use the classification "naturally irrigated lands must be eliminated. Local soil and vegetative conditions coupled with the ambiguity and subjectivity of determining and defining measurable decrease in "plants used for agricultural purposes" on "naturally irrigated lands" will inevitably lead to a myriad of lawsuits and to a game of controlling watersheds through control of strategic land parcels. Usual, ordinary, typical changes in land ownership may cause wide disruption as well. This will be exacerbated by the ability of unaffected third parties to sue on behalf or against public land management agencies. Effects on "naturally irrigated lands" must be determined in some other manner with the ability for local considerations to be incorporated.

COMMENT (8): At the present time, process falls short of satisfying the requirements of Wyoming Statute 35-11-302 requiring the state to consider and evaluate social and economic impacts of proposed rules or regulations to wit (Statute citations);
(vi) In recommending any standards, rules, regulations, or permits, the administrator and advisory board shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved including:

(A) The character and degree of injury to or interference with the health and well being of the people, animals, wildlife, aquatic life and plant life affected

(B) The social and economic value of the source of pollution

(D) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution

COMMENT(9): The MCD believes that agricultural use protection is important enough that the State of Wyoming should commission a cost-benefit analysis of the impact of the Agricultural Use Protection document to ensure that agricultural use protection will be achieved.

COMMENT (10): Let there be no doubt. The MCD believes, as it continues to review evidence submitted during the course of process, that the Agricultural Use Protection document is a regulatory scheme that places significant additional and incremental burdens on the agricultural producer, the agricultural community, the local community, and the State of Wyoming. While revision of current policy may be appropriate to ensure practical water quality management, the document does not protect the agricultural industry and jeopardizes bona fide agricultural producers.

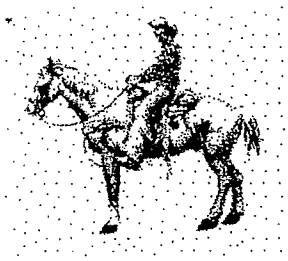
The MCD appreciates the continuing opportunity to comment and actively participate in the development of policies that affect the waters of the State of Wyoming and the economic stability of its agricultural community.

Respectfully submitted,

Steve Jones

Steve Jones

Resource Management Coordinator
Meeteetse Conservation District



Meeteetse Conservation District

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December 6, 2007

Mr. David Waterstreet
Wyoming DEQ/WQD and WWAB
Herschler Bldg., 4th Floor West
122 W.25th Street
Cheyenne, WY 82002

RE: Review of WDEQ-WQD Response to Comments and Comment Analysis Regarding the Agricultural Use Protection document and proposed revisions to Section 20 of Chapter 1, including the adoption of Chapter 1, Appendix H as a Rule.

Dear Mr. Waterstreet and Wyoming WWAB:

As locally elected government, the Meeteetse Conservation District (MCD) has appreciated the opportunity to provide continuing comment on the proposed revisions to Chapter 1, Section 20 which has become known as the Agricultural Use Protection document.

At its January 8, 2008 regular monthly Board Meeting, the MCD will review the following WDEQ/WQD Analysis of Comments documents:

- Wyoming DEQ/WQD responses relative to the 2nd Draft of the Agricultural Use Protection document from comments received at the Water and Waste Advisory Board meeting on June 15, 2007 in Casper, Wyoming. (DHW/bb/7-0953)
- Wyoming DEQ/WQD responses relative to the 2nd Draft of the Agricultural Use Protection document from comments received at the Water and Waste Advisory Board meeting on September 14, 2007 in Jackson, Wyoming. (DHW/bb/7-0954)
- Wyoming DEQ/WQD responses relative to the Agricultural Use Protection document and proposed revisions to Section 20 of Chapter 1, including the adoption of Chapter 1, Appendix H as a Rule from comments received at the Water and Waste Advisory Board meeting on December 7, 2007, provided that those responses are received by the MCD on or before January 2, 2008.

Primary consideration will be given to selected WQD responses to MCD comments.

The board meeting is currently scheduled to convene at 6:00 p.m., as normal, at the MCD office with the review of WDEQ/WQD documents to begin at 7:30 p.m. and conclude at 8:45 p.m.

Respectfully submitted,

Steve Jones

Steve Jones
Resource Management Coordinator

Meeteetse Conservation District

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January 8, 2008

Mr. David Waterstreet
Wyoming DEQ/WQD and EQC
Herschler Bldg., 4th Floor West
122 W.25th Street
Cheyenne, WY 82002

Re: Meeteetse Conservation District (MCD) review of "Comments received and Wyoming DEQ/WQD responses relative to the 2nd Draft of the Agricultural Use Protection document", pertaining to comments submitted by the MCD for the Water and Waste Advisory Board meetings on June 15 and September 14, 2007.

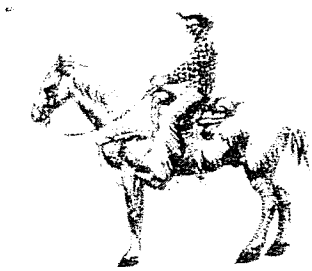
Dear Mr. Waterstreet:

This Review is tendered as correspondence between the MCD, as local elected government, and the DEQ/WQD, as a State agency acting under the direction of both the Wyoming EQC and WWAB. For the sake of completeness and due to evolving vision, the MCD regrets that the hearing transcript for the September 14, 2007 WWAB hearing and DEQ/WQD review of MCD comments made at the December 7, 2007 WWAB meeting were not available in time to be incorporated in this document.

This Review is made in part as a determination of consistency with Meeteetse Conservation District Goals and Operating Policy as provided for under Wyoming statute and the Meeteetse Conservation District *"Land Use Management and Resource Conservation Plan 1994"*, as reauthorized October 4, 2005, and condensed in the Meeteetse Conservation District document *"Land Use Management and Resource Conservation Plan Goals, Actions, and Policy Summary"*, hereby incorporated by reference. MCD Operating Policies (a), (d), (e), and (f) generally apply to this review.

Meeteetse Conservation District Operating Policy: The MCD Board of Supervisors have [sic] adopted the following policies to assist in the implementation of the described goals and actions, and the operation of the MCD:

a) Cooperate and coordinate with Cooperators, residents of the MCD and public institutions/government agencies in the conservation of the water, soil, plants, and wildlife resources in the MCD.



Meeteetse Conservation District

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June 13, 2007 Sent By FAX

Mr. David Waterstreet
Wyoming DEQ/WQD and EQC
Herschler Bldg., 4th Floor West
122 W.25th Street
Cheyenne, WY 82002

RE: Comments regarding Appendix H, Agricultural Use Protection and associated language in Section 20 of Chapter 1

Dear Mr. Waterstreet and Wyoming WWAB:

The Meeteetse Conservation District (MCD) appreciates the opportunity to provide additional comment on the proposed revisions to Chapter 1, Section 20 - Agricultural Use Protection Policy

COMMENT (1): Section 20 should remain a policy and should not be implemented as a rule. Policy will have more flexibility and allow the DEQ to make better site-related decisions.

COMMENT (2): The MCD is opposed to the revised Section 20 as written.

COMMENT (3): Now, more than ever, the MCD believes that the draft revised Section 20 threatens the future ability to use water produced and discharged in conjunction with extraction of hydrocarbons. Section 20 must provide local flexibility to develop and utilize future water resources associated with mineral development.

COMMENT (4): Whether policy or rule, attempts to use the classification "naturally irrigated lands must be eliminated. Local soil and vegetative conditions coupled with the ambiguity and subjectivity of determining and defining measurable decrease in crop production on "naturally irrigated lands" will lead to a myriad of lawsuits and will also lead to a game of controlling watersheds through control of strategic land parcels. This will be exacerbated by the ability of unaffected third parties to sue on behalf or against public land management agencies. Effects on "naturally irrigated lands" must be determined in some other manner with the ability for local considerations to be incorporated.

COMMENT (5): Public review of Section 20 needs to be extended. Having this hearing prior to conclusion of the Raisbeck review of effects of sulfates on livestock is premature. The ability of Wyoming residents to actively participate on a statewide basis has been limited. The process used by the EQC has not properly satisfied the requirements of Wyoming Statute 35-11-302 requiring the state to consider and evaluate social and economic impacts of proposed rules or regulations to wit (Statute citations);

(vi) In recommending any standards, rules, regulations, or permits, the administrator and advisory board shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved including:

(A) The character and degree of injury to or interference with the health and well being of the people, animals, wildlife, aquatic life and plant life affected

(B) The social and economic value of the source of pollution

(D) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution

COMMENT (6): The proposed revisions are very important and, while revision may be needed to ensure practical water quality management, Chapter 20 as written falls short of protecting the agricultural industry and actually jeopardizes agricultural producers on a local basis.

The MCD appreciates the opportunity to comment on Chapter 1 Water Quality Rules and Regulations, Section 20 - Agricultural Use Protection Policy.

Respectfully submitted,

ss/ Steve Jones

Steve Jones

Resource Management Coordinator
Meeteetse Conservation District

DEQ/WQD Response (from DHW/bb/7-0953):

General

1. Comment: MCD comments, the current draft threatens the future ability to use produced water. Section 20 must provide local flexibility to produce and utilize future water resources associated with mineral development and falls short of protecting the agricultural industry and local agricultural producers. Yates comments that in essence, Appendix H causes more harm to existing uses and the environment than it would prevent and urges the Water Quality Division (WQD) to evaluate these impacts more carefully before implementing Appendix H as a rule or policy.

Response: *The proposed Appendix H provides several alternatives for ensuring that produced water is of sufficient quality to protect designated agricultural uses and can be utilized for beneficial uses whenever possible. It provides these protections through a tiered approach for permitting discharges which includes Tier 1 default effluent limits for discharges with*

exceptional water quality, Tier 2 effluent limits based on background water quality, or Tier 3 effluent limits based on a comprehensive no harm analysis. When a permit effluent limit can not be met under the tiered approach, permission can be sought from affected landowners who desire to use the produced water, as long as the landowner is willing to take the risks of receiving the lesser quality water. [(1.1)This interpretation of Appendix H appears to have no vision contemplating the effects of future ownership changes affecting the ability of the producer to continue to discharge, nor assessment of the effects on a community that would be created by a single owner's "change of mind" or a new owner's dissent with the status quo. (1.2) Industry has also testified that permit renewals may be a point at which challenges (1.1) may be launched. (1.3) Furthermore, this Response to Comment ignores concerns expressed by many livestock producers who have attended hearings (conducted by DEQ/WQD, WWAB, EQC, and local government) and presented explanation as to how Appendix H may injure them.] *Furthermore, to date we are finding that producers are able to meet these permit conditions in most cases.* [(1.4) Oil producers have stated that some marginal fields in the Big Horn Basin may be taken out of production if required to reinject water, and certainly, reinjection insures that producers are able to meet permit requirements while eliminating agricultural use.] *The impacts of implementing Appendix H as a rule/policy have been evaluated during the process of several revised drafts. During this process, the public has supplied comments that were considered and resulted in several revisions. The WQD also sought outside input from soil scientists and reviewed accompanying scientific literature. We believe that the rule being proposed takes into consideration the needs of the agricultural industry to obtain water for beneficial uses, while ensuring that the provisions of Chapter 1, Section 20 are being met.* [(1.1), (1.2), (1.3), (1.4) As previously stated. (1.5) It seems that the opposition to the proposed rule presented by the four major agricultural associations, Wyoming Farm Bureau Federation, Wyoming Stockgrowers, Rocky Mountain Farmer's Union and Wyoming Woolgrowers, as well as the oil and gas industry in general, is not consistent with this DEQ/WQD view of the proposed rule. (1.6) The MCD urges the DEQ/WQD to fully consider the combined voices of these agricultural industry organizations, whose policies are created and reviewed annually by each organization's statewide membership.]

Policy vs. Rule

9. Comment: Appendix H should remain a policy instead of a rule to provide the WQD with the flexibility needed for administration of the provisions and for making better site related decisions.

Response: *The proposed rule does have utility as policy and has been used in that capacity for developing permit effluent limits. When evaluating the implications of these procedures as a policy or a rule, the primary reason for this procedure remaining as a policy is to maintain a certain degree of flexibility to accommodate site specific conditions, while the primary reason for developing these procedures as a rule is to ensure a degree of enforceability.*
The current draft has been through several revisions, with input from all known stakeholder groups who will likely be affected by these decisions. The current process for developing permit effluent limits for agricultural uses has been used since the mid 1990s and revised periodically to address various issues as they arose.

Furthermore, the potential effects on designated uses and land owners have been discussed and debated to the extent that many of the comments contained in this document are the same or similar in nature to those for which we have already provided a response. We believe that the comments and concerns which have been brought to our attention have been addressed and resulted in an updated procedure that allows a good degree of flexibility for both applicants who need an effective way to surface discharge produced water, and for land owners to use that water for beneficial uses when that water is protective of designated agricultural uses. On the other hand, the one component that is not addressed in a policy is the ability to enforce these procedures with the effect provided by a rule. Although it will be a more cumbersome process to proceed with changes to a rule, [(9.1) The current lengthy process has been ample demonstration of the cumbersome process of rulemaking. (9.2) Furthermore, the MCD believes that flaws in the language of the proposed rule will promote the ongoing conflict between opposing viewpoints on a statewide level, compromising the ability to resolve issues on a local level in accordance with MCD Operating Policy or by other locally facilitated efforts. (9.3)The ongoing process provides evidence of the inability of a statewide "one size fits all" rule to successfully provide resolution by addressing the underlying reasons for the conflict.] *we believe that most issues have been addressed, whereas the needs for enforcing agricultural use protection is best addressed if approved as a rule. It should be noted that DEQ has recently received appeals for produced water discharge permits based on the fact that the proposed rule is currently a policy.* [(9.4) Here it is noted that the DEQ/WQD has received appeals, apparently in significant number evidenced by the desire to promulgate the Rule for enforcement purposes, yet previously it was stated "*to date we are finding that producers are able to meet these permit conditions in most cases*" which seems to provide evidence supporting a need for the flexibility of a Policy to provide for local circumstances.]

Historic Discharges [DEQ/WQD placed no MCD comments in this category]

[MCD Comment 1 was tendered to address this issue as well. As stated previously, (1.2) Industry has also testified that permit renewals may be a point at which challenges (1.1) may be launched.]

Naturally Irrigated Lands

16. Comment: Attempts to use the classification "naturally irrigated lands" must be eliminated due to varying soil and vegetative conditions, and the ambiguity and subjectivity of defining and determining measurable decrease in crop production which will lead to a myriad of law suits. This will be exacerbated by the ability of unaffected third parties to sue on behalf of or against public land management agencies.

Response: *The protection of naturally irrigated lands (bottomlands) is one of the more controversial issues in the proposed rule.* [(16.1) That statement is precisely the reason for the comment. Is it not plausible that the controversial nature is due to the ambiguity and subjectivity of defining and determining what constitutes a measurable decrease in crop production through time, confounded by the inevitable changes in land ownership and type of agricultural use through time?] *During the development of the approach, some commented that bottomlands should not be protected at all. The opposing viewpoint is that all stream channels should have the same EC and SAR limits as artificially irrigated lands. Both of*

these positions are at the extreme ends of the issue and neither would produce a practical or reasonable water quality regulatory procedure.
We continue to believe that naturally irrigated lands produce a significant amount of forage for both livestock and wildlife. The enhanced vegetative productivity found may be adversely affected by increases in EC and SAR the same as artificially irrigated lands and, therefore, the DEQ needs to identify where significant naturally irrigated vegetation occurs and apply appropriate water quality limits on produced water discharges
We believe the policy appropriately balances the two competing perspectives by providing a practical and clearly understandable procedure for identifying which bottomlands will receive protection and the flexibility to establish the appropriate effluent limits in each circumstance.
[(16.2) That *"enhanced vegetative productivity found* ***may be adversely affected*** *by increases in EC and SAR the same as artificially irrigated lands"* is not equivalent to "**will be adversely affected**", and while the policy may provide a practical and clearly understandable procedure, the MCD believes that, in advance of the onset of the discharge, predicting the interaction (or not) of waters from different sources (including how much of the naturally irrigated lands are actually affected by the discharged water, which may itself may vary on a temporal basis) and estimating natural temporal variability in the vegetation community (quantity, quality, and species composition), are only a few of the factors that in combination will perpetuate ambiguity and subjectivity and confound both the regulators and the regulated, to the delight of obstructionists. (16.3) Not addressed by DEQ/WQD, contained in MCD Comment 16, is the representation by MCD that differing perspectives, e.g. what constitutes either "agriculturally significant plants" or "plants used for agricultural purposes", changes through time and land ownership, and "third party advocacy" will lead to failure to resolve actual issues, perpetuate legal gridlock, and ultimately work against protection of agricultural use for the majority of agriculturists. The MCD asks: (16.4) "Isn't Appendix H and the resultant resource-consuming promulgation of Appendix H as a Rule the product of failure to resolve individual issues on a local or regional basis and, instead, to impose an expensive statewide regulatory burden?"]

Containment of Discharges [DEQ/WQD placed no MCD comments in this category]

Livestock Watering

21. Comment: Having this hearing prior to the conclusion of the Raisbeck review of effects of sulfates on livestock is premature. The ability of Wyoming residents to actively participate has been limited, and this process does not satisfy the requirements of Wyoming Statute 35-11-302.

Response: *Potential revisions to livestock watering limits were not evaluated by DEQ prior to the release of the University of Wyoming report by Dr. Merl Raisbeck and other university staff and students. The report has since been released to the public for review and was discussed at the Advisory Board meeting on September 14, 2007. The public will have an opportunity to comment and make suggestions about DEQ's proposed limits during a scheduled meeting with the Advisory Board on December 7, 2007. Additional opportunity will be given for public comment during at least one additional EQC hearing.* [(21.1) DEQ/WQD did not reply or assess the MCD comment on process under W.S. 35-11-302. The MCD believes that to properly present the proposed Rule (Appendix H, Agricultural Use Protection language) to the citizens of Wyoming, **the agency bears the burden of performance**

regarding Wyoming Statute 35-11-302 requiring the state to consider and evaluate social and economic impacts of proposed rules or regulations (statute citations):

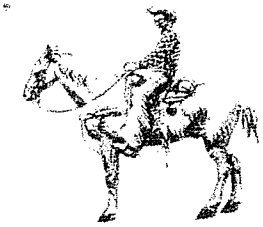
(vi) In recommending any standards, rules, regulations, or permits, the administrator and advisory board shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved including:

(A) The character and degree of injury to or interference with the health and well being of the people, animals, wildlife, aquatic life and plant life affected

(B) The social and economic value of the source of pollution

(D) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution

(21.2)The MCD believes that the DEQ/WQD has not performed in conformance with the statute and has yet to provide an evaluation of social and economic impacts. Furthermore, (21.3) it seems unreasonable to presume that testimony and comment provided by the public at, or in comment to, a few meetings is a valid surrogate for such an evaluation.]



Meeteetse Conservation District

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September 14, 2007 via FAX

Wyoming Waste and Water Advisory Board
c/o David Waterstreet
Herschler Bldg. - 4W
122 W. 25th street
Cheyenne, WY 82002

Esteemed Board Members:

The Meeteetse Conservation District Board of Supervisors (MCD), representing the citizens that elected it, makes the comments presented herein on the document "Water Quality for Wyoming Livestock & Wildlife, A Review of the Literature Pertaining to Health Effects of Inorganic Contaminants".

MCD Summary Excerpts with Comments (emphasis added)

The amount (dose) of any water-borne toxicant ingested by a given animal is determined by the concentration of the substance in water *and* by the amount of water the animal drinks. Water intake is technically defined as free-drinking water plus the amount contained in feedstuffs.

However, **for purposes of simplicity in this report, we have assumed animals are consuming air dry hay or senescent forage with a minimal (10%) water content and will use the term "intake" to describe the amount of water consumed voluntarily by animals from streams, ponds, etc.** The amount an animal drinks is determined by true thirst and appetite. By definition, true thirst is the physiologic drive to consume sufficient water to meet minimum metabolic needs; however, most animals also exhibit an "appetite" for water and consume more than is strictly necessarily to assuage thirst.[7] Reasons for the latter are many, varied and do not lend themselves to quantitative prediction. **We therefore disregarded appetite in calculating doses from water intake, but instead used fairly conservative estimates of thirst in such calculations by disregarding forage water content. Most calculations of potential toxic doses in this report are thus based upon 273 kg (600 lb) feeder cattle that drink approximately 20% of their body weight [54.6 L], or about 8 L per kg of dietary dry matter, [6.8 kg] per day, at 32 C (90 F).** This *may* not provide adequate protection for high-producing dairy cattle, which drink significantly more under similar environmental conditions, but is reasonably conservative for range livestock (beef and sheep) and weather conditions typical of Wyoming. Higher temperatures would also result in higher consumption than our "standard" steer, but sustained periods of such weather are not that common in Wyoming.[8] Finally, there is virtually no information on water consumption by the major wildlife species covered in this report, but it is reasonable to assume that species that evolved in the northern Great Plains would not have greater requirements than domestic cattle.

This report, and the project which created it, was funded by the Wyoming Department of Environmental Quality. Although we (the authors) anticipate that they will find it useful, our intended audience is much broader and includes ranchers, conservationists, veterinarians, extension personnel and animal owners. The last concerted effort in the U.S. to summarize the literature regarding water quality for animals occurred more than 30 years ago2 and there have been many additions to the knowledge base since that time. **We anticipate that this report represents a reasonable starting point for evaluating the adequacy of water quality for animals**.

MCD: MCD also anticipates that this report represents a reasonable starting point for evaluating the adequacy of water quality for animals.

MCD: Thorough review by of the veterinary community (veterinarians familiar with range livestock and livestock consuming produced water) of this report and the proposed limits is needed before instituting the proposed standards.

MCD: Before creating a rule, evidence should support the need for the rule.

MCD: Effects on landowners, and the local community may be immense if the recommended changes are made, especially on those discharges that have been occurring for years and even decades. The WWAB must adhere to requirements of Wyoming Statute 35-11-302 requiring the state to consider and evaluate social and economic impacts of proposed rules or regulations to wit (Statute citations);

(vi) In recommending any standards, rules, regulations, or permits, the administrator and advisory board shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved including:

(A) The character and degree of injury to or interference with the health and well being of the people, animals, wildlife, aquatic life and plant life affected
(B) The social and economic value of the source of pollution
(D) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution

Fluoride

The effects of F in feedstuffs and water are additive; what really counts is the *total* dose of biologically available F- ingested by the animal. Most of the reports we have reviewed, when reduced to mg F-/kg BW, indicate that the threshold dose for chronic osteo-dental fluorosis in cattle is approximately 1 mg F-/kg BW. This is in agreement with the NRC[147], which indicates that 30-40 ppm dietary F- (which translates to 0.75-1.0 mg F-/kg BW) is the tolerance level for the more sensitive classes of cattle.

Assuming that Wyoming forages normally contain less than 10 ppm F-[213], a water concentration of 3.75 mg F-/L would be required to achieve the 1 mg F/kg BW necessary to cause fluorosis in cattle and waters containing less should not cause measurable production problems.

We recommend that water for cattle contain less than 2.0 mg/L F-. By extension, these waters should also be safe for sheep, cervids and probably horses.

MCD: What evidence for chronic osteo-dental fluorosis in cattle exists in Wyoming range cattle or wildlife using produced water exceeding 2.0 mg F-/L? *If evidence for chronic osteo-dental fluorosis exists, then that would be evidence supporting the standard. If non-existent, then strong consideration should be given to an increased limit.*

Sodium

If the only water available is also the major source of dietary Na, long-term impacts will occur at lower dosages. Chronic health effects, mainly decreased production, have been reported at water concentrations as low as 1000 mg Na+/L in dairy cows; however other studies with beef heifers in cooler climates reported only minimal effects at 1600-2000 mg Na+/L. Interestingly, the actual *doses* of Na consumed by the cattle in all of these studies (250- 400 mg Na+/kg BW) were similar. Dosages greater than 800 mg Na/kg BW have resulted in effects ranging from weight loss and diarrhea to death. *Therefore, assuming water consumption typical of a rapidly growing steer (see Introduction) and only background feed Na concentrations, the no effect level would be about 1000 mg Na+/L or 2500 mg NaCl/L. Serious effects, including death, become likely at 5000 mg Na+/L. We recommend keeping drinking water Na concentrations less than 1000 mg/L.*

Sulfate

In ruminants, high dietary S may cause acute death, PEM, trace mineral (especially Cu) deficiencies and/or chronic, as-yet-poorly-defined ailments that decrease production efficiency. All dietary sources of S (water, forage, concentrates, feed supplements) contribute to total S intake and thus to potential toxicity. The S contribution of water, usually as the SO_4^{2-} ion, varies dramatically with environmental conditions as water consumption goes up and down.

From a strictly theoretical standpoint, the NRC maximum tolerable dose of S for cattle is 0.5% of the total diet (0.3% for feedlot animals).[589] Wyoming grasses are reported to contain between 0.13%- 0.48% S.[638] Conservatively assuming forage S concentrations of 0.2% and water consumption typical of young, rapidly growing cattle at summer temperatures (30 C), a water SO_4 concentration of 1125 mg/L will meet or exceed the NRC's maximum tolerance limit for S in cattle. Adult bulls, which consume half as much water, could theoretically be impacted by 2250 mg/L and lactating cows would fall somewhere in between.

In practice, water SO_4 concentrations as low as 2000 mg/L have caused PEM and/or sudden death in cattle. This observation is supported by many field cases investigated by the WSVL and other regional diagnostic labs during the last 18 years. It *seems* to be contradicted by some of the early studies mentioned above, notably Digesti and Weeths[585], but both probability and the morbidity of poisoning increase with progressively larger SO_4 concentrations; thus, studies with small numbers of animals easily overlook marginally toxic doses. Anecdotal data also indicates that cattle are able to adapt to elevated S concentrations, *if* introduced gradually to potentially toxic waters over a period of several days to weeks. **The details (i.e. how rapidly dietary S can change) of this process and the effect(s) of other dietary factors such as energy and protein on the process are still a matter of conjecture.**

Waterborne SO_4 is reported to decrease Cu uptake at concentrations as low as 500 mg S/L as SO_4^{2-}.[602,606] Whether or not overt Cu deficiency results depends upon the dietary concentration of Cu, and excess dietary Cu may compensate for some or all of the effect of SO_4^{2-}.[308] Unfortunately, most Wyoming forages are marginally to drastically deficient in Cu for cattle. Elevated dietary S also interferes with the uptake of Zn and Se. Trace element deficiencies are multifactorial diseases that do not normally manifest themselves unless animals are exposed to other stressors such as bacterial pathogens, bad weather, shipping, etc. Therefore, it is difficult, if not impossible, to settle upon a single number that consistently results in deficiency or guarantees safety; however, the NRC recommends "that the sulfur content of cattle diets be limited to the requirement of the animal, which is 0.2% dietary sulfur for dairy and 0.15% in beef cattle and other ruminants".[589]
Relatively low S concentrations (equivalent to 500 – 1500 mg SO_4^{2-}/L in water) have also impacted performance (e.g. ADG, feed efficiency) in feedlot and range cattle via a variety of mechanisms that are not completely understood.[614,616,639,640] Loneragan et al.[597] suggested that H_2S produced from SO_4^{2-}, eructated and then inhaled, resulted in pulmonary damage and increased susceptibility to respiratory infections. Elevated SO_4^{2-} also results in decreased water intake under experimental conditions. Finally, it is possible that some, as yet unrecognized, interactions with other dietary components results in decreased utilization and feed efficiency. These effects have obvious implications for animal health, but are difficult to quantify under field conditions.

Monogastrics, such as horses, are at less risk of S effects that involve generation of sulfide. In these species, the principle effect of elevated drinking water SO_4 seems to be an osmotic diarrhea. The relative contributions of the SO_4^{2-} ion and its associated cation are unclear, but the literature indicates that 1) the effect is transient and not life-threatening and 2) probably only occurs at concentrations considerably in excess of those toxic in ruminants. Therefore, concentrations that are safe in ruminants should provide adequate protection for horses.

Assuming normal feedstuff S concentrations, keeping water SO_4^{2-} concentrations less than 1800 mg/L should minimize the possibility of acute death in cattle. Concentrations less than 1000 mg/L should not result in any easily measured loss in performance.

MCD: Anecdotal evidence from local livestock producers indicates the ability of livestock to utilize much higher sulfate content than the 1000/1800 mg/L recommendation. Though anecdotal, this information is still evidence that should be considered and properly evaluated. Local veterinarians involved with herd health issues should be able to comment on this standard without breaching confidentiality at the least, and with permission of the client for full disclosure at best.

MCD: It is disturbing that the authors do not include further work with sulfates' effects on livestock, under range conditions, in the summary of research needs, yet do include a need for further work with wildlife. MCD encourages the WWAB to support further research regarding sulfates' effects on both livestock and wildlife.

Respectfully submitted,

s/s *Steve Jones*

Steve Jones
Resource Management Coordinator

DEQ/WQD Response (from DHW/bb/7-0954):

General

4. Comment: HCSD recommends that the Wyoming Water and Waste Advisory Board (WWAB) commission additional scientific studies, review of studies and literature and field investigations prior to formulating recommendations on water quality standards for livestock and wildlife. LRC states, as a rancher, LRC believes the University of Wyoming report has been beneficial as a starting point for developing water quality standards for livestock and wildlife; however, believes there are still many variables that have not been addressed, including: the availability and quality of existing forage, the amount of time that livestock actually drink the produced water, whether the livestock are able to utilize other "cleaner" water sources or if this is the sole source of water, and whether or not the water is diluted by the addition of non-produced water. The bottom line is although "perfect" water is preferred; the reality is that slightly less than perfect water is better than no water at all. HSCC suggests the University of Wyoming report represents about 30% of the information needed to make a recommendation on water quality standards. MCD states, thorough review by the veterinary community (veterinarians familiar with range livestock and livestock consuming produced water) of the report and the proposed limits is needed before instituting the proposed standards. LRC and MCD believe that further study using real world conditions are called for.

Response: *We have concluded that the underlying scientific research and analysis in the University of Wyoming report forms a strong scientific foundation to develop effluent limits for*

the parameters that were researched and analyzed. That is not to say that it was the only determining factor for developing the proposed limits. We have also incorporated anecdotal information from public comments to assist in making our decisions. For example, we concluded that the current limit for fluoride is appropriate due to the nature of the risk primarily being dental fluorosis at the concentrations seen in produced water discharges, but also take into consideration the fact that there have been no strong indications of dental fluorosis affecting livestock or wildlife production in Wyoming. Sulfate limits have been reduced from 3,000 mg/L to 2,000 mg/L based on the signinficant health risks to livestock and wildlife, but were not reduced to the level recommended in the University of Wyoming report based in part on anecdotal data from the ranching community.[(4.1) The MCD request that "thorough review by the veterinary community (veterinarians familiar with range livestock and livestock consuming produced water) of the report and the proposed limits is needed before instituting the proposed standards" has been tacitly ignored in the WQD response. It would be a relatively small task for the WQD to request comments, perhaps through the State Veterinarian. (4.2)The statement regarding sulfate limits is addressed later in that section]

5. Comment: Effects on land owners, and the local community may be immense if the recommended changes are made, especially on those discharges that have been occurring for years and even decades. The WWAB must adhere to requirements of Wyoming Statute 35-11-302 requiring the state to consider and evaluate social and economic impacts of proposed rules or regulations. HSC is concerned that the proposed water quality standards will have a greater effect on conventional oil/gas and mining operations than coal bed methane operations primarily in the Powder River Basin.

Response: *The vast majority of existing conventional oil and gas producers will be able to meet the prescribed effluent limits in the proposed rule through the provision that grandfathers those permit conditions if approved prior to January 1, 1998 or by meeting the proposed effluent limits.* [(5.1) The MCD principal concern lies not with the vast majority of oil and gas producers, but, with the protection of agricultural use of produced water within its jurisdiction and use by agricultural producers within and connected to the MCD Community. Statutory authority for conservation districts to "provide for...the conservation, development, utilization, and disposal of water, and thereby to stabilize ranching and farming operations, to preserve natural resources, [and] protect the tax base..." is provided by W.S. 11-16-103.

(5.2) DEQ/WQD did not reply or assess the MCD comment on process under W.S. 35-11-302. The MCD believes that to properly present the proposed Appendix H, Agricultural Use Protection (as a Rule) language in Section 20 of Chapter 1) to the citizens of Wyoming, **the agency bears the burden of performance** regarding Wyoming Statute 35-11-302 requiring the state to consider and evaluate social and economic impacts of proposed rules or regulations (Statute citations):

> *(vi) In recommending any standards, rules, regulations, or permits, the administrator and advisory board shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved including:*
>
> > *(A) The character and degree of injury to or interference with the health and well being of the people, animals, wildlife, aquatic life and plant life affected*

(B) The social and economic value of the source of pollution

(D) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution

(5.3)The MCD believes that the DEQ/WQD has not performed in conformance with the statute and has yet to provide an evaluation of social and economic impacts. Furthermore, (5.4) it seems unreasonable to presume that testimony and comment provided by the public at, or in written response to, a few meetings is a valid surrogate for such an evaluation.]

Our review of the records indicate that statewide, only 39 oil treater permits, issued post January 1, 1998, will be required to meet the newly proposed permit limits for the most restrictive parameters, sulfate at 2,000 mg/L (formerly 3,000 mg/L) and sodium at 1,000 mg/L (formerly not a permit limit).

Of the 39 post January 1, 1998 issued permits, DEQ has sulfates data on 10, and sodium data on 11. They are all able to meet the new proposed effluent limits.[(5.5) In the context of the response presented, absent is data on 29 of 39. Location is critical since generally, statewide, meeting the reduced sulfate limit is not a problem. The MCD believes that sulfate limits on a local scale are critical to the protection of continuing agricultural use in the Big Horn Basin, and (5.6) reiterates that the proposed Rule does not have sufficient flexibility to prevent injury to agricultural operations in the Big Horn Basin community.]

DEQ reviewed discharge monitoring report data for the 1,228 active coal bed methane (CBM) permits which are unable to meet the grandfathering provision. This data indicates that 4 permits were unable to meet the proposed sulfate limit for at least one sample, and 25 permits were unable to meet the proposed sodium limit in at least one sample.

Because sediment ponds at mines discharge infrequently and because TDS, sulfates, and chlorides have not been determined to be significant parameters in mine sediment ponds, permits for such discharges do not contain limits for these parameters.

Furthermore, we have added a new section to Appendix H, (b)(ii) which allows permit limits to be set to ambient background conditions, similar to what is allowed to develop EC and SAR limits for irrigation uses.[As a point of clarification, (5.7)what would be considered to be the ambient background condition of an ephemeral drainage? (5.8) Could a determination of ambient background condition for an ephemeral drainage made at the present be redetermined more restrictively in the future under the proposed Rule by new technical staff having a more restrictive perspective than the present staff?]

Chemicals of Interest

13. Comment: What evidence for chronic osteo-dental fluorosis in cattle exists in Wyoming range cattle or wildlife using produced water exceeding 2.0 mg F-/L? If evidence for chronic osteo-dental fluorsis exists, then that would be evidence supporting the standard. If non-existent, then strong consideration should be given to an increased limit.

Response: *the University of Wyoming report has supplied the needed foundation of scientific literature which has been instrumental with determining the proposed effluent limits for livestock watering. The body of scientific literature for fluoride includes a large number of studies that are adaptive to Wyoming livestock and wildlife. However, we have proposed to retain the current limit based on the reasons discussed in the Statement of Principal Reasons which includes*

anecdotal evidence from the ranching community who support the current limit.[(13.1)The MCD appreciates DEQ/WQD acceptance of the evidence from Wyoming livestock producers]

14. Comment: Anecdotal evidence from local livestock producers indicates the ability of livestock to utilize much higher sulfate content than the 1000/1800 mg/L recommendations. Though anecdotal, this information is still evidence that should be considered and properly evaluated. Local veterinarians involved with herd health issues should be able to comment on this standard without breaching confidentiality at the least, and with permission of the client for full disclosure at best.

Response: *We agree that anecdotal evidence is a valid consideration for determining appropriate livestock water limits. The proposed value of 2,000 mg/L for sulfates is based in part on that evidence. However, there is a large body of scientific evidence that indicates that this value should be lower than the current limit, especially in areas of Wyoming where livestock are moved from locations with high quality water (low concentrations of sulfates) to locations with lower quality water (high concentrations of sulfates). The reasoning behind the proposed sulfate limit is discussed further in the Statement of Principal Reasons.* [(14.1) Similarly to the discussion regarding fluoride, the Statement of Principal Reasons shows that most of the comments received from Wyoming ranchers indicate that they are not observing negative effects on their cattle at the current sulfate limit of 3,000 mg/L. The Raisbeck report states:"Anecdotal data also indicates that cattle are able to adapt to elevated S concentrations, if introduced gradually to potentially toxic waters over a period of several days to weeks. The details (i.e. how rapidly dietary S can change) of this process and the effect(s) of other dietary factors such as energy and protein on the process are still a matter of conjecture." The MCD argues that the Statement of Principal Reasons supports retaining the current limit of 3,000 mg/L rather than implementing the more restrictive 2,000 mg/L limit in the proposed Rule. (14.2) If the DEQ/WQD believes that under the proposed Rule, DEQ/WQD will be unable to modify effluent limits in the future or that unacceptable difficulty in such modification will occur in the future after additional data has been acquired and assessed, then the MCD asserts that perceived difficulty in the future modification of effluent limits based on new data assessment constitutes evidence that Appendix H as a Rule is inappropriate.]

15. Comment: It is disturbing the authors do not include further work with sulfates' effects on livestock, under range conditions, in the summary of research needs, yet do include a need for further work with wildlife. MCD encourages the WWAB to support further research regarding sulfates' effects on both livestock and wildlife.

Response: *As described in the University of Wyoming report, "The data used in compiling this report are drawn primarily from the scientific literature, including refereed journals, texts, proceedings, abstracts and theses, with an emphasis on material published during the last 20 years.* [MCD believes the intent of this comment was misinterpreted. Rather than criticizing the extent of the literature revue, (15.1) this comment was directed at future research needs which, as MCD stated, are focused on wildlife and do not include further work with sulfates' effects on livestock under range conditions. This is of significant concern when many livestock producers dispute the proposed sulfate limit based on their experience, which conforms with the widely varying conclusions found in the literature review as has been presented, and supports the need for retaining the current

sulfate limit and providing for regulatory flexibility. (15.2) MCD believes that DEQ/WQD should resolve the inconsistency created by the apparent presumption by DEQ/WQD that the review provided sufficient information to proceed with restricting the effluent limit for sulfate in the face of opposition from the livestock industry that the rule is supposed to protect. It is known that a significant amount of new research is being conducted, some of it at the University of Wyoming, which may be able to better define the nature of sulfate toxicity and improve the basis for regulatory decisions.(Further information was provided in MCD comments presented at the December 7, 2007 WWAB hearing).] *The basic strategy consisted of 1) searching biomedical databases (e.g. Medline, CAB, etc.) for reports of toxicity in any species, 2) examining the bibliographies of relevant papers for new leads, and, finally 3) forward searching (e.g. Science Citation Index) for more recent papers that cite earlier work on a given topic. We also solicited well-documented anecdotal data (i.e. field reports) from colleagues at other research and/or diagnostic institutions." The section on sulfates references more than 50 citations from various types of studies including livestock under range conditions and is appropriate for assisting to determine effluent limits and is given greater validity by Dr. Raisbeck's (and co-authors) personal experience with the subject matter and Wyoming livestock conditions* [(15.2) It is disturbing that the scientific approach of the DEQ/WQD included review of 20 years of past work yielding a broad range of results, yet the DEQ/WQD has neglected to contact the Wyoming veterinary community to seek its opinion of the need for a reduction in sulfate limits based on local need. Can the DEQ/WQD provide an explanation for that logic? (15.3) The MCD asserts that in order to properly protect the Wyoming livestock industry, and to support the livestock industry and provide for the economic stability of the community of the Big Horn Basin (in accordance with the provisions of W.S. 35-11-302), local veterinary expertise should be considered and incorporated in the process of revising the effluent limit for sulfate and that (15.4) a downward revision is warranted only if sufficient and incontrovertible evidence can be obtained.]

Respectfully Submitted,

Clara Mae Yetter, Chairman

Meeteetse Conservation District

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(307) 868-2484 • mcd@tctwest.net

March 25, 2008

Via FAX

Mr. David Waterstreet
Wyoming DEQ/WQD and EQC
Herschler Bldg., 4th Floor West
122 W.25th Street
Cheyenne, WY 82002

Re: Meeteetse Conservation District (MCD) review of "ANALYSIS OF COMMENTS ...Public comments and Wyoming DEQ/WQD responses resulting in the 3rd Draft of the Agricultural Use Protection document...prepared for deliberation at the Water and Waste Advisory Board (Board) meeting on March 28, 2008 in Casper, Wyoming." (DHW/8-0155.DOC 2-28-2008) and primarily pertaining to DEQ/WQD response to those comments submitted by the MCD dated 11/30/2007.

Dear Mr. Waterstreet and the Water and Waste Advisory Board:

This Review is tendered as correspondence between the MCD, as local elected government, and the DEQ/WQD, as a State agency acting under the direction of both the Wyoming EQC and WWAB.

This Review is made in part as a determination of consistency with Meeteetse Conservation District Goals and Operating Policy as provided for under Wyoming statute and the Meeteetse Conservation District *"Land Use Management and Resource Conservation Plan 1994"*, as reauthorized October 4, 2005, and condensed in the Meeteetse Conservation District document *"Land Use Management and Resource Conservation Plan Goals, Actions, and Policy Summary"*, hereby incorporated by reference and previously submitted to DEQ/WQD. MCD Operating Policies (a), (d), (e), and (f) generally apply to this review.

Meeteetse Conservation District Operating Policy (excerpts):

(a) Cooperate and coordinate with Cooperators, residents of the MCD and public institutions/government agencies in the conservation of the water, soil, plants, and wildlife resources in the MCD.

(d) Conduct their [sic] statutory responsibilities in their entirety, in cooperation and with the trust and acceptance of the MCD's Cooperators.

(e) Review, study, and comment, when possible, on all local, state and federal legislation, rules and regulations promulgated or revised that may have an effect on the MCD and it's [sic] cooperators.

(f) Cooperate and coordinate with the private individuals and groups, along with local, state, and federal governmental agencies in order to pursue the continued resource management and enhancement in the watersheds of the MCD and employ holistic resource management concepts and ideas in conjunction with existing or adopted coordinated resource management practices.

The MCD comment letter and DEQ/WQD responses follow, with MCD review statements in bracketed arial font in the format: [review statement.]

Please bear in mind that the MCD places its highest emphasis on water quality issues that will directly impact the viability of agricultural operations within its jurisdiction as well as the cultural and the economic structure of the local community, now or in the future.

Meeteetse Conservation District

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November 30, 2007 Via FAX

Mr. David Waterstreet
Wyoming DEQ/WQD and WWAB
Herschler Bldg., 4th Floor West
122 W.25th Street
Cheyenne, WY 82002

RE: Comments regarding the Agricultural Use Protection document and proposed revisions to Section 20 of Chapter 1, including the adoption of Chapter 1, Appendix H as a Rule.

Dear Mr. Waterstreet and Wyoming WWAB:

As locally elected government, the Meeteetse Conservation District (MCD) appreciates the opportunity to provide continuing comment on the proposed revisions to Chapter 1, Section 20 which has become known as the Agricultural Use Protection document.

Furthermore, the MCD wishes you to understand that it had received no communication that its comments previously made to WWAB and WDEQ/WQD had been analyzed and responded to by WQD until this morning, when the content analysis documents were unexpectedly found at the WQD website. It should be noted that content analysis of comments and WQD response to those comments for the Water and Waste Advisory Board (Board) meeting on June 15, 2007 in Casper, appear to have been made after the September 14, 2007 meeting in Jackson. Regrettably, since there had been no response between the June and September meetings, there was no expectation of formal response following the September meeting prior to the upcoming December meeting.

The MCD will incorporate response to WQD content analysis to the best of its ability herein where relevant, but reserves the right to respond further to the content analysis due to this document's deadline and the time needed to obtain additional supporting information.

From the comment response documents, the MCD now understands the WQD desire for a Rule to better the agency's enforcement ability. The MCD believes that ease of enforcement should not come at the expense of citizen rights to the use and benefit from the use of natural resources.

COMMENT (1): The ability of Wyoming's citizens to benefit from the use of natural resources, including those people making their living through agriculture, must be protected through adoption of properly crafted policy.

Response: *The WQD has reviewed the potential impacts to end users from produced water discharges. The WQD has concluded that the proposed rules will have minimal to no impact on industry's ability to obtain a permit for surface water discharges based on the current body of evaluated data, past experience developing permits containing agricultural use protections, and several public meetings and comment periods where stakeholder concerns were received and addressed. This comment highlights a common misconception about the impacts of adopting the proposed revisions to Chapter 1. Earlier responses to comments, discussions at previous meetings, and more recent sampling at outfalls where permit applicants would be required to meet more stringent livestock watering limits, indicates that producers applying for a surface water discharge permit will be able to meet the proposed limits in most cases.* [The MCD recognizes that in **most cases** proposed limits would be met. Locally, however, discharges may occur that would not meet the proposed limits for sulfates. As discussed in the comment letters and in the MCD responses to the WQD analyses of comments, the ability of the proposed Rule to fairly address those individual cases is a paramount concern to the MCD.] *When unable to meet default effluent limits, livestock watering limits can be set to background water quality to address site specific conditions.* [The MCD believes that this applies only if background water quality is not better than that of the discharge. Furthermore, discharges into ephemeral drainages would be required to be compared to storm runoff events (personal communication with John Wagner, WQD Administrator, 3/24/2008). The meaning of such a comparison in the Big Horn Basin is problematic.] *The tiered approach offers several alternatives for developing appropriate irrigation limits, and several years of implementing these requirements as an internal policy indicates that most operators are able to obtain a permit through a combination of permit requirements and limits. The proposed rule also provides a waiver from effluent limits when affected landowners are willing to accept any additional risk of receiving lower quality water.* [Refer to MCD discussion following comment (5)]

COMMENT (2): Section 20 should remain a policy and should not be implemented as a rule. Policy will have more flexibility and allow the DEQ to make better site-related decisions. This flexibility should provide Wyoming to manage its water resources in harmony with local and regional custom and culture.

For example, from recent experience with the WQD presentations on TMDL implementation, it is known that analogies are a desired way to provide explanation. Wyoming manages its highways (a resource used by the public) by regulating speed of vehicles (a parameter, similar to the amount of sulfate in the water). The parameter is measurable and it is regulated by instituting a speed limit (similar to an effluent limit). The State regulates the speed parameter based on risk factors, and there is a standard statewide speed limit of 65 MPH (similar to the current 3000 mg/L effluent limit on sulfate). The State reduces the speed limit (similar to effluent limit) where risk factors, and there is a wide variety of risk factors, indicate that the reduction is appropriate. The process is fairly simple, is generally based on public input, requires some level of technical assessment, and changes are made from time to time as new information becomes available or conditions and risk factors change. The parameter is not regulated to the point that absolute safety is achieved (effluent limit lowered to the point where injury can not occur). In fact, human fatalities occur. In fact, injury through use of the highway (use of the resource) commonly involves a number of factors in addition to speed (regulated parameter) whether or not the speed limit (effluent limit) is violated. In fact, exceeding the speed limit (effluent limit) does not result in a certainty of injury. Finally, the State is able to regulate speed effectively without a

complicated, time-consuming, expensive rulemaking process that results in one speed limit (effluent limit) over the whole state.

Response: *As discussed in the June 15, 2007 response summary, the proposed rule does have utility as policy and has been used in that capacity for developing permit effluent limits. When evaluating the implications of these procedures as a policy or a rule, the primary reason for this procedure remaining as a policy is to maintain a certain degree of flexibility to accommodate site specific conditions, while the primary reason for developing these procedures as a rule is to ensure a degree of enforceability.*

The current draft has been through several revisions, with input from all known stakeholder groups who will likely be affected by these decisions. The current process for developing permit effluent limits for agricultural uses has been used since the mid 1990s and revised periodically to address various issues as they arose. Furthermore, the potential effects on designated uses and land owners have been discussed and debated to the extent that many of the comments contained in this document are the same or similar in nature to those for which we have already provided a response. We believe that the comments and concerns which have been brought to our attention have been addressed and resulted in an updated procedure that allows a good degree of flexibility for both applicants who need an effective way to surface discharge produced water, and for land owners to use that water for beneficial uses when that water is protective of designated agricultural uses. [The MCD would argue that many stakeholders, not just the MCD, do not agree with the WQD/DEQ responses that have resulted in the current draft of the Agricultural Use Protection language. Stakeholder comments continue to be submitted despite the burden of the extensive process, and it is unfortunate that many affected individuals have "burned out" through the schedule of hearings. Therefore it is incumbent on DEQ/WQD and the WWAB to recognize that those individuals are relying on agricultural organizations and their elected local governments to properly represent their interests before the regulating agency. It is because the MCD recognizes the mutual needs and interdependence of agriculture, the oil and gas industry, and the local community as a whole that the MCD continues to pursue its direction as regulations are drafted. The specific concerns of the MCD were presented later in this comment letter.]

On the other hand, the one component that is not addressed in a policy is the ability to enforce these procedures with the effect provided by a rule. Although it will be a more cumbersome process to proceed with changes to a rule, we believe that most issues have been addressed, whereas the needs for enforcing agricultural use protection is best addressed if approved as a rule. It should be noted that DEQ has recently received appeals for produced water discharge permits based on the fact that the proposed rule is currently a policy. [The MCD also recognizes the propensity for those involved in regulation to proceed with rulemaking in order to expedite their ability to regulate. It would appear that the DEQ/WQD has and should continue to have the authority to address appeals based on technical merit. The MCD believes that ease of enforcement should not come at the expense of citizen rights to the use of natural resources and the benefits that derive from that use.]

COMMENT (2): It would appear that extensive research currently in progress makes it premature to arbitrarily reduce the effluent limit on sulfates from 3000mg/L to 2000 mg/L.

While the MCD acknowledges that the WQD would like to institute a "safe" effluent limit on sulfate, Dr. Merle Raisbeck's report may be interpreted in a variety of ways, not necessarily in agreement with WQD's interpretation.

There is abundant ongoing research right now. Both water and feedstuff-related, in part as a result of increased brewer's grains from ethanol production in the upper Midwest. The MCD agrees with Dr. Merle Raisbeck's statement that his report "represents a reasonable starting point for evaluating the adequacy of water quality for animals".

In preparing these comments, I found "Effects of Water Quality on Cow/Calf Production", Johnson, P. S, et al., **Animal and Range Sciences, South Dakota State University.**

Its non-technical summary stated: "Water high in TDS and sulfates can kill livestock, however the effects of moderate concentrations are poorly understood. This project examines the effects of water with **moderate TDS and sulfates** on cow/calf performance..." (Emphasis added.)

Its impact statement related: "Sulfate levels in water in western South Dakota range from minimal to extremely high. **The sulfate levels in drinking water available to livestock on many pastures in the region often exceed the levels of sulfate used in this study (2700 mg/l sulfates in 2003 and 3000 mg/l sulfates in 2004).** Our study shows very clearly that water sulfate levels of 2700 mg/l or greater can have detrimental effects on cow-calf herds. Alternative sources or management to avoid water when salts are most concentrated need to be considered in these situations." (Emphasis added.)

It is important to note that 2700mg/L and 3000mg/L are considered to be "moderate" in this study.

In following up on that study, I contacted Dr. Ken Olson at SDSU. He agreed to let me pass on to you his statement that while "3000 ppm water has real issues, cattle die, and 2000 ppm water is safer, cattle generally don't get brain lesions" symptomatic of polio, "sometimes 4000 ppm water can be consumed with no effects, and sometimes 2000ppm water results in polio".

The real key to our conversation though, was that he believed that current ongoing research and technical developments in water treatment on the horizon made the proposed rule with an effluent limit of 2000 mg/L problematic, with the loss of available range potentially more damaging to the producer than the water. Furthermore, he was optimistic that the future ability to manage moderate levels of sulfate would improve.

I have spoken with UW's Kristi Cammack, Ph.D., Assistant Professor, Quantitative and Molecular Genetics.(Summary vitae is provided at http://uwadmnweb.uwyo.edu/Anisci/Cammack.asp)
She is involved with research efforts are aimed at determining underlying genomic variations that are responsible for phenotypic differences in animals. This includes interest in determining genomic differences between animals resistant and susceptible to sulfate toxicity and research to identify genetics markers that may be used to identify those animals that are more susceptible, allowing producers to better manage their livestock. Additionally, her laboratory interacts with other faculty to study the effects of these toxicities on physiology and reproduction. **She related to me that with respect to sulfate toxicity, there is no "hard and fast rule right now"** Furthermore, she supported Dr. Raisbeck's statement that there is deficit of quantitative toxicologic data in big game wildlife.

It is of note that both of these researchers placed Dr. Raisbeck and his work in their highest esteem.

Response: [Presented following comment (5)]

COMMENT (3): It is also of note that both Dr. Cammack and Dr. Olson, each having experience with range livestock and range-based research, stated that on the basis of the information which I presented to them, they believed that instituting a 2000mg/L effluent limit at the present would be too restrictive and premature, given the potential results of ongoing research.

Agricultural producers are accustomed to operating with multiple risk factors. Alfalfa is an important feedstuff, is grazed by many operators and yet has killed many cattle due to bloat and crippled many horses due to founder. Oat, wheat, barley and other small grain hay has poisoned livestock through accumulated nitrates. Prussic acid poisoning from sorghum and Sudan grass is not uncommon. Acidosis poisons cattle that graze corn harvest aftermath and those in the feedlot. Grass tetany in cattle and founder in horses occurs from grazing spring grass. And so on. The relationship between sulfate in water and other feed, water, and environmental factors is complex. To the agricultural producer, how to balance the risk associated with moderate levels of sulfate is no different than balancing other production risks.

Response: [Presented following comment (5)]

COMMENT (4): The MCD urges the WWAB to recognize that there is a very real risk to the agricultural producer of completely losing an existing water source under the proposed 2000 mg/L effluent limit for sulfate, and to recognize that the greater agricultural use protection may come from the ability to use a water source with sulfate content of up to 3000mg/L.

There are additional risks to the livestock producer grazing Federal lands in the proposed language change, page H2:

> "~~(ii)~~(iii) Livestock watering waiver - An exception to the limits above may be made whenever the background water quality of the receiving water is ~~worse~~ of poorer quality than the value listed for the associated pollutant ~~or when the livestock producer~~ and the landowner requests use of the water and thereby accepts any potential risk to his livestock."

The first is that the landowner is presumed to be the livestock owner, and the second is that Federal land managers are subject to outside influences from those that wish to eliminate grazing of livestock on Federal lands, from internal influences that do not consider the well being of the livestock owner or permittee, and from administrative procedure necessities such as NEPA compliance in the case of modifications to existing uses.

Response: [Presented following comment (5)]

COMMENT (5): In order to provide agricultural use protection, the MCD urges the WWAB to continue to use the existing 3000mg/L effluent limit until further research validates a real need for change, based on locally confirmed production losses.

The MCD believes that the DEQ-WQD should provide a more complete analysis of existing discharges before recommending the proposed 2000mg/L effluent limit for sulfate. At the previous WWAB hearing, the presentation by Jeremy Zumberge, WY DEQ, "Analysis of

ambient water quality conditions in relation to recommended thresholds for livestock and wildlife consumption", September 12, 2007 provided the following table:

Sulfates—Oil Treater Discharges

Population	Exceed Chronic Threshold (1000 mg/l)	Exceed Short Threshold (1800 mg/l)	Total Population Count (N)
Samples	25.11%	5.96%	235
Outfalls	38.30%	12.77%	47
Permits	36.96%	13.04%	46

Data Source: WDEQ Inspection Report Data, 46 randomly sampled oil treater permits

The statement was made that there was no obvious geographical patterns for oil treater discharges greater than UW report values for sulfates, qualified by noting a limited dataset for oil treater sulfates. While the data set is composed of 46 permits and 47 outfalls, a DEQ-WQD Permit Search (http://deq.state.wy.us/wqd/npdes/QLstPermits.asp) made November 29, 2007 returned 127 records for Park County alone. Agricultural producers in Park County and elsewhere in the Big Horn Basin, know that the Basin is a geographical area of relatively high sulfate values. Those producers have been vocal in their concern about their future ability to use discharges that they know exceed the proposed reduced effluent limit for sulfate. They have been vocal in their belief that produced water from infill wells, and other new permits, as well as renewed or amended permits, will be unavailable.

Response: *There is currently a robust source of scientific literature regarding health effects associated with sulfur intake by livestock. Collectively, the scientific literature suggests the appropriate safe livestock drinking water level for sulfate is somewhere around 1,000 mg/L. The WQD chose an effluent limit of 2,000 mg/L because of testimony from the agricultural community who said no negative effects were observed among their livestock at the current limit of 3,000 mg/L. We also heard testimony from Dr. Raisebeck and others that cattle are able to drink water at higher concentrations when they have been acclimated slowly to the higher concentrated water without serious health effects. However, the scientific literature taken from both field and laboratory studies clearly indicates that livestock can and are affected by sulfate containing water below 3,000 mg/L. The WQD has chosen to strike a balance between the scientific literature and the observations by the agricultural community. The 2,000 mg/L sulfate limit has been shown during previous Board meetings and in responses to previous comments to be attainable by approximately a proportion of the discharges from CBM gas production. Of the approximately 39 oil treater dischargers who are unable to obtain the grandfather waiver and we have data for, only two dischargers obtained samples resulting in an exceedance of the proposed sulfate limit.* [While the WQD "has chosen to strike a balance between the scientific literature and the observations by the agricultural community" by proposing an effluent limit of 2000 mg/l sulfates, the details of the MCD concerns presented in Comments 2 through 5 above remain unaddressed and problematic.

1) Big Horn Basin livestock producers have asked WQD to maintain the 3000 mg/l effluent limit.

- Actual, real, tangible injury to livestock producers who use water up to 3000 mg/l has not been documented in the Big Horn Basin.
- Meeteetse community veterinarian Dr. William Gould, DVM, who has an extensive large animal practice and is familiar with those local herds using high

sulfate water, knows of no injury from those waters. (Personal communication 3/19/2008).

- According to testimony presented by WQD Administrator John Wagner at the December 7, 2007 WWAB meeting, the WQD has not yet consulted a single practicing large animal veterinarian besides Dr. Merle Raisbeck to provide testimony on observed effects of high sulfate livestock water in Wyoming.

2) The future economic effects on the ranch that may be caused by losing a water source have not been analyzed (also applicable to Comment 8 below).

- As an example of cumulative effects that may occur due to loss of ranch resources, modeling shows an impact to ranch viability of $361.40 per animal unit month (AUM) of public land grazing (David D. Taylor, et al., UW Dept. Animal and Applied Economics, "The Economic Impact of Federal Grazing on the Economy of Park County, Wyoming", August, 2005).
- The loss of a water source could cause the loss of hundreds or thousands of AUMs.
- The loss of a water source may be caused by arbitrary Federal or State agency reluctance to approve a discharge exceeding a WQD effluent limit.
- In a drainage area, all owners of grazing lands (not livestock owners) would have to agree to accept an effluent limit exceedance, allowing a single entity to control all, **even if that landowner does not own or graze livestock**, while at the same time the proposed Rule does not clearly define the extent of a "drainage area". Reference WQD response to Comment 8 (PAW) below, emphasis added.
- Entities opposed to public livestock grazing will be enabled to use the Rule as a tool to purse their anti-agriculture agenda.
- The Rule and WQD response to these comments neither contemplates nor defines future administration following land ownership change or public land management policy changes that could result in loss of water use previously considered acceptable.

For these reasons, and those presented in comments previously, in order to protect the viability of agricultural enterprise within its jurisdiction the MCD believes that WQD analysis of comments on this particular issue is inadequate and insists that WQD and WWAB maintain the 3000 mg/l effluent limit for sulfates.]

Response to Comment 8 (PAW): *The application of a landowner waiver is most easily applied when a single landowner manages the land within the drainage area.* ***When more than one landowner will be affected by the quality of discharge water which is unable to meet the prescribed effluent limits, then all landowners must be in agreement as to what quality of water is appropriately protective of their personal agricultural uses.*** *This provision was developed as an alternative to the tiered approach for those landowners who are willing to accept lesser quality water for agricultural uses and are willing to accept the added risk. It is not meant to force produced water on landowners who are unwilling to accept the additional risk. In those circumstances where a landowner(s) is unwilling to accept the additional risk, then a waiver will not be granted.*

COMMENT (6): Now, more than ever, the MCD believes that the draft revised Section 20 threatens the future ability to use water produced and discharged in conjunction with extraction of hydrocarbons. Section 20 must provide local

flexibility to develop and utilize future water resources associated with mineral development. [Presented following comment (1)]

COMMENT (7): The MCD is opposed to the revised Section 20 as written. Whether policy or rule, attempts to use the classification "naturally irrigated lands must be eliminated. Local soil and vegetative conditions coupled with the ambiguity and subjectivity of determining and defining measurable decrease in "plants used for agricultural purposes" on "naturally irrigated lands" will inevitably lead to a myriad of lawsuits and to a game of controlling watersheds through control of strategic land parcels. Usual, ordinary, typical changes in land ownership may cause wide disruption as well. This will be exacerbated by the ability of unaffected third parties to sue on behalf or against public land management agencies. Effects on "naturally irrigated lands" must be determined in some other manner with the ability for local considerations to be incorporated.

Response: *Several aspects of the above comment have been addressed during previous comment periods. The classification of "naturally irrigated lands" was added after receiving public comments about potential impacts to irrigated lands not covered by previous versions of the Agricultural Use Protection document. We believe it is appropriate to regulate discharges to the extent that ensures productivity is not negatively affected and the proposed protections are consistent with the intent of Chapter 1, Section 20. The 20 acre threshold for naturally irrigated lands was arrived at by an interpretation of color infra-red photography of a number of watersheds where the protection of naturally irrigated bottomlands was raised as an issue in the past and DEQ included such protection in the permits that were issued. Through analysis of aerial photographs, the presence of 20–acre parcels was identified as a common occurrence in all of those watersheds and it appears to be a simple, easily measured criterion for determining which watersheds contain an appreciable amount of naturally irrigated lands. Other methods for determining the presence of 20-acre parcels are also described in this section and may be employed as needed to make the correct determinations.*[While the comments have previously been addressed by WQD and the presence of 20-acre parcels may be a relatively simple and easily measured criterion, the hydrology of those parcels may not be simple and both the WQD response and the proposed Rule simplistically presume that the principal source of water in those parcels derives from the stream, which may not be the case. Furthermore, it may be argued that the proposed Rule does not properly address a situation where the source of the water supply for the "naturally irrigated lands" is not the stream, but in reality is another source, such as subsurface irrigation return flow or natural springs.]

The terminology "plants for agricultural purposes," was revised due to a comment received during the June 15, 2007 comment period. We believe the revised language more clearly expresses that any plants used for agricultural purposes are subject to being protected. The broader language also addresses differing soil and vegetative conditions and allows determinations of significance to be made on a site specific basis. [The MCD understands the intent of the WQD to provide protection. However, the MCD believes that the WQD response has not addressed the core concern that "**ambiguity and subjectivity of determining and defining measurable decrease in "plants used for agricultural purposes" on "naturally irrigated lands" will inevitably lead to a myriad of lawsuits and to a game of controlling watersheds through control of strategic land parcels", that "Usual, ordinary, typical changes in land ownership may cause wide disruption as well", and "This will be exacerbated by the ability of**

unaffected third parties to sue on behalf or against public land management agencies." As previously stated, the current draft of the proposed Rule may be easily used as a tool to purse an anti-agriculture agenda, and the MCD stands by its comment.]

COMMENT (8): At the present time, process falls short of satisfying the requirements of Wyoming Statute 35-11-302 requiring the state to consider and evaluate social and economic impacts of proposed rules or regulations to wit (Statute citations);
(vi) In recommending any standards, rules, regulations, or permits, the administrator and advisory board shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved including:

(A) The character and degree of injury to or interference with the health and well being of the people, animals, wildlife, aquatic life and plant life affected

(B) The social and economic value of the source of pollution

(D) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution

Response: *As discussed in the June 15, 2007 response summary, regarding compliance with W.S. 35-11-302(a)(vi), the statute provides:*
"(vi) In recommending any standards, rules, regulations, or permits, the administrator and advisory board shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved including:
(A) The character and degree of injury to or interference with the health and well being of the people, animals, wildlife, aquatic life and plant life affected;
(B) The social and economic value of the source of pollution;
(C) The priority of location in the area involved;
(D) The technical practicability and economic reasonableness of reducing or eliminating the source of pollution; and
(E) The effect upon the environment."
We believe, we have complied with all of the conditions of WS 35-11-302 (a) (vi) in the establishment of the proposed rules and are continuing to do so through this Board process. This public process that we are currently engaged in is specifically designed to meet those provisions of the statute. The provisions of the proposed rules were largely developed in a previous rulemaking process containing a lengthy administrative record documenting 5 draft iterations, 5 Board public meetings and 4 solicitations of written public comment in which all of the above were considered. A brief summary of the relevant considerations is as follows:
A) The proposed rule addresses the character and degree of injury to crops and native plants that may be irrigated with produced water and the degree of injury to livestock that may drink the water. It creates the data requirements and procedures for calculating discharge water quality limits to an extent that ensures no measurable decrease in crop or livestock production. In past comments, coal bed methane (CBM) industry representatives contended that prohibiting the discharge of new water is injurious to wildlife that would otherwise use the habitat that would be created. However, the document doesn't prohibit the discharge of water, it regulates the quality of the water being discharged and it only regulates that quality to the extent that livestock and wildlife will not be harmed. They also contend that by requiring water quality that will support irrigation harms livestock and wildlife because it will result in less water being discharged. In this, they ask the agency to choose between irrigated agriculture and livestock and wildlife. Instead, we chose to protect them all by regulating water quality sufficient to

support all of the uses as is contemplated by the statute and the regulations. We have considered the potential impact to water uses that have developed around historic discharges and structured the document in a way that will allow those discharges to continue. We have also included provisions that will allow the discharge of poorer quality water if the affected water users accept the risks associated with the poorer quality water.

B) The source of pollution is primarily oil and gas development and the social and economic importance of that industry has clearly been considered in the formation of the proposed rule. Indeed, oil & gas development has flourished under the agency's past interpretation of the Section 20 standard and will continue to flourish under the proposed new appendix to the rule. The opponents of CBM development have argued that we considered too much the economic importance of energy development at the expense of local agriculture in the formulation of the proposed rule. We believe we have struck an appropriate balance evidenced by the fact that the provisions of the rule have already been implemented in part through the permitting policy. Throughout this implementation, the energy industry remains vibrant in the state and significant degradation of water quality has not occurred.

C) We have considered the priority of location in the area involved. This proposed rule contains the necessary flexibility to assign appropriate water quality limits on a site-specific basis. The Tier 2 procedures allow the adjustment of effluent limits for irrigation use to equal the many differing background water qualities in different receiving waters across the state. The Tier 3 provisions allow further modifications based on site-specific geologies, soils and management practices. Regarding proposed livestock watering effluent limits, many of the same provisions provided for assigning limits for irrigation uses are also provided to determining appropriate limits for the livestock watering use. Default limits can be adjusted to background levels to account for natural conditions of a particular area of the state.

D) The proposed rule addresses the technical practicability of reducing or eliminating the source of pollution. The 3-tiered approach is specifically designed to addresses technical practicability. The purpose of Tier 1 is to alleviate requirements for detailed studies in circumstances where the quality of the discharge is exceptionally good or the affected crops are salt-tolerant. It provides a clear and simple means of assigning EC and SAR values that are supported by scientific literature. Tier 2 allows effluent limits to be adjusted to equal background water quality and provides specific procedures that can be used to estimate background water quality. The industry often points out that the CBM produced water is of a better quality than background. Wherever this is true, there is no technical problem in meeting the requirements of the proposed rule. Wherever the produced water is worse than background, the assumption must be made that the lower water quality will have a depressing effect on crop production. Tier 3 allows this assumption to be rebutted by a study or demonstration by the permit applicant that the lower water quality can be managed in a way that maintains crop productivity. These approaches were developed with input from a technical workgroup that included industry and university agricultural experts. The techniques involved in each of the tiers are all considered to be economically feasible and have been routinely employed by CBM operators and consultants. The technical practicability has also been evaluated with regard to the provisions of setting effluent limits for livestock watering uses. Default limits would be appropriate in most cases and have been shown to be achievable by producers in most instances. When background conditions are demonstrated to exceed default values then effluent limits may be adjusted to ensure the background conditions are protected.

E) The proposed rule in its entirety considers the effects upon agricultural uses which are the parts of the environment intended to be addressed by Section 20. [The MCD recognizes the

effort and resources that the DEQ/WQD has invested in process, and understands that the agency is pursuing its task as best it can. The MCD also thanks the WQD for the concise presentation of those efforts in the above analysis. However, the MCD believes that there will be unintended consequences yet to be properly considered, as discussed above, and stands by its comments regarding analysis of social and economic impacts.]

COMMENT(9): The MCD believes that agricultural use protection is important enough that the State of Wyoming should commission a cost-benefit analysis of the impact of the Agricultural Use Protection document to ensure that agricultural use protection will be achieved.
Response: *Proposed revisions to Chapter 1 were developed for compliance with W.S. 35-11-302(a)(vi) as discussed in the previous response. The WQD has evaluated the number of discharges which would be affected by the proposed rule. The results of this assessment suggests approximately two oil treater facilities which are unable to meet the grandfathering clause are also unable to meet the proposed effluent limits for sodium and sulfate. Review of over 24,000 CBM discharge samples suggests approximately 2% of the discharges will be unable to meet the sodium limit, and approximately 1% will exceed the sulfate limit. The data which has been reviewed and discussed at a number of public meetings and in public comments has resulted in important revisions which address impacts to the use of produced water for agricultural purposes. We believe a cost benefit analysis would not offer any additional information that has not already been considered or discussed in a public forum or technical workgroup setting.* [Presented following comment (8)]

COMMENT (10): Let there be no doubt. The MCD believes, as it continues to review evidence submitted during the course of process, that the Agricultural Use Protection document is a regulatory scheme that places significant additional and incremental burdens on the agricultural producer, the agricultural community, the local community, and the State of Wyoming. While revision of current policy may be appropriate to ensure practical water quality management, the document does not protect the agricultural industry and jeopardizes bona fide agricultural producers.
Response: *We believe that the proposed revisions will provide the water quality protection necessary to protect agricultural uses and ensure the use of produced water for agricultural producers in most cases. Please see responses to comments 4, 9, 24, 25, 26, and 27 for more detail.* [The MCD has entered this process with the long term vision of addressing water quality issues that will directly impact the viability of agricultural operations within its jurisdiction as well as the cultural and economic structure of the local community, now or in the future. The MCD plans to actively participate in the development of a regulatory framework that satisfies that vision.]

The MCD appreciates the continuing opportunity to comment and actively participate in the development of policies that affect the waters of the State of Wyoming and the economic stability of its agricultural community.

Respectfully submitted [end of 12/7/07 comment letter],

Steve Jones

Steve Jones
Resource Management Coordinator
Meeteetse Conservation District