

BEFORE THE
ENVIRONMENTAL QUALITY COUNCIL
STATE OF WYOMING

FILED

JUL 31 2009

Jim Ruby, Executive Secretary
Environmental Quality Council

IN THE MATTER OF THE APPEAL)
OF CLABAUGH RANCH, INC.)
FROM WYPDES PERMIT NO. WY0049697)

Docket No. 08-3802

DEPARTMENT OF ENVIRONMENTAL QUALITY/WATER
QUALITY DIVISION'S MEMORANDUM IN SUPPORT OF ITS OPPOSITION
TO CLABAUGH RANCH, INC.'S MOTION FOR SUMMARY JUDGMENT

The Department of Environmental Quality (DEQ)/ Water Quality Division (WQD) by and through its attorney, John S. Burbridge, Senior Assistant Attorney General, hereby submits its Memorandum in Support of its Opposition to Clabaugh Ranch, Inc's (Clabaugh) Motion for Summary Judgment and states to the Environmental Quality Council (EQC) the following:

FACTS

The DEQ/WQD issued renewal permit number WY0049697 to Lance Oil and Gas Company, Inc. (Lance) on March 26, 2008. Dep. Ex. 1, Authorization to Discharge, at 1. The permit requires full containment and authorizes Lance to discharge produced coalbed methane water from outfalls 001 through 012 to on channel reservoirs unless specific permission is given by the DEQ/WQD. *Id.*, at 2. The permit also authorizes Lance to discharge produced coalbed methane water from outfall 013 into Wild Horse Creek, a tributary of the Powder River. *Id.*, at 1. All the outfalls are located above known irrigation activity in the Wild Horse Creek drainage. *Id.*, at 3.

Clabaugh appealed the permit on May 19, 2008. Dep., Ex. 33. While Clabaugh provides a laundry list of contentions in its Petition, the main contention appears to be that the effluent limits in Lance's permit are not protective of crop and livestock production. *Id.*, *see also* Clabaugh, Mot. for Summ. J. at 1.

Lance's permit applied Tier 2 methodology using the best information available to the DEQ/WQD during early 2008. Thomas Dep., at 65. To be protective of crop and livestock production, and recognizing that the outfalls are above known agricultural irrigation practices, the DEQ/WQD built a "margin of conservatism" into Lance's permit by setting a specific conductance (EC) effluent limit of 2,560 micromhos/cm. Dep., Ex. 1, Statement of Basis, at 3-4. The permit sets the sodium adsorption ratio (SAR) using the formula, $SAR < 7.10 \times EC - 2.48$ for outfall 013. *Id.*, at 4. Outfalls 001 through 012 discharge to ephemeral stream channels and reservoirs only and do not have SAR limits unless the DEQ/WQD grants permission to Lance allowing an intentional drawdown of a reservoir. Dep., Ex. 1, Authorization for Discharge, at 2, *see also* Thomas Dep., at 61-64. Currently the formula the DEQ/WQD uses to calculate SAR is $SAR < 6.67 \times EC - 3.33$. Dep. Ex. 17, at 58.

ISSUE

Has Clabaugh's Motion for Summary Judgment shown that there are no genuine issues of material fact?

at 64. While different, the formula used to determine the SAR limit in Lance's permit adequately protects downstream agriculture and livestock uses as required by DEQ/WQD rule and regulation, Chapter 1, Section 20. *Id.*, at 72. Clabaugh mischaracterizes Mr. Thomas's deposition testimony explaining the current SAR formula. Mr. Thomas explained that at the time Lance's permit was issued, the formula used to determine SAR applied the best information available to the DEQ/WQD. *Id.*, at 65. The full text of Mr. Thomas' testimony reveals the accurate explanation for the updated SAR formula.

Q. Well, it was updated because the original formula was incorrect, right?

A. The original formula interpreted the -- apparently interpreted the Ayers and Westcot table differently than -- than the 2006 version of the Hanson manual. So at the time we wrote this permit, we cited the available literature, and that was what we were using at the time, so --

Q. And it turns out that was wrong, right?

A. It turns out it's been superseded by an updated interpretation of the Ayers and Westcot formula, so --

Q. Why was it superseded? If the original formula was okay, why was it necessary to supersede it?

A. You know, information changes in technical literature all the time. And this is the same formula that, you know, we had been using for years, and had also received information from UW [University of Wyoming] that they thought it was a valid formula to calculate SAR limits off of. And at the time this was the best information we had.

Q. But now you have better information, right?

A. That's correct.

Q. And the better information indicates this is not the correct formula any longer.

A. That's right.

Id., at 65-66.

Even though the formula to calculate SAR has changed since the issuance of Lance's discharge permit, the permit is still protective of Clabaugh's crop and livestock production. In fact, according to Mr. Thomas, if the DEQ/WQD felt that the affluent limits in Lance's permit created an immediate risk to crop and livestock production, the permit would be rewritten. *Id.*, at 72. However, the DEQ/WQD is not required to retroactively apply the new SAR formula to Lance's permit. *See Sierra Club v. Whitman*, 285 F.3d 63, 68 (D.C. Cir. 2002).

Clabaugh is unable to produce any evidence that the quality of the water being discharged by Lance has caused a measurable decrease in crop or livestock production. *See Clabaugh Dep.*, at 94. Mr. Clabaugh can only point to the quantity of water as causing a decrease in crop or livestock production. *Id.*, at 13-15.

Q. And tell me, what was your complaint? What was happening to your ranch that you were mad about enough to complain to these people?

A. I'm the sponge.

Q. Explain that.

A. All the water coming from upstream is wiping me out, killing the trees and the grass.

Q. Is it worse in the summer or the winter?

A. Only difference is you got water in the summer, ice in the winter.

Q. So if I understand your complaints, anytime of the year, you have more water than can stay in the channel, so it spreads out on your bottomlands. Correct?

A. Part of it, there's no channel.

Q. So it spreads out all over your bottomlands. Correct?

A. Yeah.

Q. And so your complaint is they're putting too much water into Wild Horse Creek. Correct?

A. If they was putting five gallons, it's too much for me.

Q. Why do you say that?

A. I'm not their sponge.

Q. So in a perfect world, there would be no water being placed into -- perfect world for Kenny Clabaugh, there would be no water being placed into Wild Horse Creek?

A. Right. Except natural.

Id., at 58-59.

Mr. Clabaugh's testimony regarding any decrease of forage crop and livestock production only points to an increase in water quantity, not water quality. Mr. Clabaugh complains of loss of bottom land for grazing, foot rot and loss of cattle.

Q. And you said you've lost all your bottomland?

A. Well, not all of it, but sure a lot, quite a lot of it.

Q. Can you quantify for me how many acres you think you've lost?

A. No.

Q. And please tell me how that's affected cow-calf operation.

A. Well, it probably hasn't affected -- well, it took away my calving pastures. You have quite a bit more foot rot. I've had some death loss because of the ice.

Q. Let's take those one at a time. You said you used to calve down in the bottomlands. Of Wild Horse Creek, I assume?

A. Yes, sir.

Q. And for how many years had you been doing that?

A. All my life.

Q. And when did you quit doing that?

A. About four years ago, five years ago.

Q. So if it's 2009, that would have been 2003, 2004?

A. Probably 2004 that I had to completely quit.

Q. And I assume you found some other place to calve?

A. Yeah.

Q. Where are you calving now?

A. Off the creek.

Q. Just a different section of your deeded land?

A. Yes.

Q. And you said that you'd had some foot rot?

A. Yes.

Q. Tell me what that is.

A. The feet rot because of moisture walking on water.

Q. And how many cases of that have you had?

A. I don't know.

Q. Can't quantify?

A. No, I can't give you a number.

Q. And do you believe that your cases of foot rot increased since the advent of CBM production?

A. Oh, yeah, because I never had any before. So if you had one, you had more.

Q. And you said you had some deaths because of the ice?

A. Yes.

Q. Tell me about that.

A. I had bulls get out on the ice and break their back, cow, calves drown in the creek.

Q. Can you quantify how many cows or calves or bulls you've lost because of ice?

A. No. I know of one bull for sure and a couple cows. I don't know how many calves.

Q. So two mother cows and one bull?

A. Uh-huh.

Id., at 13-15.

Because Mr. Clabaugh can only provide testimony relating to water quantity causing any loss of agricultural productivity on his property, he must rely on evidence asserting that the effluent limits set forth in Lance's discharge permit cause a decrease in its crop and livestock

production generally.

In this case, Clabaugh is attacking the SAR formula used by the DEQ/WQD during March of 2008 as being incorrect. The DEQ/WQD disagrees with Clabaugh's assertion that the SAR formula is wrong as evidenced by Mr. Thomas' testimony. As such, whether the formula used by the DEQ/WQD to calculate SAR in Lance's permit is a contested issue of material fact and Clabaugh's Motion for Summary Judgment must fail.

II. The DEQ used a Tier 2 methodology to determine the SAR and electrical conductivity (EC) limits, and this methodology is scientifically valid.

Clabaugh contends that the Tier 2 methodology is scientifically invalid. To support this assertion, Clabaugh solely relies on the report of Dr. Hendrickx and Dr. Buchanan. Dr. Hendrickx and Dr. Buchanan were answering the following questions:

one, "[w]hether the Tier 2 methodology . . . is reasonable and scientifically valid for determining the EC and SAR of water that can be discharged into an ephemeral drainage in Wyoming so that degradation of the receiving water will not be of such an extent to cause a measurable decrease in crop production.", and

two, "[w]hether the method set forth . . . for determining EC and SAR for permitting the discharge of produced water is reasonable, sufficiently defined and scientifically defensible for the conditions in Wyoming, and provides a uniform testing procedure that is reasonable accurate and unbiased for the determination of soil EC from which you can reasonable infer the quality of the water EC and SAR that historically flowed within the drainage that will support the establishment of effluent limits for discharge permits in a given drainage that will not cause a measurable decrease in crop production."

Dep. Ex. 14, at ii.

The questions posed by Dr. Hednrickx and Dr. Buchanan focus on discharges of produced water to receiving waters for the protection of crop and livestock production, and using Tier

2 to determine the EC and SAR of historical water flowing in a drainage. The report does not address the issue of using Tier 2 to determine EC and SAR levels in the existing soil in and around the drainage.

Mr. Wagner's deposition testimony reveals why the difference in questions is important.

Q. I'd like to ask you a few questions about the report that Dr. Hendrickx and Dr. Buchanan prepared. . . . Are you familiar with the conclusions of the report?

A. Yes.

Q. Do you agree or disagree with the conclusions of the report?

A. It depends on what the question -- how you frame the question. I think the report answered the question adequately if the question is: Can you use soil quality to back-calculate background water quality?

They say you cannot do that. And after reading their report, I -- I see where they're coming from. And I -- I tend to agree with their -- their conclusions. That's not quite the question that we want answered though.

The question that we want answered is: What methodology can you use to set an effluent limit that will not cause harm to the soils? And: Can you use soil quality to make that decision?

And so that question, I don't think, has been answered.

Q. Do you have an opinion on that?

A. My opinion is that, yes, you can use -- you can use soil quality data to make some reasonable judgements as to the quality of the water that you can discharge onto that land.

If the land is salty, then you can be less conservative about the water quality that you can put on it. On the other hand, if the land or the soils are not very salty, then you have to be very conservative, and you don't want to put additional salts on it.

So I think it makes sense to use soil quality to make some determinations on discharge quality.

Wagner Dep., at 11-13.

The difference in the questions answered by Dr. Hendrickx and Dr. Buchanan and the question that needs to be answered raises the issue of the relevance of the report as to the scientific validity of Tier 2. If the question that needs to be answered to determine the scientific validity of Tier 2 as it is applied by the DEQ/WQD is: Can you use Tier 2 to determine soil quality to set effluent limit that will not cause harm to the soils, then an issue remains regarding Clabaugh's assertion that Tier 2 is scientifically invalid. That question has not been answered by Dr. Hendrickx and Dr. Buchanan in their report. The DEQ/WQD believes that if the correct question is answered, then Tier 2 is scientifically valid. *Id.*, at 13.

Clabaugh's reliance on the report prepared by Dr. Hendrickx and Dr. Buchanan is premature and is not an uncontested genuine issue of material fact. Until the above issues are resolved regarding the validity of Tier 2, the assertion that Tier 2 is scientifically invalid is a contested, genuine issue of material fact and Clabaugh's Motion for Summary Judgment must be denied.

III. The DEQ's use of the Tier 2 methodology in this situation did not violate the DEQ's own agricultural use protection policy because Tier 2 is used to determine background EC and SAR levels in soil.

Clabaugh's argument that the DEQ/WQD violated Tier 2 is misguided at best. The DEQ/WQD agricultural use policy is just that; a policy, not a rule or regulation. Even if violating the agricultural use policy was actionable, an issue remains because Clabaugh's

characterization of when Tier 2 can be used is not consistent with Mr. Wagner's testimony explaining the actual application of Tier 2 by the DEQ/WQD.

Q. I would like to ask you some questions about this agricultural use protection policy, which is Exhibit 17. On Page 59 under the heading Tier 2 - Background Water Quality, it says: If sufficient data is available to demonstrate or calculate that the pre-existing background water quality at the points of diversion is worse than the effluent quality, EC and SAR effluent limits may be based upon those background conditions rather than tolerance values for the most sensitive crop.

So then it states there are two possible ways of doing that. One is measured data, and the other discharge water quality data available.

And it says: In that event -- in the event that soil studies are used as a means to estimate baseline water quality for a given drainage, the following requirements apply.

So is it correct that in a Tier 2 situation where you don't have measured background quality that you then try to back-calculate the baseline water quality based on soil samples?

A. That's what it says. And like I said, that's where I've -- I think we've -- I think we need to craft this better. Because I -- that's not what we're trying to get to. We're not trying to get to what the background water quality is. We're trying to get to what should the effluent limits be and what is safe water to apply to the land through irrigation.

Q. But, in fact, that is the methodology that is being followed. Your permit writers are back-calculating to come up with what they think is the background water quality.

A. No. What they're calculating is what's acceptable to put on the land.

Q. So you don't think that when your permit writers are doing this calculation based on soil samples and concentration factor that they're trying to determine what the baseline water quality is?

A. What they're -- what's in their mind, I can't say. But I -- I can tell you that what we're attempting to do is to ensure that the quality of water that we allow to be applied

to the land is, number one, of a sufficient quality that we don't get degradation of the agricultural activity; in other words, no loss of productivity; but, number two, that we are not setting limits that are so stringent -- unnecessarily stringent so that the operator is spending money and resources treating when it's not necessary. So we're trying to do that balance.

Wagner, Dep., at 21-24.

Clabaugh, like Dr. Hendrickx and Dr. Buchanan, assume that Tier 2 is being used by the DEQ/WQD to determine the background quality of water historically flowing down a drainage. According to Mr. Wagner's testimony, the DEQ/WQD is actually using Tier 2 to determine the composition of the soil in a given drainage, including EC and SAR levels. *Id.* at 24. The DEQ/WQD uses this information to determine appropriate effluent limits for discharge permits so that produced water applied to the land does not degrade agricultural productivity by degrading the soil. *Id.*

As additional support for its claim that the DEQ/WQD violated its agricultural use policy, Clabaugh points to Mr. Thomas' testimony as follows:

Q. But when you did the Echeta Road Permit [Lance's permit WY0049697], you applied Tier 2 even though the background SAR was better than the effluent quality?

A. That's correct.

Thomas Dep., at 77-78.

However, Clabaugh fails to provide the rest of Mr. Thomas' testimony on the subject.

Q. So did you violate the agricultural use protection policy when you issued the Echeta Road permit?

A. No.

Id., at 78.

As set forth above, Mr. Wagner's testimony explains why Mr. Thomas answered no when asked if the DEQ/WQD violated its agricultural use policy, assuming the DEQ/WQD could even violate a policy in the first place. The testimony of Mr. Wagner and Mr. Thomas show that there is a contested issue of material fact regarding the issue of the application of Tier 2 by the DEQ/WQD when applying its agricultural use protection policy. As such, Clabaugh's Motion for Summary Judgment must be denied.

IV. It is not relevant that the permit establishes no SAR limits for water discharged out of Lance's containment reservoirs.

Clabaugh accurately claims that there are no SAR limits for outfalls 001 through 012 in Lance's permit. Lance is required to fully contain all discharged produced water in a series of on-channel reservoirs. Dep. Ex. 1, Statement of Basis, at 2. The permit allows discharge from Lance's reservoirs only during natural rain events or after written permission is received from the DEQ/WQD. *Id.* Discharge resulting from natural rain events is not to last more than 48 hours. *Id.*

Mr. Thomas explains the procedure in the event Lance requests permission to intentionally drawdown a reservoir.

Q. Now I'd like to ask you about this SAR formula that's part of the contested permit. First of all, do I understand correctly that there is no SAR effluent limit for water that is discharged through Outfalls 1 through 12?

A. In the current version of the permit, that is accurate.

Q. And water that is discharged into those reservoirs can be released from those reservoirs if the DEQ determines that the Powder River assimilative capacity credits would allow it; is that true?

A. That's one factor.

Q. And if that water is allowed to be released, is there any SAR effluent limit on that water that comes out of those reservoirs?

A. Yes. There's a restriction on SAR for released water above irrigated areas.

Q. Okay. And would you read to me what the restriction is for the SAR released from Outfalls 1 through 12 and tell me where it is in the permit?

A. It does not appear in the permit. It appears on the release authorization.

Q. Oh, okay. So this permit doesn't have that limit in it?

A. That's correct.

Q. So there's, what, an unwritten policy that you impose that as a requirement of a release?

A. When an applicant requests a release, there are two primary things we consider. We consider, first of all: Do they have sufficient credits for salt and sodium to be releasing into the Powder River during that month?

And: Is there water suitable to meet downstream uses, including irrigation? So we would not authorize a release of water above irrigated areas if the EC and the SAR were not compatible with irrigation protection.

So we would not authorize a release of water above irrigated areas if the EC and the SAR were not compatible with irrigation protection.

Q. So if Lance requests a release from these reservoirs that Outfalls 1 through 12 are discharging into, are you saying that the -- the release request has to say that they will not exceed 2,560 EC and SAR of -- according to this formula that the DEQ adopts?

A. We'll know that because the request is accompanied by a current water quality sample from the reservoir. We don't authorize any release without a current water quality sample from the reservoir.

Q. And does your authorization for release say you have to meet these effluent limits when you release?

A. The authorization allows release, and it would not be granted if they did not meet those. So the authorization would not repeat that they need to meet those. We simply would not authorize it if they did not meet them.

Thomas, Dep., at 61-64.

While Lance's permit does not set SAR limits for effluent discharged to Lance's reservoirs, any permissive discharge is only allowed if the effluent limits are protective of irrigation practices. In effect, the procedure used by the DEQ/WQD does consider, and set SAR limits, when Lance makes a request to drawdown a reservoir. If the effluent limits are shown to be too high to protect irrigation uses, then the DEQ/WQD does not grant permission allowing the drawdown of a reservoir.

It is not relevant that Lance's permit does not contain SAR limits for produced water that is contained by on channel reservoirs. As such, it is not a genuine issue of material fact and Clabaugh's Motion for Summary Judgment must be denied.

V. The DEQ's methodology of using the average EC from 12 fields to set the EC effluent limit does not necessarily mean that there will be a measurable decrease in forage crop production in those fields in the drainage which have less than average salinity.

Clabaugh's last argument in support of its Motion for Summary Judgment fails to demonstrate that there has been any loss of crop or livestock production on its property

resulting from effluent discharges allowed under Lance's permit. It is not enough for Clabaugh to make a blanket assertion that some unidentified fields will suffer loss of crop and livestock production because the DEQ/WQD uses an average EC derived from soil analysis taken from fields around Wild Horse Creek. In fact, Clabaugh is unable to produce any evidence that the EC and SAR limits in Lance's permit are degrading its property. See *Knight v. Env'tl. Quality Council*, 805 P.2d 268, 273 (Wyo. 1991). Clabaugh has not sought, or had any soil analysis performed to determine the EC and SAR of the soil on its property that would prove any measurable decrease of crop or livestock production from the EC and SAR limits set in Lance's permit. On this issue, Mr. Clabaugh stated:

Q. . . . I wanted to follow up on some of Mr. Crank's questions regarding your soil EC. And my question is have you ever had a soil analysis done on your property?

A. No, I haven't.

Q. You personally have not?

A. No, sir.

Q. Has anybody other than yourself done any type of soil analysis on Clabaugh Ranch?

A. Not to my knowledge.

Q. So there hasn't been any type of contractor out there that's tested the soil for EC or SAR levels?

A. No, sir.

Q. And this would be the same in and along Wild Horse Creek where it passes through your property?

A. Yes, sir.

Q. And when I talk about Clabaugh Ranch, is your answer including the BLM leased portions?

A. There's no BLM leased portions on the creek.

Q. And there's been no testing on the BLM portion itself?

A. Not to my knowledge.

Q. And how about the school section, the State leases?

A. Not to my knowledge.

Q. Has any firm or any person ever asked permission to enter your property to perform a soil analysis?

A. Not to my knowledge.

Q. Have they ever asked to perform a soil analysis on the State section?

A. Not that I recall.

Q. Now, does Wild Horse Creek pass through any of the private leases that you have?

A. Private leases meaning that I own the minerals on?

Q. No. I'm talking about the surface.

A. Oh, private. No. No, sir. No, sir.

Q. And has anybody asked your permission to enter those portions of your leases to perform any type of soil analysis?

A. No, sir.

Q. So your testimony today is that there has been no soil analysis done on your property, your leased property, private or public?

A. Not to my knowledge.

Clabaugh Dep., at 114-115.

Mr. Thomas' testimony shows that the DEQ/WQD is using the average salinity to protect all fields in the area of the drainage and shows that Clabaugh's issue is contested.

Q. So when DEQ does its averaging to establish the water quality effluent limits for EC, the DEQ wasn't trying to protect all of the fields, it was just trying to protect those fields with average or worse than average salinity; is that true?

A. I would say that we were trying to protect all of the fields and that we used an average background salinity we had estimated for the entire drainage.

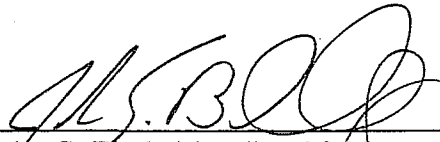
Thomas, Dep., at 60.

Clabaugh's contention that using average background salinity to determine whether effluent limits set by the DEQ/WQD in its discharge permits are protective of crop and livestock production is contested by the DEQ/WQD. In addition, Clabaugh is without any evidence to assert that discharges of produced water by Lance under permit number WY0049697 cause a decrease in its crop and livestock production. For these reasons, Clabaugh's Motion for Summary Judgment fails to show that there are no genuine issues of material fact and it must be denied.

CONCLUSION

Plaintiffs' have failed to show that summary judgment should be granted in their favor. For the reasons set forth above, the Department of Environmental Quality, Water Quality Division request that the Environmental Quality Council deny Clabaugh's Motion for Summary Judgment.

DATED this 31st day of July, 2009.



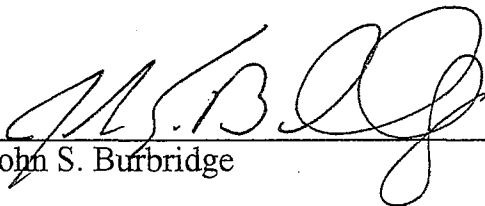
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CERTIFICATE OF SERVICE

I, John S. Burbridge, certify that on this 31st day of July, 2009, the foregoing DEPARTMENT OF ENVIRONMENTAL QUALITY/WATER QUALITY DIVISION'S MEMORANDUM IN SUPPORT OF ITS OPPOSITION TO PETITIONER'S MOTION FOR SUMMARY JUDGMENT was served by United States Mail, postage prepaid, as follows:

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