

LAW OFFICES

**JORDEN BISCHOFF**  
**& HISER, P.L.C.**

7272 E. INDIAN SCHOOL ROAD, SUITE 360  
SCOTTSDALE, ARIZONA 85251  
TELEPHONE: 480-505-3900  
FACSIMILE: 480-505-3901

**MATTHEW JOY**

DIRECT LINE: 480-505-3928  
e-mail: [mjoy@jordenbischoff.com](mailto:mjoy@jordenbischoff.com)

February 12, 2007

**Via Facsimile & U.S. Mail**

Mr. Bill DiRienzo  
Water Quality Division  
Wyoming Department of Environmental Quality  
Herschler Building, 4<sup>th</sup> Floor West  
122 West 25<sup>th</sup> Street  
Cheyenne, Wyoming 82002

Re: Proposed Section 20, Appendix H - Agricultural Use Protection

Dear Mr. DiRienzo:

Yates Petroleum Corporation (Yates) would like to take this opportunity to comment on the Wyoming Department of Environmental Quality's (WDEQ) proposed Chapter 1, Wyoming Water Quality Rules and Regulations (WWQRR), Appendix H – Agricultural Use Protection (Appendix H).

In brief, Appendix H would prohibit the use of produced water for livestock watering and/or wildlife propagation and, in essence, cause more harm to existing uses and the environment than it would prevent. Yates urges the Water Quality Division (WQD or Division) and the Environmental Quality Council (EQC) to evaluate these impacts more carefully prior to implementing Appendix H as a rule or policy. Additionally, the proposed language in Appendix H is not suitable for implementation as a rule. The language fails to provide WQD with needed flexibility in administration of the provisions and fails to provide both the WQD and the regulated public with notice concerning the interpretation of many aspects of the provisions. These comments are in addition to comments submitted by Yates on earlier drafts of Appendix H and those comments are incorporated herein.

**Appendix H Will Eliminate a Needed Source of Water for Agriculture**

As proposed, Appendix H will interfere with the livelihoods of many ranchers who currently rely on the produced water for livestock watering and adversely affect livestock and wildlife use of the water. As Appendix H will effectively prohibit the use of produced water for livestock watering, will result in a measurable decrease in production for existing uses, is *not* protective of agricultural use, and violates Section 20 in its own right, Appendix H should not be implemented.

First, the Environmental Quality Act and, more specifically, Section 20 are intended to protect *agricultural* use. The Department has extended Section 20 to include “naturally irrigated lands” which is an unallowable extension of both the Act and the regulations. Section 3(a) of the Wyoming Water Quality Rules & Regulations (WWQRR) defines agriculture uses as “irrigation or stock watering.” The term “irrigate,” in turn, is defined as “to supply (land) with water by means of ditches or artificial channels.” (Webster’s New World College Dictionary, 4<sup>th</sup> Ed.) Clearly, irrigation is intended to mean some form of active management of water more than the passive passing of water in its natural channel(s). Hence, Appendix H should only impose effluent limitations on areas that are irrigated by means of ditches or artificial channels or that are otherwise actively irrigated. As currently written, Appendix H extends agricultural protection far beyond that envisioned by the Legislature or Chapter 1 and, in effect, becomes a “native plant” protection policy that, indeed, may protect noxious weeds as much as anything else.

Second, because Appendix H extends the agricultural protection of Section 20 to non-agricultural “naturally irrigated lands,” which WQD’s infrared map suggests are present on most drainages, it will essentially prohibit all discharges of produced water down any drainage in which it is alleged that “naturally irrigated lands” exist. As Mr. DiRienzo candidly stated before the Water and Waste Advisory Board meeting on August 2, 2006, virtually no produced water can meet the Tier 1 effluent limitations. Prospective dischargers will be required to conduct a Tier 2 or Tier 3 evaluation and seek approval from the Division. The Division has consistently shown that it has been unable to timely administer similar tiered programs. As a result, all produced water discharges effectively will either be prohibited under Appendix H or will result in appeals that the EQC will have to resolve on a case-by-case basis. In essence, the EQC will be mandating a “permit by evidentiary hearing” procedure for all CBNG produced water discharges.

Third, because of Appendix H’s extension to “naturally irrigated lands,” produced water of quality suitable for livestock watering would not be allowed to discharge down such drainages *even if the downstream landowner desires the water for his use*. This situation is made worse by the fact that any person, not just a landowner on the drainage, can allege that there are “naturally irrigated lands.” As a result, one landowner in the drainage or *any other third party not located on the drainage* may interfere with every other landowners’ use of the water by refusing to allow such water to flow anywhere along the drainage under the pretense that the drainage may affect “naturally irrigated lands.”

Fourth, by effectively prohibiting discharges of produced water down drainages where it is alleged that “naturally irrigated lands” exist, Appendix H will deprive livestock and wildlife of good quality water along these drainages. Many landowners currently rely on produced water to water livestock and for wildlife propagation. By eliminating discharge across alleged “naturally irrigated lands,” Appendix H will prohibit all future discharges of water and eliminate its use for livestock watering and wildlife propagation. Appendix H will also eliminate discharges which are currently authorized under the WYPDES program in any drainages where someone alleges

“naturally irrigated lands” are present once the permit is renewed. Furthermore, many landowners have already established uses of produced water for both livestock and wildlife. In the event Appendix H is implemented, no produced water will be available to continue these uses in the future. This will result in a net loss of both livestock production and wildlife propagation which is, in itself, a violation of Section 20.

Fifth, water quality in gaining stretches (areas where the shallow water table pools and stagnates) of ephemeral drainages generally does not meet Appendix H effluent limitations and is, in fact, of poorer quality than produced water. Appendix H, if implemented as currently written, will deprive landowners of good quality water which is better than water quality in gaining stretches.

### **The Proposed Appendix H Language is Not Suitable as a Rule**

Appendix H, as currently drafted, fails to provide either the WDEQ or the regulated community with notice concerning how Appendix H will be administered. Because of its failure to provide notice, promulgation of Appendix H as a rule, rather than as a flexible policy, will likely lead to significant legal and technical challenges once WDEQ attempts to administer the proposed “rule.”

Simply stated, if the proposed language is promulgated as a rule, WDEQ will have no flexibility in enforcing the standard even where the requirements of the rule are not justified. In other words, if the proposal is drafted as a policy, rather than a rule, WDEQ would have the ability to deviate from the provisions where the facts and circumstances dictate. In fact, flexibility was advocated by WQD when it originally issued the proposal as a policy. WQD’s Bill DiRienzo stated that developing a numeric standard for constituents was not practicable. *See* Transcript of Hearing, Buffalo, Wyoming, August 2, 2006, pp. 20-22. Mr. DiRienzo also stated that it would be better to make decisions on a site-specific basis. *See* Transcript, p. 25. Finally, Mr. DiRienzo stated that developing a flexible policy versus a rigid rule is more advantageous given that WQD intends to “tweak” the policy from time-to-time once WQD has gained experience in implementing this policy. *See*, Transcript, p. 22. Mr. DiRienzo stated, correctly, that this would be easier if the proposal were instituted as a policy rather than as a rule. Transcript, p. 22.

An example of the inflexible nature of Appendix H, as currently written, is the fact that a Tier 2 analysis must be conducted with specific sample collection requirements (i.e., four depths at 12-inch intervals). If, for some practical reason, such sampling cannot be conducted, the Tier 2 evaluation is not available as an option. This leads to unjust results, not just to the operator, but also to landowners who may wish to use the water for stock watering or other beneficial uses.

As currently written, Appendix H fails to provide sufficient guidance and notice to both the regulators and the regulated community. It is well settled that an agency must always provide “fair notice” of its regulatory interpretations to the regulated public. *General Electric v. U.S. EPA*, 53 F.3d 1324, 1329 (D.C. Cir., 1994). However, given that Appendix H was drafted

as a policy and the language has not been changed in this eleventh hour conversion to a “rule,” the loose language appropriate to a policy provides no notice to the regulated community as to what it will be required to do in order to comply with the requirements of the “rule.” Below are several, but not all, examples of just how the proposed language fails to provide notice to the regulated community.

- 1) Essentially, the proposed “rule” sets forth effluent limits for “naturally irrigated lands.” The proposed language in Appendix H defines “naturally irrigated lands” as “those lands are those lands where a stream flow and channel geometry provides for enhanced productivity of agriculturally significant plants.” Appendix H, H-4. Unfortunately, Appendix H fails to provide any definition or guidance concerning what the terms “channel geometry” and “agriculturally significant plants” mean. For example, does the term “naturally irrigated lands” include plants not used for livestock consumption? Does the term include exotic species?
- 2) The Appendix H language also provides that when calculating the 20-acre threshold, “small drainage bottoms *may* be excluded from consideration.” Appendix H, H-4 (italics added). It is unclear what is meant by this provision as it provides no guidance concerning when a drainage bottom should be excluded.
- 3) The proposal states that “though not necessary for the estimation of background water conductivity, it is advisable to also analyze the soil samples for pH, SAR, soil texture and exchangeable sodium percentage (ESP) to avoid having to duplicate the sampling if the results indicate that a ‘no harm analysis’ needs to be completed.” Appendix H, H-9. What does this mean if the proposal is adopted as a rule? Does the “rule” require sampling of pH, SAR, soil texture and ESP? Loose language such as “it is advisable” indicates that the current version of Appendix H is not suitable for promulgation as a rule.
- 4) Tier 3 allows for establishing EC and SAR limits based upon a “scientifically defensible site specific study that examines local soil characteristics, natural water quality, expected crop yield, irrigation practices and/or any other relevant factor related to crop production.” Appendix H, H-9. Again, this language is too ambiguous to be used universally. Who determines whether the analysis constitutes a “scientifically defensible site specific study?” What may be defensible in one set of circumstances may not be defensible in another.
- 5) The language of proposed Appendix H itself warns against application as a rule. In reference to the Tier 3 analysis, Appendix H states “because of the very site-specific nature of this [the Tier 3] approach and the number and complexity of variables that may need to be considered, *it is not very useful to specify any particular type of analysis in this policy.*” Appendix H, H-10 (italics added).

Because Appendix H is currently written to provide guidance and to allow flexibility in its administration, it is not suitable for use as a rule. Similarly, Appendix H does not provide notice to either the regulators or the regulated public with enough specificity to be enforceable as a rule. For these reasons, Yates respectfully requests that Appendix H not move forward in rule-making but, rather, remain as a policy. If the EQC does determine that Appendix H should be promulgated as a rule, Yates respectfully requests that the proposed language be re-drafted re-noticed for public comment period to allow fixing the many problems with the existing language before final promulgation into rule form.

### **Evidence Demonstrates Effluent Limits for EC of 2700 $\mu$ mhos and SAR of 16**

In the event the EQC decides to proceed in promulgating Appendix H as either a rule or a policy, the default limits for specific conductance (EC) and sodium adsorption ratio (SAR) should be 2700  $\mu$ mhos and 16, respectively. Kevin Harvey, a soil scientist with 25 years of experience, summarized the current state of the science and Petitioners' concerns when he provided the WQD and the Water & Waste Advisory Board with an extensive scientific literature review regarding EC and SAR limits proposed in the Chapter 20 rule-making process. Mr. Harvey studied the default effluent limits (EC of 2000 and SAR cap of 10) proposed in the rule-making and compared them with soil salinity in Wyoming to determine whether the default limits were justifiable given natural conditions. Mr. Harvey concluded that the default limits were not justified and were, in fact, too low given the natural soil conditions throughout Wyoming. Based on the available science, Mr. Harvey determined that EC should be 2700  $\mu$ mhos and SAR should be 16. *The Water and Waste Advisory Board accepted this suggestion and has included them in the proposed language.* DEQ/WQD has stated that they are not in favor of Mr. Harvey's limits but have failed to produce *any* evidence to support lower effluent limits. Copies of Mr. Harvey's submissions to the Water and Waste Advisory Board are attached as Exhibit "A."

WQD does not support the Tier 1 default values for EC and SAR supported by Mr. Harvey's research and accepted by the Water and Waste Advisory Board. WQD apparently believes that default levels based on the USDA Agricultural Research Service Salt Tolerance Database are appropriate. This is simply not supported by the evidence or the facts. The more appropriate levels are the values established by the Bridger Plant Material Center (the Bridger Study). The Bridger Study was conducted in soil types more similar to those found in Wyoming, and was developed for plants grown in Wyoming and Montana. Hence, the Bridger Study takes into account soil types typically found in Wyoming. The effluent limits urged by WQD reflect tolerances of plants grown in California soils which do not have characteristics representative of typical Wyoming soils. Again, the Water and Waste Advisory Board, in its October meeting, agreed with Mr. Harvey that the Bridger Study and, hence, effluent limits derived from the Bridger Study were more appropriate than relying on a study conducted in California.

### **There is No Legal or Factual Basis for 50-Year Containment Option**

Under the requirements set forth in Appendix H, an operator must either gain downstream access and conduct extensive vegetation, soils and background water quality analysis in order to demonstrate that the default effluent limits are inappropriate or comply with the overly-conservative effluent limitations. If an operator cannot comply with either of these requirements, which is likely due to landowner reluctance to allow operators on their property and the fact that the proposed effluent limits are impossible to meet, WDEQ has established the practice of requiring an operator provide enough containment for the amount of produced water and a 50-year precipitation event.

Although WDEQ asserts that this requirement provides a viable option for those who cannot gain access or meet the limits, realistically it provides no option to operators. Under the Environmental Quality Act (EQA), “in recommending any standards, rules, regulations, or permits the administrator shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved including... the *technical practicability and economic reasonableness* of reducing or eliminating the source of the pollution.” W.S. 35-11-302(a)(vi)(D) (italics added). WQD has failed to consider the technical practicability and economic reasonableness of requiring 50-year containment.

First, the 50-year containment requirements will simply render many already-permitted on-channel reservoirs useless and will unnecessarily reduce the number of reservoirs that could be constructed in the future due to constraints on the amount of land available to build the reservoirs and landowner requests. WQD has failed to consider this important fact in promulgating the permit.<sup>1</sup> WQD’s failure to follow its own rules (here, considering the technical feasibility and economic reasonableness of the containment requirement) is arbitrary and capricious and requires remand. *See Bowen v. Wyoming Real Estate Comm’n*, 900 P.2d 1140, 1142 (Wyo. 1995).

Second, as stated above, the WQD must consider technical feasibility and economic reasonableness when promulgating conditions in a permit and WQD has failed to consider the technical feasibility of the proposed containment requirement. The 50-year containment requirement places operators in the position of having to construct overly-large reservoirs at the expense of otherwise open land. The large reservoirs would necessarily inundate otherwise ephemeral streams. Also, in many places on the watersheds, construction of reservoirs of this size simply is not possible due to characteristics of the stream in which the reservoirs are to be constructed. The WQD simply failed to weigh and properly consider the technical feasibility

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<sup>1</sup> In other proceedings, WQD allegedly considered similar objections to a 50-year containment requirement and stated that the “great majority” of the reservoirs subject to the requirement were less than 20 acre-feet in size and required only an additional 5 acre feet of freeboard to contain a 50-year storm event. WQD’s assertion fails to address the fact that, in most cases, reservoirs simply cannot be constructed with the additional 5 acre feet of capacity and WQD simply failed to provide any support for its conclusion.

and economic reasonableness in contravention of its rules. This requires remand. *See Bowen*, 900 F.2d at 1142.

Third, the WQD has failed to provide *any* support to justify a 50-year containment requirement or show how the requirement is related to the protection of water quality. In determining whether an agency's actions are valid, the decision must be supported in the record. *See Id.* Operators have consistently and repeatedly documented that the contribution of CBNG water is minimal when compared with even a 2-year storm event and that the characteristics of CBNG water are lost when mixed with the much larger amount of precipitation runoff from the 2-year event. This demonstration has gone unheeded and undisputed by WQD.

### **Comments Aimed at Improving Appendix H**

As outlined above, Yates does not believe that the current draft of Appendix H is workable as either a policy statement or as a binding rule. Experience with the Tier 2 and Tier 3 approach, as presently implemented by WQD, demonstrates that the Division is rarely able to proceed in the face of a conflict between a dissenting landowner and the operator and other landowner(s) who may wish to use water. Yates hopes that the EQC will remand Appendix H back to the WDEQ and WQD for further consideration. If such remand should occur, Yates recommends the following changes:

*Comment 1. The policy should address how to determine whether a discharge will "reach" irrigated lands.* Unless this issue is clearly identified, it leaves WQD, landowners, operators and the public at a loss of how to evaluate when the protections stated by the proposed policy should be implemented. Yates recommends the following wording to be added to Section III.A under "Identification and Protection of Irrigation Uses":

*For purposes of this policy, a discharge will not reach irrigated lands if it is: (a) downstream from the lands; (b) contained in an off-channel reservoir; (c) contained in an on-channel reservoir and the discharge constitutes less than 5% of the total flow during the design event that would cause overflow from the reservoir; (d) if only naturally-irrigated lands are present below the discharge, and the discharge and all other pre-existing discharges do not exceed 75% of channel capacity; or (e) if irrigated lands are present, the applicant presents letters from all downstream irrigators either agreeing that the discharge will not reach the irrigated lands or consenting to it reaching the lands.*

Clauses (a) and (b) are self-explanatory. Clause (c) addresses *de minimis* risks. At this design capacity, the total quantity of CBNG produced water will be a small part of the total volume of water flowing in the wash. Natural conditions will predominate and natural systems (e.g., flushing of higher salts at the beginning) should play their typical role. Clause (d) allows discharge where the operator can demonstrate that the water will be confined to the channel. As in the case of clause (c), storm events should provide adequate dilution water. Clause (e) allows

landowners and operators to work together cooperatively to deliver water where several landowners on the drainage desire such water.

*Comment 2. Artificially irrigated lands should only include legally irrigated lands.* Any other approach places the EQC and WDEQ in the position of condoning and protecting a violation of state law.

*Comment 3. Naturally irrigated lands should be more concisely defined to avoid future disputes.* The definition of naturally irrigated lands is important, but is essentially undefined in the proposed policy/rule. Yates recommends the following changes:

*Naturally irrigated lands are lands (a) within the annual flood plain where the stream channel is underlain by unconsolidated material, (b) which are (i) cropped and/or (ii) actively managed by fertilization, cultivation or other mechanized means and (c) as a result have enhanced vegetative production of agriculturally significant plants over adjoining areas. Naturally irrigated lands may be identified by an evaluation of infra-red aerial photography, surficial geologic maps, wetland mapping, landowner or survey testimony, or any combination.*

The rationale for the suggested changes is simple:

- The policy/rule is supposed to protect “irrigated” lands. Land which is not, on average, irrigated at least once a year is not “irrigated” land as that term is used in the Wyoming community. Frequencies of less than once a year, on average, suggest that dry-land agriculture is actually what is being practiced.
- Irrigated lands are distinguished from livestock raising, which typically relies upon native plant species. Agriculture generally suggests that materials are cropped or otherwise managed to improve yields of agriculturally desirable species. The definition should include these concepts by requiring the lands to either be cropped or else fertilized or cultivated by mechanical means. Lands which are not managed with some degree of intensity are simply “the environment” and not agricultural use protected under the Environmental Quality Act.

*Comment 4. Agriculturally significant plants should be defined.* Yates recommends the following definition, after consultation with soil scientists and agronomic experts:

*“Agriculturally significant” means typically cultivated crops (including, but not limited to alfalfa) or native and non-native forage plants (including, but not limited to wheatgrasses, bromes and wildryes) present in such quantity as to provide, in the aggregate, significant economic value if cropped or significant animal nutritive value if left in place.*



This definition is necessary to prevent an individual from seeking to protect non-significant plants under the policy. An example might be the decision to grow exotic fruits, vegetables or flowers.

*Comment 5. Yates supports the 20 acre size limit.* The 20 acre limit provides a good method of determining when a planting area becomes “agriculturally significant.”

*Comment 6. The policy/rule must address situations where background soil quality shows soil ECs higher than the default limit.* The default limits are predicated upon high quality soils not typically found in Wyoming. It is inappropriate to require the default limits be met when the soils clearly demonstrate that default limit quality water has not historically been applied. Therefore, Yates recommends a new III.C.1.d, to read as follows:

*Where soil data from areas unaffected by existing discharges show soil ECs in excess of 4 dS/m, either (i) the mean plus standard deviation of those soil data or (ii) the tier 2 or 3 approach must be used in lieu of the Tier 1 standards.*

## **Conclusions**

As currently drafted, Appendix H would effectively eliminate a needed source of water which a great many landowners rely on for livestock watering and irrigation. In eliminating this source of water, Appendix H would ultimately have the effect of causing more damage to the agricultural community than it WQD alleges it would prevent. Because Appendix H expands protection beyond agricultural uses, in direct conflict with Chapter 1, Section 20, it would eliminate the vast majority, if not all, produced water discharges; even where produced water is of better quality than background water quality.

The language of Appendix H is not suitable for promulgation as a rule. There are simply too many provisions in Appendix H which are not specific enough to provide any meaningful guidance to either WQD or the regulated community concerning the interpretation and administration if Appendix H is promulgated as an inflexible rule.

If Appendix H is to be promulgated either as a rule or a policy, the provisions concerning effluent limits for EC of 2000 and SAR of 10 are not supported by science. If Appendix H is promulgated, it must be issued with the effluent limits recommended by the Water and Waste Advisory Board (EC of 2700 and SAR of 16). In addition, there is no support for WQD’s proposed “option” of 50-year containment in lieu of the more stringent effluent limits. WQD, in developing Appendix H, has failed to consider technical and economic factors, as required under the EQA.

Based on the foregoing, Yates requests that Appendix H not be approved in any form and that it be remanded to WQD and WDEQ with instruction to redraft Appendix H accordingly. In any remand, Yates requests that the comments on improving the proposed policy/rule be given

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Proposed Section 20, Appendix H - Agricultural Use Protection  
February 12, 2007  
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serious consideration. Again, Yates appreciates this opportunity to comment on Appendix H. Please contact me at (480) 505-3928 if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew Joy", with a long, sweeping horizontal stroke extending to the right.

Matthew Joy  
Attorney for Yates Petroleum Corporation

Cc: Environmental Quality Council