

**BEFORE THE ENVIRONMENTAL QUALITY COUNCIL
STATE OF WYOMING**

JOINT MOTION TO DENY AND TERMINATE)
PROCEEDINGS ON PETITION TO AMEND)
WYOMING WATER QUALITY RULE,)
CHAPTER 2, APPENDIX H)

The undersigned Respondents¹ hereby file this motion to deny the above-captioned citizen petition for rulemaking filed by Powder River Basin Resource Council (“PRBRC”) and various individual petitioners (collectively “Petitioners”). For the reasons set out below, the Wyoming Environmental Quality Council (“EQC” or “the Council”) must terminate further proceedings on the petition.

BACKGROUND

On December 7, 2005, Petitioners submitted a petition to amend Chapter 2, Appendix H of the Department of Environmental Quality’s (“DEQ”) Water Quality Rules (“Original Petition”) (Attachment A). Petitioners sought revisions to the existing rules that would, *inter alia*, require the DEQ to limit the quantity of produced water discharges from oil and gas operations to only that amount of water which can be demonstrated to actually be put to “beneficial use.” *See generally* Original Petition (Attachment A).

On February 16, 2006, the EQC held a prehearing conference and voted to accept the Original Petition for rulemaking. After that hearing, on March 2, 2006, Petitioners submitted a

¹ Respondents, Marathon Oil Company; Anadarko Petroleum Corporation; Devon Energy Production Company, LP; Yates Petroleum Corporation; Petro-Canada Resources (USA), Inc.; Lance Oil and Gas Company, Inc.; Williams Production RMT Company; Fidelity Exploration & Production Company; and Bill Barrett Corporation are coal bed natural gas (“CBNG”) producers with operations in the Powder River Basin of Wyoming and submitted responses in opposition to Petitioners’ Original Petition.

letter asking the Council to suspend the Original Petition and consider an entirely new set of rulemaking changes set forth in proposed amendments to be inserted into the language of the Original Petition (“Amended Petition”) (Attachment B). The Amended Petition would establish two different sets of rules, one for produced water from CBNG production and another for discharges from conventional oil and gas production.

In a March 10, 2006 letter to the Council, Respondents objected to the Council conducting any rulemaking activity on the Amended Petition unless EQC first held a hearing. (Attachment C). As Respondents explained, Petitioners’ March 2, 2006 submission is a new petition. Under the applicable regulations, the Council would have to initiate new proceedings and hold a separate hearing on the new petition before further action could occur. Thus, the Council must suspend rulemaking proceedings on the Original Petition (which necessarily became inoperative as a result of Petitioners’ new March 2, 2006 petition) and consider the Amended Petition, if at all, only after another hearing. The Council has not yet responded to Petitioners’ submission.

SUMMARY

New events render any further proceedings, whether on the Original or Amended Petition, moot. On April 12, 2006, the Wyoming Attorney General issued a Formal Opinion to Governor Freudenthal. (Attachment D). In that Opinion, the Attorney General reviewed the relevant legal authority and found that EQC does not have the statutory authority to issue the rules regulating water quantity that Petitioners have proposed:

The Petition is clear that it wants DEQ to consider “. . . the impacts to land and water that [are the] result of quantity, **rather than quality.**” Petition at 9 (emphasis added). The EQA does not authorize such an action.

Attorney General Formal Op. No. 2006-01 (Apr. 12, 2006) (“AG Op.”) at 2 (Attachment D).

See also id. at 8.

In light of the Attorney General’s opinion, it is apparent that both the Original Petition and the Amended Petition seek rule changes that are clearly beyond the EQC’s jurisdiction. As such, the Council must terminate proceedings on the Amended Petition and, to the extent the Council believes it is operative, on the Original Petition. It would be an exercise in futility as well as beyond the scope of the EQC’s authority for the Council to go forward with a petition for rule changes that, the Attorney General has opined, the Council could not lawfully adopt. The Wyoming statutes and the Council’s regulations require the Council to terminate these proceedings without delay.

DISCUSSION

I. THE ATTORNEY GENERAL FOUND THAT THE PETITION WOULD REQUIRE EQC TO REGULATE WELLS BEYOND ITS AUTHORITY.

At the Governor’s request, the Attorney General issued a Formal Opinion letter analyzing EQC’s statutory authority to adopt (and DEQ’s authority to administer) the beneficial use requirement that Petitioners seek to impose on CBNG produced water. The Attorney General is, by law, the “the legal advisor of all elective and appointive state officers,” and, “when requested, give[s] written opinion upon questions submitted to him.” W.S. 9-1-603(a)(v), (vi). Moreover, the attorney general “shall furnish advice and assistance to all state agencies in the preparation of their regulations, and in revising, codifying and editing existing or new regulations.” W.S. 16-3-104(d). Attorney General’s opinions are not only persuasive but entitled to great weight, even in courts of law. *See State ex rel. Burdick v. Schnitger*, 96 P. 238, 243 (Wyo. 1908); *Director of the Office of State Lands & Investments v. Merbanco, Inc.*, 70 P.3d 241, 256 (Wyo. 2003).

The Amended Petition (like the Original Petition) seeks rulemaking revisions that would regulate the **quantity** of produced water discharged to surface waters, irrespective of the quality or composition of the discharged water. *See, e.g.*, Original Petition (Attachment A) at 7 (Original Petition would “clarify that discharged water must actually, and not theoretically, be put to beneficial use”). The petition does not differentiate produced water based on quality and would subject all produced water to this new “beneficial use” criterion, regardless of the constituents in the water. Petitioners, as the Attorney General observes, “seek[] to have the EQC **limit the quantity of water** which may be discharged from CBNG production to that which is actually ‘called upon’ by agricultural users, regardless of whether the quality of the water which is being discharged meets applicable standards for existing uses.” *See* AG Op. (Attachment D) at 2 (emphasis added).

Petitioners would have the EQC and DEQ do that which, as the Attorney General’s formal opinion makes clear, neither has the authority to do, *i.e.*, exercise jurisdiction over the “beneficial use” of waters of the state. The Petitioners proposed that DEQ should regulate the quantity of produced water discharged in order to control the alleged effects of such discharges as flows of water, without regard to composition. Such regulation is beyond the EQC’s authority. *See generally* Attachment C. This is an area that Wyoming’s constitution, statutes, and regulations all confirm is vested exclusively with the Wyoming State Engineer and Wyoming Board of Control. DEQ could not lawfully implement Petitioners’ proposed requirement for actual beneficial use of produced water discharges irrespective of constituent concentrations.

The Attorney General's eight-page opinion, *see* Attachment D, thoroughly reviews the pertinent federal and state statutory authority, and Wyoming's water quality rules. The Attorney General finds that:

[t]he [Wyoming Environmental Quality Act] does not provide authority for the EQC or DEQ to regulate water quantity to ensure that all produced water from oil and gas production is at all times actually used for wildlife or livestock watering or other agricultural uses. . . . The EQC does not have statutory authority to issue rules regulating water quantity in the absence of some water quality concern recognized in the EQA.

AG Op. at 8. It would be arbitrary, capricious and unreasonable for EQC to conduct further proceedings on proposed regulations that the Attorney General has unequivocally found are beyond the EQC's and DEQ's statutory authority. *Id.* Further proceedings would require EQC, DEQ and the parties to expend scarce resources on a rulemaking that, if Petitioners' proposal were adopted, would clearly be unlawful. *See, e.g.*, W.S. 16-3-103(d) (no state agency rule may be filed with the registrar of rules unless first submitted to and approved by the governor and the governor shall not approve any rule or any amendment, repeal, modification or revision of a rule unless the rule "[i]s within the scope of the statutory authority delegated to the adopting agency;" and "appears to be within the scope of the legislative purpose of the statutory authority;").

II. EQC PROCEDURAL RULES REQUIRE THE COUNCIL TO DENY THE ORIGINAL AND AMENDED PETITIONS WITHOUT DELAY.

Under the Wyoming statute governing administrative procedure: "Upon submission of a petition, the agency as soon as practicable either shall deny the petition in writing (stating its reasons for the denials) or initiate rulemaking proceedings in accordance with W.S. 16-3-103." W.S. 16-3-106 (emphasis added). Chapter III of the EQC's rules of practice and procedure,

which govern the rule-making procedures for this Petition,² similarly require that “[a]s soon as practicable, the Council shall deny the petition in writing (stating its reasons for the denial) or initiate rule-making procedures.” Chapter III, Section 2(d) (emphasis added). Because it is now indisputably “practicable” for the Council to recognize that the Amended Petition and the Original Petition seek regulations that exceed EQC’s jurisdiction, under the Wyoming Code and EQC’s own regulations, the Council must deny the petitions and terminate these proceedings without delay.

CONCLUSION

For the foregoing reasons, as a matter of law, the Council must deny the Amended Petition and the Original Petition and terminate further proceedings on both petitions.

Dated: May 5, 2006

Respectfully submitted,

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² See Chapter III, Section 1(a) (Chapter III provisions apply to “any hearings conducted pursuant to a petition (within the meaning of W.S. 9-4-106) for the . . . amendment of any rules”).

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Attachment

Document Description

- A Petition to Amend Chapter 2, Appendix H of the Department of Environmental Quality's Water Quality Rules (December 7, 2005)
- B Petitioners' Letter Request to Council to Change Rulemaking Procedure, Proposed Revisions to Appendix H, and New Appendix I (March 2, 2006)
- C Respondents' Letter Request to Council to suspend consideration of the Petitioners' December 7 Petition (March 10, 2005)
- D Wyoming Attorney General Formal Opinion (August 12, 2006)


CERTIFICATE OF SERVICE

I hereby certify that I served, via hand delivery, a true and correct copy of the foregoing *Joint Motion To Deny And Terminate Proceedings On Petition To Amend Wyoming Water Quality Rule Chapter 2, Appendix H* this 5th day of May, 2006, addressed as follows:

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BEFORE THE ENVIRONMENTAL QUALITY COUNCIL

PETITION TO AMEND WYOMING)
WATER QUALITY RULE, CHAPTER 2,)
APPENDIX H)

COME NOW, Petitioners, and on this 7th day of December, 2005, hereby petition pursuant to W.S. §§ 16-3-106 to amend Wyoming Water Quality Rules, Chapter 2, Permit Regulations for Discharges to Wyoming Surface Waters to remove the language that allows huge volumes of salty CBM water to be discharged and disposed of onto the land and into the waters of Wyoming under the guise of "beneficial use."¹

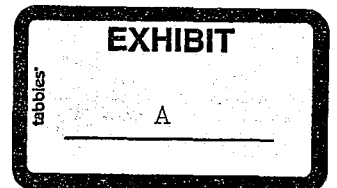
PETITIONERS

Eric and Bernadette Barlow own and operate Barlow Ranch, which has been in the family for four generations. The Barlows' ranch consists of over 18,000 privately owned acres of mixed-grass rangeland on which they run several hundred head of cattle. Their ranching operation relies primarily on native grasses as forage for their cattle, with the subirrigated meadows along Dead Horse Creek providing the substantial portion of their cattle feed. CBM discharge water coming down Dead Horse Creek has already altered the ephemeral nature of the stream, damaged their meadows, and caused foot rot in their cattle.

Gary and Sue Packard own and operate Packard Ranch which has been in the family for four generations. The ranch lies along Crazy Woman Creek near the confluence of the Powder River. Crazy Woman creek is a perennial stream with irrigation quality water. The ranch is a cow calf operation and consists of several thousand acres of native rangeland with irrigation rights along Crazy Woman Creek. CBM development is taking place both upstream, on and around the Packard Ranch.

Ken and Glessie Clabaugh own and operate Clabaugh Ranch, Inc. along Wild Horse Creek. The ranch consists of several thousand acres, including bottomland meadows along Wild Horse Creek that provide critical grazing and calving grounds, and native upland areas. The ranch has been inundated by CBM discharge water flowing down Wild Horse Creek causing serious problems with flooding, soil and vegetation damage and problems with moving cattle and calves.

¹ Appendix H showing the proposed changes is attached as Exhibit 1.



Steve and Mona Mitzel own and operate Mitzel Ranch along Clear Creek. Mitzel Ranch is a cow calf operation, with irrigated alfalfa meadows and a commercial vegetable garden. Clear Creek is a perennial stream with historically high water quality, upon which the ranch and farm operation depends. CBM development has begun in the Clear Creek drainage, and significant further development is planned.

Bob and Carol LeResche own and operate Clear Creek Ranch and Prariana Farms along Clear Creek, with irrigated meadows, irrigated alfalfa and grass hay fields, a commercial vegetable garden and grazing lands. The ranch also provides important bird and fish habitat along Clear Creek. The entire 1,124 acre ranch property is subject to a Conservation Easement owned by The Nature Conservancy.

Tooter and Jo Rogers own and operate Rogers Ranch, which consists of about 2,000 acres along SA Creek and Dead Horse Creek. The ranch is a cow calf operation, has valuable alfalfa meadows and native grass along the creeks. CBM discharge water in SA Creek is altering the nature of these ephemeral streams, impacting irrigation rights and threatening the alfalfa meadows.

Clay and Gayla Rowley own the Rowley Ranch along Clear Creek near the confluence of the Powder River. The ranch was homesteaded by Clay's grandfather and is currently leased for a cow calf operation. The ranch is dependent upon high quality water from Clear Creek for irrigation of the alfalfa meadows. There is CBM development planned both on and around the ranch.

Nancy and Robert Sorenson own and operate the Sorenson Ranch at the head of a tributary of LX Bar Creek. The ranch consists of a registered Angus seed stock operation and over 3,000 acres of dry land hay, grain farming and rangeland. There is extensive CBM development on and around the ranch.

Bill and Marge West have owned and operated the West Ranch for 50 years. This 13,000-acre ranch, where they grow dry land wheat and raise cattle, was homesteaded by Bill's father. The ranch has hay meadows along Spotted Horse Creek which have been severely impacted by CBM discharges which killed trees and vegetation and damaged the soil.

Steve Adami owns and operates Adami Ranch along the Schoonover divide at the head of Indian Creek. The ranch supports over 150 head of cattle, and has extensive CBM development going in, on and around the ranch.

The Powder River Basin Resource Council ("Powder River") was founded in 1973 by ranchers and citizens dedicated to ensuring the viability of Wyoming's agricultural heritage and rural lifestyle. Powder River is also dedicated to working for the careful and responsible development of Wyoming's valuable and important mineral resources. The organization was instrumental in the passage of reasonable state and federal laws and regulations in the mid-seventies that provided for responsible development of coal strip mines. Today, Powder River has over 1000 members. Over the past several years, many

of our members have been negatively impacted by coalbed methane development and many more will be directly and indirectly affected by the ongoing and expanding development of coalbed methane wells in the Powder River Basin.

The Petitioners and Powder River's members have historically strived to be careful and attentive stewards of the abundant natural resources on their ranches. Over generations they have learned that stewardship is necessary for maintaining a sustainable agricultural enterprise for the next generation. Every ranch and farm operation is threatened by CBM discharge water. The Powder River Basin Resource Council and the petitioners are supportive of responsible mineral and energy development in Wyoming, and recognize the importance of CBM development in the Powder River Basin – they oppose, however, discharge of CBM produced water that unnecessarily and unreasonably damages Wyoming's natural resources and its citizens' ranch lands and farms.

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INTRODUCTION

1. "Beneficial use" of produced water must include a quantity parameter

Appendix H of Water Quality Rules Chapter 2, Permit Regulations for Discharges to Wyoming Surface Waters, allows discharge of produced water into the surface waters of the state when "[t]he produced water is of good enough quality to be used for wildlife or livestock watering or other agricultural use and [is] actually put to such use during periods of discharge." As applied by the DEQ, this means that, if the produced water meets a base quality standard (see below), *any amount* can be discharged into the watersheds, ephemeral streams, and rivers of Wyoming, so long as some portion of the water is actually put to wildlife or livestock watering or agricultural use. The goal of this

Petition is to amend the regulatory language so that water discharged for “beneficial use” is truly used, and not simply flushed down Wyoming’s watersheds.

CBM production in Wyoming has produced 380,392 acre-feet of water. (1987-2004). To put it in perspective, Lake DeSmet stores 239,000 acre-feet. It is estimated that 95% of the Wyoming CBM resource remains to be developed, along with the associated water. At current discharge rates, that would be 7 million acre-feet of water to be disposed of.² Wyoming CBM production to date is just a fraction of what is to come. There is still time to get it right.

Already, numerous concerns and conflicts from the impact of produced water on Wyoming waterways and ranch lands have arisen. Yet DEQ continues to ignore many of those impacts and to abdicate its duty under the Environmental Quality Act to preserve and enhance the water and land of Wyoming.³ A prime example of that is found in the Appendix H loophole, which allows discharge of limitless quantities of water based on an assumption that DEQ knows to be incorrect – the assumption that the water will be put to

² *DRAFT Water Production from Coalbed Methane Development in Wyoming: A Summary of Quantity, Quality and Management Options*, University of Wyoming Ruckelshaus Institute of Environment and Natural Resources, August, 2005, pp. 10, 16. [hereinafter “IENR Report.”] Exhibit 2.

³ Whereas pollution of the air, water and land of this state will imperil public health and welfare, create public or private nuisances, be harmful to wildlife, fish and aquatic life, and impair domestic, agricultural, industrial, recreational and other beneficial uses; it is hereby declared to be the policy and purpose of this act to enable the state to prevent, reduce and eliminate pollution; to preserve, and enhance the air, water and reclaim the land of Wyoming; to plan the development, use, reclamation, preservation and enhancement of the air, land and water resources of the state; to preserve and exercise the primary responsibilities and rights of the state of Wyoming; to retain for the state the control over its air, land and water and to secure cooperation between agencies of the state, agencies of other states, interstate agencies, and the federal government in carrying out these objectives.

Wyo. Stat. § 35-11-102.

beneficial use. DEQ attempts to justify its failure by drawing an artificial line between water quantity and water quality, and then announcing that it cannot cross that line. The water quality and water quantity distinction is not supported in the law, and only serves to make DEQ's regulation of CBM produced water ineffective. The language in Chapter 2, Appendix H should be modified to recognize that effective regulation of CBM produced water cannot occur without consideration of water quantity, as well as water quality.

2. Effluent limits must be amended to be protective of stock and wildlife

Appendix H effluent limits currently set for sulfates and total dissolved solids are too high to meet the basic threshold of protection of stock and wildlife. There are currently no limits for barium (although some limits are imposed in permits), and a limit for barium should be added to Chapter 2, Appendix H(a)(vii).

Background

Congress adopted the Clean Water Act (CWA, also known as the Federal Water Pollution Control Act Amendments of 1972), with the intent to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). The Act prohibits the discharge of pollutants into the waters of the United States unless such discharge is in compliance with a permit. National Pollutant Discharge Elimination System ("NPDES") permits may be issued by either the EPA or a state agency authorized to administer the program. The Wyoming DEQ is authorized to issue WYPDES permits, under the standards set forth in the CWA.

Water Quality Rules Chapter 2, Permit Regulations for Discharges to Wyoming Surface Waters, sets forth many of the criteria for issuance of a WYPDES permit. The “beneficial use” exclusion in Appendix H has its origins in the Environmental Protection Agency’s (EPA) Effluent Limitation Guidelines (ELGs) for the Oil and Gas Point Source Category (40 CFR 435). As the EPA and DEQ recognize, “EPA did not consider CBM facilities when developing [the ELGs].”⁴ EPA has stated that it does not believe the Oil and Gas ELGs are the best method for regulating CBM water, because CBM “has very different economics and technical considerations, generates different volumes of produced waters, and has different water-quality constituent characteristics.”⁵ The general rule set forth in 40 CFR 435 is that there be *no discharge* of water in conjunction with gas and oil production. Subpart E of that rule “allows the discharge of produced water from facilities west of the 98th meridian for use in agriculture and wildlife propagation.” The logic behind this exclusion is apparent – if water is being produced in the arid American west that could be put to use for agriculture or wildlife production, then its discharge should not be prohibited. DEQ recognizes this rationale in its April 25, 2005 memo attempting to justify its use of the 40 CFR 435 ELG: “For oil and gas discharges, including CBNG permits issued from 1974 through 2000 by Wyoming, it was assumed that in the arid west region, the produced water would be used for agricultural or wildlife propagation so long as water quality standards and effluent limitations were

⁴ See 1/5/01 letter from Mike Reed at EPA to Leah Krafft at DEQ. Exhibit 3; Sample NPDES permit. Exhibit 4.

⁵ EPA Guidance for Developing Technology-Based Limits for Coalbed Methane Operations: Economic Analysis of the Powder River Basin, February, 2003. Interagency Draft Report. 1-4. Because this document is voluminous, it is not attached. It can be viewed at <http://www.northernplains.org/documents/CBMEPARreport0203.pdf>

met.”⁶ That is no longer a valid assumption, and the DEQ must manage CBM discharge water by recognizing that it is not generally being used; it is being disposed of. The exclusion has become a loophole stretched so far that in application it has lost all relation to logic.

The Appendix H changes to close the loophole are simple.⁷ Four words are deleted from Appendix H(a)(i) to clarify that discharged water must actually, and not theoretically, be put to beneficial use. Thus:

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.~~

Paragraph (d)(i) is revised as follows:

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.

Paragraph (c)(i), allowing “grandfathering” for some beneficial uses of water, will have language imposing a quantity limitation: “This exemption shall be limited to that quantity of water that can be demonstrated to have actually been put to beneficial use.”

Faced with the huge amounts of water being produced with CBM, the Wyoming DEQ has allowed the unrestrained production, and waste, of unimaginable quantities of Wyoming water, without any adequate evaluation of the impact to, or protection of, the

⁶ *Wyoming Pollutant Discharge Elimination System (WYPDES) Program Basis for Technology-Based Effluent Limits in Coal Bed Methane (Natural Gas) WYPDES Permits*, attached to 4/25/2005 letter from John Corra to Mr. Stephen Tuber, EPA, p. 4. Exhibit 5.

⁷ Appendix H containing the proposed changes is attached as Ex. 1.

quality of the groundwater,⁸ surface water, and the agricultural and livestock production that depend upon water.

When the permit applicant can show that water discharged is of sufficient quality (the standard is not high and can generally be met) for a cow or antelope to drink, then the DEQ will not question *how much* the cows or antelope will actually drink. Huge quantities of water are then disposed of, that is, flushed down Wyoming's waterways, in the guise of "beneficial use." The truth is that only a fraction of the CBM water discharged is actually used.

The pretense of "beneficial use" of CBM produced water must be abandoned. This is purely water disposal, and its disposal has impacts on the soils, crops and waterways of Wyoming that must no longer be ignored by the DEQ.

REASONS FOR RULE CHANGE

The law

DEQ attempts to justify its failure to regulate CBM produced water by arguing that the law does not authorize it to regulate water quantity. It is wrong.

DEQ's enabling statute authorizes it, and obligates it, to "prevent, reduce and eliminate pollution; to preserve, and enhance the air, water and reclaim the land of Wyoming; to plan the development, use, reclamation, preservation and enhancement of the air, land and water resources of the state. . ." Wyo. Stat. § 35-11-102. Nothing in the statutory language requires DEQ to tie one hand behind its back by ignoring the impacts

⁸ The DEQ has recently instituted "policies" for requiring groundwater monitoring, which is a recognition of the potential for adverse groundwater impacts. However, these "policies" are of questionable efficacy, as they lack the force and effect of law of rules promulgated under the WAPA.

to land and water that result of quantity, rather than quality, of discharged water.⁹ Rather, the language of the statute recognizes the importance of preserving and enhancing air, water and land, and implies recognition that they are all interconnected. Wyoming Statutes also recognize that water quantity is a parameter of water pollution.¹⁰

The Clean Water Act prohibits discharge of any pollutant from a point source into navigable waters of the United States without an NPDES permit. 33 U.S.C. §§ 1311(a), 1342. The Ninth Circuit Court of Appeals, in Northern Plains Resource Council v. Fidelity Exploration and Development Co., 325 F.3d 1155, 1161 (9th Cir. 2003), *cert. denied*, 540 U.S. 967 (2003), determined that, “because CBM water is an unwanted byproduct of the extraction process, CBM water falls squarely within the ordinary meaning of ‘industrial waste.’” For that reason and others, CBM water is a “pollutant” under the CWA. The Wyoming DEQ has recognized that CBM byproduct water is a pollutant, and has required a WYPDES permit for its discharge. As discussed below, DEQ already recognizes the importance of the water quantity parameter to water quality

⁹ Some have argued that regulation of quantity by DEQ would infringe upon the Board of Control’s constitutional authority to “have the supervision of the waters of the state and their appropriation, distribution and diversion. . .” Wyo. Const. art. 8, § 2. Certainly the DEQ should defer to water rights administration, and the proposed rule change that recognizes environmental impacts result from both quality and quantity of water do not change the rule of deference.

¹⁰ “Pollution” means contamination or other alteration of the physical, chemical or biological properties of any waters of the state, including change in temperature, taste, color, turbidity or odor of the waters or any discharge of any acid or toxic material, chemical or chemical compound, whether it be liquid, gaseous, solid, radioactive or other substance, including wastes, into any waters of the state which creates a nuisance or renders any waters harmful, detrimental or injurious to public health, safety or welfare, to domestic, commercial, industrial, agricultural, recreational or other legitimate beneficial uses, or to livestock, wildlife or aquatic life, or which degrades the water for its intended use, or adversely affects the environment.

Wyo. Stat. § 35-11-103(c)(i)

in many contexts. Case law interpreting the Clean Water Act further compels regulatory consideration of quantity in conjunction with quality.

The United States Supreme Court addressed an attempt to draw a line between water quantity and water quality under the CWA in PUD No. 1 of Jefferson County and City of Tacoma, Petitioners v. Washington Department of Ecology, et al. 511 U.S. 700; 114 S. Ct. 1900; 128 L. Ed. 2d 716 (1994), and held:

Petitioners also assert more generally that the Clean Water Act is only concerned with water "quality," and does not allow the regulation of water "quantity." This is an artificial distinction. In many cases, water quantity is closely related to water quality; a sufficient lowering of the water quantity in a body of water could destroy all of its designated uses, be it for drinking water, recreation, navigation or, as here, as a fishery. In any event, there is recognition in the Clean Water Act itself that reduced stream flow, i.e., diminishment of water quantity, can constitute water pollution. First, the Act's definition of pollution as "the man-made or man induced alteration of the chemical, physical, biological, and radiological integrity of water" encompasses the effects of reduced water quantity. 33 U.S.C. § 1362(19). This broad conception of pollution – one which expressly evinces Congress' concern with the physical and biological integrity of water – refutes petitioners' assertion that the Act draws a sharp distinction between the regulation of water "quantity" and water "quality." Moreover, §304 of the Act expressly recognizes that water "pollution" may result from "changes in the movement, flow, or circulation of any navigable waters. . .,"

PUD No. 1, 511 U.S. at 719-20.

Cases applying the Clean Water Act in the Tenth Circuit (which includes Wyoming) have reached the same result. Quivira Mining Co. v. United States EPA, 765 F.2d 126, 129 (10th Cir. 1985)(quoting United States v. Earth Sciences, Inc., 599 F.2d 368, 373 (10th Cir. 1979)("The touchstone of the regulatory scheme is that those needing to use the waters for waste distribution must seek and obtain a permit to discharge that waste, with the **quantity and quality** of the discharge regulated."); Riverside Irrigation District v. Andrews, 758 F.2d 508, 512 (10th Cir. 1985)("both the statute and the

regulations authorize the Corps to consider downstream effects of changes in water **quantity** as well as on-site changes in water **quality**. . .”); Alameda Water & Sanitation v. Reilly, 930 F.Supp. 486, 491 (D.Colo. 1996)(citing PUD No. 1 in rejecting plaintiff’s contention “that in enacting the CWA Congress was concerned only with water **quality** impacts, such as pollution, and not effects relating to water **quantity**. . .”).

The law on this point is aligned with the facts and with common sense – water quantity must be a factor in regulation of water quality.

2. The “beneficial use” loophole – why quantity matters

CBM water *quality* has been of particular concern because it is salty, measured by total dissolved solids and specific conductance. Water high in TDS or specific conductance will reduce crop production. High salinity in the water results in high salinity in the soil, and reduces the ability of most plants to extract water from the soil. “There is a greater energy cost to the plant to remove water from salt effected soils, and plants will typically wilt earlier in the day on salt effected soils, thereby decreasing photosynthesis and ultimately plant production. Salinity may also cause micro-nutrient deficiencies in crop plants. At very high levels, salinity may cause direct toxicity to plants.”¹¹ Sodium Adsorption Ratio (SAR) is also a concern, because water high in SAR will cause soils to disperse, swell and form crusts, reducing the soil’s ability to drain water.¹² Recent studies tracking soils irrigated with CBM water over a period of years,

¹¹ Munn, Larry, *Interactions between Coal Bed Methane Product Water and Soils, Vegetation, Agriculture and Riparian Systems in the Powder River Basin*, Feb. 8, 2002. Exhibit 6.

¹² For a report of how CBM water can affect one small draw in Wyoming, see the CBMC Coalition Report on Burger Draw, June, 2001. Exhibit 7.

and comparing them to soils not irrigated with CBM water, conclude that CBM water results in salt buildup in soils to levels that are greater than threshold values for sensitive to moderately sensitive crops, and that “trends of increasing sodicity with extended periods of irrigation with CBNG water were apparent.”¹³ DEQ has recognized these quality concerns and made attempts (albeit inadequate¹⁴) to address them. But if you don’t know **how much** water is being disposed of, you only know half the story.

- Water of any quality, when applied to the type of soils that are found in the Powder River Basin, can mobilize salts from the soils and produce water with specific conductance and SARs that are damaging to soils and crops. “In a semi-arid climate, regular additions of even small increments of water may redistribute natural salinity on the landscape. . .”¹⁵
- Increased flows erode stream beds.
- Increased flows freeze in winter and cause ice damming and flooding of land with poor quality water.
- The quality of water that any given soil/crop can tolerate is directly related to the ability to leach excess salts from the root zone.¹⁶ Salinity builds up in soil over

¹³ Ganjegunte, G. K., G. F. Vance, and L. A. King. 2005. *Soil chemical changes resulting from irrigation with water co-produced with coalbed natural gas*. Journal of Environmental Quality 34:2217-2227. Exhibit 8 (Galley Proof).

¹⁴ For example, DEQ permits discharges of CBM water with SARs over 20, justifying this by determining that the high EC would maintain adequate infiltration, according to the Hanson chart. However, this ignores the fact high SAR in water will result in even higher SAR buildup in soils that will ultimately cause degradation in the form of reduced infiltration, limited root growth, and reduced gas permeability.

¹⁵ Munn, note 10. *See also*, Ganjegunte, Ex. 8 p. 6, “Increase in SAR_c values is partially due to the accumulation of Na in irrigated soils due to dissolution and mobilization of Na salts in soils apart from addition of Na through CBNG water.”

¹⁶ The percentage of applied water that passes through the soil is called the leaching fraction. The salinity of the irrigation water and the leaching

time. To sustain irrigation, irrigators must add additional water above the needs of the crop to leach excess salt from the root zone.¹⁷

- Increased flows can raise local ground water tables and slow infiltration that is crucial to leaching salts from soils.
- Timing of flows, regardless of quality, is important for seedling growth and soil leaching.
- Salt loading is the effect of quality times volume. For example, if a billion gallons of water is produced per day, and it contains 2000 ppm salts, then 8,000 tons of salt per day will be generated. The salt will go either into the soil or down the creek, where there will be significant adverse consequences to crops or aquatic habitat.

DEQ recognizes the interplay of water quantity and water quality in many contexts. Consider, for example, the Mixing Zone and Dilution Allowances Implementation Policy, which can only be calculated if one of the factors is the mean daily flow.¹⁸ The majority of WYPDES permit applications in the Powder River Basin

fraction are the most important factors affecting the salinity of the soil water. The salinity of the soil water is important, since the salinity of the soil water, rather than the salinity of the irrigation water itself, is the critical factor resulting in any decrease in crop yield. Continued irrigation will result in the salinity of the soil water coming into equilibrium with the salinity of the irrigation water. The actual relationship will be dependent on the average salinity of the irrigation water and the actual leaching fraction.

Horpestad, Abe, *Water Quality Technical Report, Water Quality Impacts from Coal Bed Methane Development in the Powder River Basin, Wyoming and Montana*, Dec. 10, 2001. Exhibit 9.

¹⁷ Munn, Ex. 6.

¹⁸ Wyoming Surface Water Quality Standards, Implementation Policies for Antidegradation Mixing Zones Turbidity and Use Attainability Analysis, p. 16, 3rd draft, November, 2005. http://deq.state.wy.us/wqd/surfacestandards/Triennial/Policies_3rd.pdf

are submitted with mixing calculations and water budgets. This is because they count on natural flows for dilution, and none of those calculations can be made without considering the quantity factor. WYPDES permits do in fact contain a limit to the quantity of water discharged under the permits. This is because the concentration of a particular constituent is only one factor in determination of the total load – quantity is essential to that calculation. DEQ is in the process of implementing a new policy to control total salt load in order to meet limits in flows to Montana. The Powder River Basin sodium management plan allocates total sodium discharges to producers, calculated by TDS (quality) times quantity. Here again, DEQ cannot regulate load without regulating water quantity. Yet DEQ turns a blind eye to quantity in Chapter 2, Appendix H, and in doing so it hamstring its own ability to effectively regulate CBM water.

EPA has also recognized the various impacts that can result from both quantity and quality of CBM water, and advised DEQ that “large quantities of produced water discharged to small tributaries with erosive soils and geology can have unanticipated adverse impacts on wildlife habitat and/or agriculture.”¹⁹ EPA has further explained:

The many potential environmental impacts from CBM operations are diverse. Possible impacts include: reduced flow or loss of domestic water wells, mortality and reduced growth and vigor of vegetation, erosion, soil compaction, and loss of topsoil. One of the major concerns associated with CBM production in the Powder River Basin is disposal of the produced water. The surface disposal of CBM-produced water may result in erosion or damage to drainages and associated vegetation within the area. Even though CBM discharge is essentially sediment-free, discharge to streams and creeks can increase sediment loading due to increased erosion.²⁰

¹⁹ 1/5/01 Reed letter to Krafft, Ex. 3.

²⁰ EPA Guidance for Developing Technology-Based Limits for Coalbed Methane Operations: Economic Analysis of the Powder River Basin, February, 2003. Interagency

The Appendix H beneficial use loophole allows for the disposal of huge quantities of CBM water, to the detriment of Wyoming's soils, rangelands, rivers, and to the wildlife and people who live there. This is contrary to the spirit and the letter of the law and contrary to sound State policy. Currently the most common CBM water disposal methods are impoundments, land application, and direct discharge to surface waters. Other methods which are less common include injection and treatment and release.

A. On- and off-channel impoundments

Often surface discharge entails water storage in reservoirs both on and off-channel. Impacts from these include the creation of saline seeps, unauthorized discharges into surface waters during overflows, and unauthorized discharges into surface waters during impoundment failure.²¹ The University of Wyoming's Larry Munn has pointed out that:

The effects of lateral seepage and movement of water along faults resulting from the dependency upon infiltration impoundments will cause significant impairment of surface water quality, both locally and for main stems such as the Tongue and Powder Rivers. Infiltrating water only moves straight down if the substrate is uniform; this is clearly not the case for sedimentary strata such as the Ft. Union formation. In particular the

Draft Report. 1-5. Because this document is voluminous, it is not attached. It can be viewed at <http://www.northernplains.org/documents/CBMEPARReport0203.pdf>

²¹ DEQ does not have enough enforcement personnel to police CBM water discharges. However, there are a number of documented examples of violations that have been. See, e.g., Dec. 4, 2002 NOV (WY0046841) for unauthorized discharge of 20,417 gallons of wastewater into the Tongue River; Dec. 23, 2002 NOV (Impoundment #24-3082) for the unauthorized discharge of 504,000 gallons of wastewater into Badger Creek, a tributary of the Tongue River; Oct. 22, 2003 NOV (#WY0049280) for unauthorized discharge of wastewater via seeps into tributaries of Coutant Creek and Little Badger Creek, tributaries of the Tongue River. A list of NOVs issued by DEQ for CBM violations in 2004 and 2005 (as of November 21, 2005) is attached as Exhibit 10. This list of course does not include undetected violations or violations for which no NOVs were issued.

negative effects of sodium which is generally higher in concentration in the northern PRB will be difficult to mitigate.²²

On-channel impoundments capture natural runoff, interfere with the hydrologic cycle, and interfere with downstream senior water rights. The primary purpose of constructing on-channel reservoirs for storage of CBM water is to take advantage of the dilution provided by natural flows – by definition a degradation of the natural flows that historically supported wildlife and crop and livestock production. Impoundments rely on infiltration to dispose of water, which is then likely to degrade shallow alluvial aquifers.

The Final Environmental Impact Statement for Montana's Powder River Basin recognizes that "soils under impoundments may require extensive reclamation because of the accumulation of salts during infiltration of water. The soils structure could be damaged severely, plant growth would be minimal, and accumulation of salts in the soils would likely lead to the soil being removed and disposed."²³ (DEQ adopted "Implementation guidance" in August, 2005, requiring permit applicants to post a bond for reclamation of lands under impoundment. The "guidance" is of doubtful utility, since it lacks the force and effect of law that rules promulgated under the Administrative Procedures Act have; and further, the bonding guidance addresses only potential damage to surface soils, and does not address degradation of the shallow aquifers or return flows into water sources.)

²² Munn, Larry, *Comments on Wyoming Powder River Basin EIS*, February 17, 2003. Exhibit 11.

²³ Final Statewide Oil and Gas Environmental Impact Statement and Proposed Amendment of the Powder River and Billings Resource Management Plans, January, 2003, 4 -136. Because this document is voluminous, it is not attached. It can be viewed at <http://www.mt.blm.gov/mcfo/cbm/eis>

B. Land Application

Land application is another surface disposal method favored by industry, which also has adverse impacts on the environment. Land applications “risk disruption of natural soil water balances with subsequent impacts on soil ecological, physical, chemical and hydrological characteristics, all of which strongly influence vegetation communities and reclamation potentials.”²⁴ Studies have shown that “long term irrigation resulted in accumulation of significant amounts of salt and sodium in the soils. . .” and “exhibited decreased macro-porosity and reduced soil hydraulic conductivity.”²⁵ A recent study which tracked the impacts of CBM water on soils over several years concluded that “Results of this study suggest CBNG waters used for irrigation in northwestern PRB, Wyoming, are generally unsuitable for direct land application.”²⁶

C. Surface discharge- impacts to tributaries

Discharges onto the surface and down the existing channels also adversely impact the environment. In the Powder River Basin, where most of the CBM discharges have been occurring, most of the small drainages are ephemeral streams that run only with snowmelt or thunderstorms. Ecosystems and ranching operations depend upon the ephemeral stream system. Grass grows in the channel bottoms for forage; ranchers drive their tractors and herd their cattle across the dry stream beds. When the occasional flows from snowmelt or thunderstorms do occur, the water overflows (sometimes with the aid

²⁴ King, L.A., *Land Application of Coalbed Methane Waters: Water Management Strategies and Impacts*, Exhibit 12.

²⁵ Bauder, *Quality and Characteristics of Saline and Sodic Water Affect Irrigation Sustainability*. Exhibit 13.

²⁶ Ganjegunte, Ex. 8, p. 10.

of spreader dams) and provides irrigation. The water supplied by the big floods provides another invaluable service – it penetrates the soil in sufficient quantities and to a sufficient depth to leach the salt beneath the root zone, so that plants can grow unimpeded by salt buildup. This system is disrupted by CBM-augmented flows, in conjunction with the damage that occurs as a result of water quality degradation.

To turn ephemeral streams into perennial, or nearly perennial streams, upsets the balance that has supported plant and animal life as well as ranching in northeast Wyoming. CBM produced water discharged to the surface creates return flows, which return to the stream with even higher salinity. Augmented flows cause erosion.²⁷ To augment the flows of perennial streams, and alter their water quality, further degrades the hydrologic system and the wildlife, agriculture and livestock use that have evolved to depend upon them.

D. Impacts to mainstem

When CBM flows reach the mainstems, the Powder River, the Little Powder, and the Tongue, more adverse impacts can be expected. In a letter to DEQ commenting on a particular permit, the Wyoming Game & Fish expressed concern about impacts of CBM water to both the quality and the quantity of fish habitat:

Change in Water Quality

... Changes in the conductivity and sodium absorp^tion ratio may occur as increased flows move sediment from channel bottoms and increase erosion of floodplains. Confluence Consulting reported high salinities and electrical conductivities, possibly due to CBNG water, for the Spotted Horse drainage in their recently released report on the Powder

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²⁷ Wilkerson, G.V., *Risk assessment methodology using a regional channel erosion potential model*, Exhibit 14.

River. This report indicates that CBNG discharges could affect native species in the drainage.

Change in Water Quantity

Native fauna in the Powder River drainage have evolved and adapted to a very dynamic hydrograph with high sediment loads. Changes in this flow regime (i.e. perennial flows) may seriously impact native fauna by altering their use of historical habitats for spawning, rearing, and reproduction. Alterations that impact channel morphology is an issue, and will have impacts to the aquatic biota due to changes in sediment loads, loss of habitat, and possible disruption of migration movements due to barriers created by culverts and/or headcuts. . . .²⁸

Augmentation of flows has been shown to deplete macroinvertebrate populations, and ultimately lead to the decline in fish populations.²⁹ Species that have evolved under a certain hydrograph are likely to be adversely affected when that hydrograph is dramatically altered by the addition of CBM water.

3. What are the alternatives?

There are a number of alternatives to surface discharge of CBM produced water. Industry will say the sky is falling, but when gas is selling for more than \$9 an mcf,³⁰ that cry rings hollow. First of all, there must be reasonable limits to the amount of water discharged. The assumption that discharged water is an inevitable consequence of gas production is an incorrect assumption that allows regulators and industry to overlook the first-line defense to the problems of CBM produced water – that is, reduction or elimination of produced water.

²⁸ Wichers, Bill, Wyoming Game & Fish Deputy Director, Sept. 10, 2004 letter to Leah Krafft. Exhibit 15.

²⁹ Gore, James A. , May 14, 2002 letter to Paul Beels of BLM. Exhibit 16.

³⁰ As of November 18, 2005, Enerfax.com reported natural gas prices were \$9.05 at Opal/Kern River; \$9.06 Wyoming Pool; and \$11.03 Henry Hub.

Only where there is actual use for the water should surface discharge be permitted. Actual use can be maximized in some cases by water treatment (such as reverse osmosis), which generally reduces salinity and makes the water useable for irrigation.³¹

All of these are being done in Wyoming today, and the technology to do them more and more cost-effectively will certainly develop with demand.

A. Minimize water production

New technologies are being developed to aid in minimizing water produced with CBM. They include:

a. Downhole water/gas separation – a permeable membrane separates water from gas, an approach which does not require dewatering of the aquifer. Roughrider Water is currently marketing a system that uses microscopic filters to separate methane from water, so that very little water is extracted, while gas is produced.

b. Alternative wellbore completion methods – testing for vertical fracturing could indicate alternative approaches during water-enhancement that would significantly reduce the volume of water discharged.

c. Raman optical spectrometer tool – a proprietary downhole tool has been developed that aids in predicting methane saturation, so that more gas can be produced with less water.³²

d. Directional drilling can be effective in reducing water production.

³¹ See, for example, Fidelity's Wrench Ranch project (WY0047066, WY0047074, WY0051471, and WY0051772) and Williams' Bowman Flat (WY0051357) and SG Palo 31 (WY0051594) projects.

³² *IENR Report*, Ex. 2 pp. 28-29. See Welldog.com, describing a reservoir analysis service that identifies wells "that will produce natural gas with the least amount of dewatering."

B. Reinjection

Wyoming had permitted 308 CBM Class V injection wells as of July 7, 2005. Of that total, 60 wells were “active and injecting a combined 14,592,692 barrels/year (1.68 million gallons per day). This is approximately 3% of the total water produced.”³³ Reinjection can present challenges, but they are certainly not insurmountable – they are only more costly. The proof that reinjection can be cost-effective is in such projects as the Anadarko Petroleum plan to pipe water from the Powder River Basin to the Midwest area for reinjection.³⁴

C. Water treatment

Water treatment technology is rapidly improving, as are numbers of permit applications involving water treatment. To date, most treatment plans are a variation on ion exchange, with about 60 cfs permitted to be treated and discharged into the Powder River.³⁵ Reverse osmosis is another method currently in use. Sulfur burners are beginning to be used to acidify CBM water. Additional land applications, particularly for irrigation, would be available with treated water that did not have the disadvantage of

³³ Corra, John, July 7, 2005 letter to Joe Russell, Montana Board of Environmental Review. Exhibit 17.

³⁴ *Coalbed Methane Water Gets New Look*, Cheyenne Tribune-Eagle, August 8, 2005. Exhibit 18.

³⁵ Oct. 24, 2005, personal conversation with Jason Thomas, DEQ/WQD.

high salinity and sodium adsorption ratios.³⁶ The City of Gillette has used CBM water to replenish its water supply, and Sheridan and Buffalo are contemplating similar uses.

D. Soil treatment

Addition of gypsum has met with some success in counteracting high sodium concentrations from CBM water.³⁷

E. Other

Various other possible approaches can be seriously considered if the State and industry are required to do more than pay lip service to the problems of CBM water. They include discharge to surface reservoirs such as Keyhole and Lake DeSmet or into the Platte River; cooling water for coal-fired electrical plants or other industries such as coal liquification; coal slurry pipelines.

4. Effluent Limits

Limits currently set in Appendix H are intended to be protective for stock and wildlife consumption. They are not. Limits for sulfates and total dissolved solids must be lowered, and limits for barium must be set to conform with the data establishing limits that are protective of stock and wildlife.

³⁶ Pilot projects for irrigation with treated water are already underway. See note 31.

³⁷ Ganjgunte, Ex. 8, p. 10.

A. Sulfates

The current limit for sulfates is 3,000mg/l in any single grab sample. The University of Utah Extension service recommends the maximum sulfate level for calves is less than 500 mg/l; for adult cattle it is 1,000/mg/l.³⁸ Sulfates impart a bitter taste to water, which animals can acclimate to, however, high levels of sulfate produce diarrhea in cattle. The Wyoming Department of Agriculture Analytical Services report says that good quality livestock water should have sulfates of 500 milligrams per liter and that sulfates over 1000 mg/l are "unsuitable" for livestock.³⁹ The Wyoming limit should be 500mg/l.

B. Total Dissolved Solids

TDS is a measure of salinity, which can have toxic effects on cattle. Animal tolerance varies with species, age, water requirement, season, and condition. Salinity impacts can vary depending on whether increased salinity is abrupt or gradual, and on the duration of exposure. Generally, water intake will increase with increased salinity, until animals refuse to drink at very high salinity. When water intake decreases, so does feed intake. "Sudden changes from good quality livestock water to poor, high salinity livestock water may prove fatal to the animals."⁴⁰

The current standard states:

³⁸ University of Utah Analysis of Water Quality for Livestock, July, 1997. Exhibit 19.

³⁹ Wyoming Department of Agriculture Analytical Services Explanation of Standard Potable "Water Supply Series" of Analyses. Exhibit 20. *See also*, Ex. 21.

⁴⁰ Wyo. Dept of Ag, Ex. 20. *See also*, Ex. 21.

The total dissolved solids content of any produced water discharge shall not exceed 5,000 mg/l for total dissolved solid or 7500 umhos/cm for specific conductance in any single properly preserved grab sample . . .

The South Dakota State University Extension service advises that a TDS between 2,000 and 3,000 mg/l may reduce performance, and over 3,000 mg/l “may reduce performance and affect health.”⁴¹ The University of Utah recommends a “fair” TDS concentration for cattle at 2000-4000; “good” is 1000-2000.⁴² The Wyoming limit should not exceed 2,000 mg/l.

Barium

There is currently no limit for barium. Barium salts “are highly toxic, causing severe hypokalemia (reduction of phosphorus in blood.). . . Signs in livestock include profuse salivation, sweating, violent peristalsis and convulsions, cardiac arrhythmias, palpitations, and sometimes paralysis.”⁴³ The University of Utah Extension Service reports the U.S. EPA upper limit of Barium for livestock is .2 mg/l.⁴⁴ Colorado State University says anything over .3 mg/l is “unacceptable” for livestock.⁴⁵ The Wyoming limit for Barium in drinking water for livestock should be set at .2 mg/l.

Conclusion

Of course CBM operators prefer surface discharge to other alternatives; it is less costly. That is not the issue. Wyoming’s budget surplus should not drive DEQ’s

⁴¹ Nixon, Lance, *Total Dissolved Solids, Sulfates Pose Risk In Livestock Drinking*, South Dakota State University, July, 2002. Exhibit 21.

⁴² Uof U Analysis. Ex. 19.

⁴³ Lewis, Robert, *CRC Dictionary of Agricultural Sciences*, p. 171 (2005). Exhibit 22.

⁴⁴ U of U Analysis. Ex. 19.

⁴⁵ *Interpretations of Livestock Water Quality*, Colorado State University Cooperative Extension. Exhibit 23.

promulgation of rules necessary and legally required to protect the environment, Wyoming water, and other traditional land uses such as ranching. CBM production can continue to be profitable for producers in Wyoming and can continue to fill the State's coffers. If 95% of CBM in Wyoming remains to be produced, then it is not too late for DEQ to do its job, and to insure that CBM production not proceed at the cost of all other values, including the protection of water and land entrusted to the Wyoming Department of Environmental Quality and the Environmental Quality Council. Responsible production requires setting effluent limits that are truly protective of livestock and wildlife, and it requires the elimination of the "beneficial use" loophole, so that surface discharge of CBM water proceeds with due regard for land and water, wildlife and agricultural uses that are required by the Clean Water Act, the Wyoming Environmental Quality Act, and thoughtful state policy.

Petitioners respectfully request that the Environmental Quality Council set this Petition for Rulemaking for hearing as expeditiously as possible under the Wyoming Administrative Procedures Act, receive comments and information, and adopt the amended Appendix H to Chapter 2 of the Wyoming Water Quality Rules attached hereto as Exhibit 1.

Dated this ____ day of December, 2005.

Kate M. Fox
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Cheyenne, WY 82003
(307)634-3210

CERTIFICATE OF SERVICE

I hereby certify that I served, via hand delivery, a true and correct copy of the foregoing Petition this ____ day of December, 2005, addressed as follows:

Counsel for DEQ

Mike Barrash
Assistant Attorney General
123 Capitol Building
Cheyenne, WY 82002

APPENDIX H

Additional Requirements Applicable to Produced Water Discharges from Oil and Gas Production 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.

EXHIBIT 1

(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 μ mhos/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.

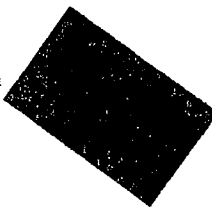
(v) An effluent limitation of 10 mg/l for oil and grease as measured by EPA method 1664 or 10 mg/l for net oil and grease as measured by alternate test procedure method 1664-Cu.

(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~~ 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.

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**ALSO ADMITTED IN UTAH

March 2, 2006

Terri Lorenzon, Director
Environmental Quality Council
Herschler Building, Room 1714
Cheyenne, WY 82002

RE: Petition to Amend Water Quality Rule, Chapter 2, Appendix H

Dear Terri:

It became apparent after the February 16, 2006 hearing that there is a sound basis for distinguishing in the rules between water discharged from traditional oil and gas operations and water discharged in CBM production. Many DEQ regulations make this sort of distinction (i.e Land Quality Rules for coal and non-coal).

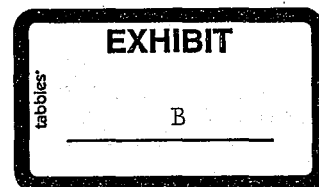
As you know, my clients feel strongly that people who wish to make use of produced water are entitled to do so. We have therefore followed up on the suggestion made by Councilman Moore, and drafted a new Appendix I which is specific to CBM. The old Appendix H would apply only to traditional oil and gas operations, and would be unchanged except for the deletion of subparagraph (d), which is specific to CBM. Drafts are enclosed.

I do not believe this requires a Petition amendment, but I wanted to put this before the Council and the DEQ prior to public notice of the hearing on the rule. Please contact me if you have any questions.

Sincerely,
Davis & Cannon

Kate M. Fox

Kate M. Fox



Lorenzon
Jan. 5, 2006
2

Enc

Cc: Brad Basse, Chairman of the Hot Springs County Commissioners (w/enc)
John Wagner (w/enc)
Jill Morrison (w/enc)
Keith Burron (w/enc)
Jack Palma (w/enc)
John Sundahi (w/enc)

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 μ mhos/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 II (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 II (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.~~

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 μ mhos/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.~~

~~(cd) 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.~~

March 10, 2006

Terri Lorenzon
Wyoming Environmental Quality Council
Herschler Building, Room 1714
Cheyenne, Wyoming 82002

RE: Petition to Amend Water Quality Rule, Chapter 2, Appendix H

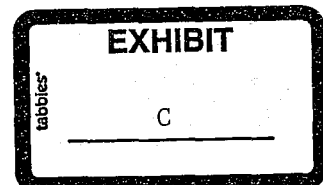
Dear Ms. Lorenzon:

On December 7, 2005, Petitioners submitted the above-referenced petition ("the Petition"). The Petition included as Exhibit 1 specific proposed amendments to Chapter 2, Appendix H of the rules of the Department of Environmental Quality. On February 16, 2006, after a prehearing conference in accordance with the Council's rules of practice and procedure, the Council voted to accept the Petition for rulemaking. It has come to our attention that, by letter dated March 2, 2006, counsel for Petitioners submitted to the Council a letter asking the Council to suspend consideration of the Petition as submitted, and instead to conduct rulemaking on a significantly different set of proposed amendments to Chapter 2, Appendix H, as well as an entirely new proposed Chapter 2, Appendix I.

Petitioners' March 2, 2006 letter suggests that the Council's February 16, 2006 acceptance of the Petition with its proposed amendments for rulemaking can and should be deemed acceptance of these new and very different proposed regulations for further proceedings. However, under the relevant statute and regulations, the Council may not simply proceed to a hearing on these new and different proposals. Rather, the Council must first consider this new petition and determine whether to proceed with rulemaking. Only after such consideration can the Council decide whether to proceed to rulemaking on the new petition.

Petitioners submitted their December petition for amendment of the Department of Environmental Quality's rules under W.S. 16-3-106, which provides that "any interested person may petition an agency requesting the promulgation, amendment or repeal of any rule" Under the statute, "Upon submission of a petition, the agency as soon as practicable either shall deny *the petition* in writing (stating its reasons for the denials) or initiate rulemaking proceedings in accordance with W.S. 16-3-103." (emphasis added) Clearly, the agency must either deny or initiate rulemaking on "the petition" as submitted.

The Council's rules of practice and procedure even more clearly require that the petition on which rulemaking proceeds must be the same petition the Council accepted for rulemaking. Under Chapter III, Section 2(a), "each petition" to promulgate, amend or repeal a rule must be submitted to the Council. Under Section 2(c), "After filing of *the petition*, the Council may hold a prehearing conference to review *the petition* and *its persuasiveness*." (emphasis added). Under Section 2(d): "As soon as practicable, the Council shall deny *the petition* in writing (stating its reasons for the denial) or initiate rule-making procedures." (emphasis added) A prehearing conference on a petition for rulemaking -- such as the Council held on February 16, 2006, on the Petition -- provides an important opportunity for the Council to receive comment on and consider the persuasiveness of



that particular petition. Under the Council's rules, a determination on a specific petition is a precondition to further proceedings on that petition.

While some discussion occurred at the February 16th hearing on the Petition of possible distinctions between produced water from traditional oil and gas operations and from coal bed natural gas operations, the Council considered and rejected the idea that the Petition should be limited to CBNG discharges. The Council instead accepted the Petition as submitted (just as its rules require). Petitioners' efforts to convert the accepted petition to a wholly different one preclude further proceedings on the Petition and require another determination by the Council as to the "persuasiveness" of the new petition.

This is far from a formalistic requirement. The new petition raises important and fundamental issues the Council did not consider or decide on February 16, 2006. First and foremost is the question of whether it is appropriate to impose different regulations regarding produced water from CBNG operations. The new petition provides no evidence, analysis or even argument in support either of such differentiation or of the particular distinctions that would be made in Appendices H and I to account for any such differences. The new bifurcated petition also contains a number of ambiguities regarding apparent differences in the criteria to be used to determine beneficial use of water discharged from CBNG operations vs. water discharged from conventional oil and gas operations. In light of the absence of any information in Petitioners' new petition to justify further proceedings on the proposed bifurcated rule, and the need for clarification as to the operation of the bifurcated rule, we submit that a hearing is necessary in order for the Council to assess the persuasiveness of the new petition.

Accordingly, we respectfully urge the Council to suspend rulemaking proceedings on Petitioner's now-withdrawn Petition and to convene a hearing on their new Petition in accordance with Chapter III, section 2(c) of the Council's rules of procedure.

Sincerely,



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Facilities Engineer

DEVON ENERGY PRODUCTION COMPANY, LP

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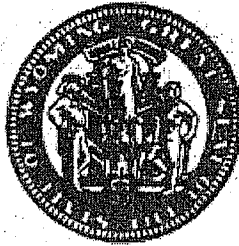
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cc: Kate Fox
John Corra



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Dave Freudenthal

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Chief Deputy Attorney General
Elizabeth C. Gagen

FORMAL OPINION NO. 2006-001

April 12, 2006

Honorable Dave Freudenthal
Governor
State Capitol
Cheyenne, Wyoming 82002

Dear Governor Freudenthal:

Question:

Does the Wyoming Environmental Quality Act (EQA) grant authority to regulate water quantity to ensure that all produced water from coalbed natural gas (CBNG) production is at all times actually used for wildlife or livestock watering or other agricultural uses.

Brief Answer:

No. The EQA allows regulation of the quantity of water if the quantity has an unacceptable effect on the quality of the water.

DISCUSSION

A petition for rulemaking was filed on December 7, 2005, and a subsequent request by letter for revision was filed on March 3, 2006, with the Wyoming Environmental Quality

EXHIBIT

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Honorable Dave Freudenthal

April 12, 2006

Page 2 of 8

Council (EQC).¹ It proposes to amend Department of Environmental Quality (DEQ) Water Quality Division Rules (WQD Rules), Chapter 2, Appendix H and add Appendix I to regulate the quantity of surface discharge of produced water from all CBNG production. The existing WQD Rules provide that all produced water meeting basic quality criteria is suitable for use by stock and wildlife and may be discharged to the surface if actually put to such use during periods of discharge. The petition would revise the rule and limit the quantity of produced water discharges to only that amount of water which can be demonstrated to have actually been put to "beneficial use." Petition, Exhibit 1. In other words, it seeks to have the EQC limit the quantity of water which may be discharged from CBNG production to that which is actually "called upon" by agricultural users, regardless of whether the quality of the water which is being discharged meets applicable standards for existing uses.

Petitioners are not using the term "beneficial use" in the same way that DEQ has interpreted or applied it. Instead, they are using the term "beneficial use" to denominate water quantity and an asserted right to only have as much quantity discharged as will actually be used: "The goal of this petition is to amend the regulatory language so that water discharged for 'beneficial use' is truly used, and not simply flushed down Wyoming's watersheds." Petition at 3-4. The Petition wants the EQC to dictate to DEQ that it must consider "how much the cows or antelope will actually drink." Petition at 8. The Petition is clear that it wants DEQ to consider "... the impacts to land and water that [are the] result of quantity, rather than quality." Petition at 9 (emphasis added). The EQA does not authorize such an action.

The primary objective in interpreting statutory language is to ascertain the Legislature's intent and give it effect. *State v. Curtis*, 2002 WY 120, ¶ 8, 51 P.3d 867, 869 (Wyo. 2002). The intent of the Legislature is to be ascertained, if possible, by the language used, viewed in light of the objects and purposes to be accomplished. *Basin Elec. Power Co-op. v. Bowen*, 979 P.2d 503, 508 (Wyo. 1999). A reading of the EQA shows a legislative intent to require DEQ to regulate water quantity if it is directly tied to unacceptable water quality.

¹ The original petition sought only to amend Appendix H, resulting in a proposal that would apply to all oil and gas production in Wyoming. By letter dated March 2, 2006, to the EQC, Petitioners changed the wording of the proposed amendments so that they would apply only to water from coalbed methane production. The original petition and letter will be referred to as "Petition."

Honorable Dave Freudenthal

April 12, 2006

Page 3 of 8

The purposes of the EQA are specifically set out in statute:

Whereas pollution of the air, water and land of this state will . . . impair domestic, agricultural, industrial, recreational and other beneficial uses; it is hereby declared to be the policy and purpose of this act to enable the state to prevent, reduce and eliminate pollution; to preserve, and enhance, the air, water and reclaim the land of Wyoming; to plan the development, use, reclamation, preservation and enhancement of the air, land and water resources of the state[.]

WYO. STAT. § 35-11-102 (emphasis added).

As used in the EQA, the term "pollution" means as applied to water quality:

. . . contamination or alteration of the physical, chemical, or biological properties of any waters of the state, including change in temperature, taste, color, turbidity or odor of the waters or any discharge of any acid, or toxic material, chemical or chemical compound, whether it be liquid, gaseous, solid, radioactive or other substance, including wastes, into any waters of the state which creates a nuisance or renders any waters harmful, detrimental or injurious to public health, safety or welfare, to domestic, commercial, industrial, agricultural, recreational or other legitimate beneficial uses, or to livestock, wildlife or aquatic life, or which degrades the water for its intended use, or adversely affects the environment[.]

WYO. STAT. § 35-11-103(c)(i) (emphasis added).

DEQ has historically interpreted the EQA to allow regulation of water quantity only to the extent it is directly tied to water quality. The applicable classifications of waters which are set out in Chapter 1 of the WQD Rules protect agricultural use, among others, but do so in terms of water quality, not water quantity. The WQD Rules provide: ". . . Wyoming surface waters that have the natural water quality potential for use as an agricultural water supply shall be maintained at a quality which allows continued use of such waters for agricultural purposes." WQD Rules, Chapter 1, Section 20 (emphasis added). The waters cannot be degraded "to such an extent to cause a measurable decrease in crop or livestock production." *Id.*

Honorable Dave Freudenthal
April 12, 2006
Page 4 of 8

WQD Rules also describe technology-based effluent limitations in terms of water quality for permitted discharges from oil and gas production:

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.

WQD Rules, Chapter 2, Appendix H(a)(i).

The WQD Rules also have additional permit conditions for coalbed 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.

WQD Rules, Chapter 2, Appendix H(d)(i).

DEQ has specifically incorporated parts of the federal regulatory scheme implementing the Clean Water Act for discharge permits issued. WQD Rules, Chapter 2, Section 1(b). One of the federal rules specifically incorporated is 40 C.F.R. § 435.51(c). In 1976, EPA published regulations to establish effluent guidelines for onshore oil and gas extraction industries, and split that segment into subcategories: onshore, coastal, beneficial use, and stripper. The term "beneficial use" was defined as "... the produced water is of good enough quality to be used for livestock watering or other agricultural uses and is being put to such uses." 41 Fed. Reg. 44942 (October 13, 1976).

In 1979, EPA, as part of the regulations establishing final effluent guidelines, modified the nomenclature of "beneficial use" to avoid confusion with that term as used in western water law. It stated: "The term 'beneficial use' has a long history of use in the western United States which is unconnected with its meaning in these regulations." 44 Fed. Reg. 22069, 22075 (April 13, 1979). That category of use is now denominated by the term

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"use in agriculture or wildlife propagation." 40 C.F.R. § 435.50. The term now has a specialized definition: "... the produced water is of good enough quality to be used for wildlife or livestock watering or other agricultural uses and that the produced water is actually put to such use during periods of discharge." 40 C.F.R § 435.51(c) (emphasis added).

If a statute is capable of more than one meaning, then administrative interpretation or application of the statute is deferred to when that interpretation will aid in determining the legislative intent of the statute. *Loberg v. State*, 2004 WY 48, ¶ 9, 88 P.3d 1045, 1049 (Wyo. 2004). The EQA, WQD Rules and the federal regulations which DEQ has specifically incorporated into state rules discuss the protection of agricultural use in terms of quality, and those interpretations are entitled to deference.

Contrary to Petitioners' assertions, however, neither the EQA nor the DEQ draws an "artificial line" between regulating water quantity and regulating water quality. The purpose of the EQA is clearly to protect water quality. A declared purpose of the EQA is "... to enable the state to prevent, reduce and eliminate pollution..." WYO. STAT. § 35-11-102. Therefore, the EQA also provides the authority to regulate water quantity to the extent the quantity is tied to water quality.

DEQ has interpreted the EQA to give DEQ the authority to consider water quantity when establishing water quality limits. Permit applicants are required to submit information on the amount of water they expect to discharge. DEQ uses that information to determine effluent limits, based on the amount of water to be discharged and the dilution which is likely to occur from discharging that water into a waterway. DEQ makes this kind of determination using stream flow conditions, but it does not require the maintenance of any particular stream flow. This interpretation is exemplified by Section 11 of Chapter 1 Rules. The rule provides that for times when stream flows are less than low flow conditions, DEQ may, after consulting with the Wyoming Game and Fish Department and the affected discharger, require permittees to institute operational modifications to insure the protection of aquatic life. This rule then goes on to say: "This section should not be interpreted as requiring the maintenance of any particular stream flow." WQD Rules, Chapter 1, §11. This WQD Rule highlights that DEQ takes water quantity into account when regulating water quality, but that it does not have the authority to require any particular stream flow.

Petitioners want the regulation of water quantity for agricultural use, regardless of the quality of the water. There is no such authority set out in the EQA. "An agency is wholly without power to modify, dilute or change in any way the statutory provisions from which

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it derives its authority.” *Diamond B Servs., Inc. v. Rohde*, 2005 WY 130, ¶ 60, 120 P.3d 1031, 1048 (Wyo. 2005). This requirement applies both to express and implied authority:

An administrative rule or regulation which is not expressly or impliedly authorized by statute is without force or effect if it adds to, changes, modifies, or conflicts with an existing statute . . . An agency’s “implied powers are only those derived by necessary implication from express statutory authority granted to the agency. . . .”

Id. (internal citations omitted).

There is no express authority, nor is there any implied authority, in the EQA for regulation of water quantity in the absence of a direct tie to water quality. Petitioners are seeking to have a state environmental protection agency assume responsibility for regulating water quantity unrelated to water quality. The EQA does not grant the authority to do so.

Petitioners refer to several federal cases to support their assertion that the Clean Water Act does not draw a line between water quantity and water quality. The cases about what the Clean Water Act allows do not pertain to what the EQA allows. *PUD No. 1 v. Washington Dept. of Ecology*, 511 U.S. 700 (1994), involved 33 U.S.C. § 1341 of the Clean Water Act, a section which gives authority to states to deny certification for projects requiring a federal license or permit. Here, Wyoming’s authority derives from 33 U.S.C. § 1342(b) of the Clean Water Act, allowing states to establish their own pollutant elimination discharge system in lieu of the EPA’s National Pollutant Discharge Elimination System (NPDES) permit system, and from WYO. STAT. § 35-11-302(a)(v), establishing the Wyoming Pollutant Discharge Elimination System (WYPDES) permit program. In *PUD No. 1*, Washington had denied certification because of a reduced stream flow which could damage fish. The Court relied upon the language in 33 U.S.C. § 1341(d), providing that a certification requires assurance that any applicant will comply with effluent limitations and with “. . . any other appropriate requirement of State law set forth in such certification.” *Id.* at 707-708. The Court noted that 33 U.S.C. § 1341(d) expands a state’s authority to impose conditions on the certification of a project. *Id.* at 711. *PUD No. 1* therefore does not apply to the question whether the EQA grants the authority to regulate the quantity of water needed for agricultural uses regardless of the quality of the water.

Petitioners also rely on *Alameda Water and Sanitation Dist. v. Reilly*, 930 F.Supp. 486, 491 (D. Colo. 1996), to support their contention that the EQA allows regulation of downstream effects of changes in water quantity, regardless of the quality of the water.

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Once again, an entirely different section of the Clean Water Act was being addressed, that is, 33 U.S.C. § 1344 concerning dredge and fill permits. There, the EPA had vetoed issuance of a permit to be issued by the Secretary of the Army. The permit would have allowed the disposal of dredge and fill material into a river to allow construction of a dam. The Clean Water Act specifically allows the EPA to veto a permit proposed to be issued by the Secretary of the Army if the EPA determines that disposing of dredge and fill material "... will have an adverse effect on municipal water supplies, shellfish beds and fishery areas ... wildlife, or recreational areas." 33 U.S.C. § 1344(c). This power to consider other effects not related to water quality is specific to 33 U.S.C. § 1344. The question in *Riverside Irrigation Dist. v. Andrews*, 758 F.2d 508 (10th Cir. 1985), also involved interpretation of 33 U.S.C. § 1344. The question was whether the Secretary of the Army could deny a general permit under 33 U.S.C. § 1344(e) of the Clean Water Act. The Court held that the denial of the general dredge and fill material permit was lawful, based on the fact that 33 U.S.C. § 1344 focuses not only on water quality, but rather on all effects on the aquatic environment caused by replacing water with fill material. *Id.* at 512. Once again, these cases concerned an entirely different section of the Clean Water Act, one which sets out different criteria concerning water quantity determinations for dredge and fill permits than for permits issued under 33 U.S.C. § 1342(b) of the Clean Water Act and under WYO. STAT. § 35-11-302(a)(v). The cases are inapplicable to agency authority under Wyoming's EQA to regulate water quantity in the absence of a tie to water quality.

Petitioners do refer to three cases which involve NPDES permits issued under 33 U.S.C. § 1342(a), the section of the Clean Water Act providing for discharge permits issued by EPA. However, none of these cases addresses the question of regulating water quantity for agricultural use in the absence of any problem with water quality. Petitioners cite *Northern Plains Resource Council v. Fid. Exploration and Dev. Co.*, 325 F.3d 1155 (9th Cir. 2003), to argue that the CBNG water is a "pollutant" under the Clean Water Act. The issue in that case was not whether CBNG water quantity could be regulated, but rather whether discharges of the water required the issuance of an NPDES permit. The Court held that a permit was required because discharges of CBNG water altered the quality of the water into which the discharge was occurring. *Id.* at 1162. Petitioners also rely on *Quivera Mining Co. v. EPA*, 765 F.2d 126 (10th Cir. 1985), to assert that quantity should be regulated. The question in *Quivera* was whether an NPDES permit was required for discharges into an arroyo and creek. The Court held that they were subject to an NPDES permit, because the arroyo and creek were "waters of the United States" under the Clean Water Act. *Id.* at 129. The question addressed by the Court in *United States v. Earth Sciences, Inc.*, 599 F.2d 368 (10th Cir. 1979), another case cited by Petitioners for the proposition that water quantity can be regulated in the absence of a direct effect on water quality, was whether discharges from mining activity were a point source requiring the

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issuance of an NPDES permit. *Id.* at 373. None of these cases applies to the issue of authority under the EQA to regulate water quantity which is not directly tied to an unacceptable effect on water quality. More importantly, none of these cases interprets Wyoming statutes concerning regulation of water quality and quantity.

CONCLUSION

The EQA does not provide authority for the EQC or DEQ to regulate water quantity to ensure that all produced water from oil and gas production is at all times actually used for wildlife or livestock watering or other agricultural uses. If the quantity of the water is causing unacceptable water quality or has the potential to cause unacceptable water quality, then the EQA gives DEQ the authority to regulate water quantity. The EQC has jurisdiction to adopt rules concerning environmental issues that are authorized by the EQA. The EQC does not have statutory authority to issue rules regulating water quantity in the absence of some water quality concern recognized in the EQA.

Regards



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PJC:cc