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

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

Docket No. 08-3802

**MEMORANDUM IN SUPPORT OF LANCE OIL AND GAS, INC.'S MOTION
FOR SUMMARY JUDGMENT**

COMES NOW Lance Oil and Gas, Inc. ("Lance") and hereby submits the following Memorandum in Support of Lance Oil and Gas, Inc.'s Motion for Summary Judgment.

INTRODUCTION

On March 26, 2008, the Wyoming Department of Environmental Quality ("DEQ") renewed a WYPDES permit previously issued to Lance. This permit authorized the discharge of water produced pursuant to coalbed methane production into Wild Horse Creek at one outfall. Kenneth Clabaugh ("Clabaugh"), a landowner downstream from the outfall authorized by the WYPDES permit issued to Lance, filed an appeal of said permit on May 19, 2008. The DEQ filed an answer to this petition on July 7, 2008. Lance moved to intervene and filed an answer to the petition on July 18, 2008.

The Clabaugh appeal of the Lance permit has been plagued from the outset by the vague, ambiguous, and conclusory allegations of the petition. In that regard, Lance filed a motion for a more definitive statement pursuant to the general rules of practice and procedure of the Environmental Quality Council ("EQC") and Rule 12(e),

Wyoming Rules of Civil Procedure on July 25, 2008. On or about August 21, 2008, the EQC, acting by and through its presiding officer, Tim Flitner, denied the motion for a more definitive statement finding that based on Lance's answer to the petition appealing the permit, the motion for a more definitive statement was moot. With all due respect to the EQC, this matter is, despite the discovery efforts of Lance, still plagued by the vague, conclusory, and nondescript allegations raised by Clabaugh. As set forth *infra*, even Clabaugh does not have any facts supporting his contest of this permit.

Clabaugh has waged a long and bitter battle since the onset of coalbed methane development to prevent any water from being discharged into Wild Horse Creek which flows across his ranch for approximately six miles. Deposition of Ken Clabaugh taken on June 29, 2009, ("Clabaugh Deposition") at p. 68; attached hereto as Exhibit 1.

Clabaugh objects to **any** water being discharged into Wild Horse Creek as illustrated by his deposition testimony.

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.

Id at 58.

Q: And isn't it true, Mr. Clabaugh, your complaint about Wild Horse Creek as it exists today is with regard to the **quantity** of water that is flowing down that creek?

A: Yes.

Q: And you're challenging this permit issued to Lance because you believe it adds to the quantity of water flowing down Wild Horse Creek. Correct?

A: Yes.

Id at 78.

Q: Were you aware that this water is being treated before it's placed into Wild Horse Creek?

A: That's what I've been told.

* * *

Q: And does that have any relevance to you with regard to this particular permit, the fact that the water's being treated before it's put into Wild Horse Creek?

A: Quantity is just as bad as quality to me.

Q: So it doesn't matter to you?

A: No.

Q: They could be putting distilled water into Wild Horse Creek, and you would still object to that?

A: Yes, I would.

Id at 81-82.

The problems being experienced by Clabaugh with regard to the quantity of water being discharged into Wild Horse Creek via WYPDES permits upstream of Clabaugh, if any, are caused not by the coalbed methane water discharges but by the conditions on Clabaugh's ranch and by his stubborn refusal to improve the channel of Wild Horse Creek or to allow others to undertake such work, free of charge to Mr. Clabaugh. Clabaugh has decided to appeal every permit issued for an outfall discharging into Wild Horse Creek. *Id* at 62-63. Clabaugh admitted that water in Wild Horse Creek spreads out into the bottom lands because of log trash dams and the lack of a defined channel in places. *Id* at 68. Clabaugh has refused to undertake any work to improve this situation or to allow others, including the State of Wyoming on a state owned school section along the creek, to do so free of charge to Clabaugh because he is "not the sponge." *Id* at 68, 70-72. Clabaugh admitted that channel work along the approximately six miles of Wild Horse Creek would solve many of the problems he alleges he has experienced because of coalbed methane production. *Id* at 68-69.

While Clabaugh has attempted to characterize this appeal as a concern with regard to the quality of water being discharged via the Lance permit in question, Clabaugh cannot dispute, based on his deposition testimony, that he has launched a systematic attack on all WYPDES permits issued upstream on Wild Horse Creek to prevent any discharges into Wild Horse Creek. The Wyoming Environmental Quality Act ("WEQA") gives neither the DEQ or the EQC any authority to regulate quantity of

discharges as sought by Clabaugh. See, Wyoming Attorney General Formal Opinion No. 2006-001 (April 12, 2006). Clabaugh's attack on this permit is nothing more than a thinly disguised attack on any permit that could possibly increase the **quantity** of water flowing in Wild Horse Creek.

This is most graphically illustrated by Clabaugh's testimony concerning his families' and his personal ranching practices since 1905 and the existence of coalbed methane production on the Clabaugh ranch pursuant to leases from Clabaugh himself.

The Clabaugh Ranch was homestead in 1905 and has been operated since that time by Clabaugh's grandfather, father, and more recently, Clabaugh. Clabaugh Deposition at 9. Coalbed methane water has been historically used by Clabaugh and his ancestors a large number of years to raise livestock. *Id* at 34-36. The water produced from three wells that naturally flowed via gas pressure from a coal seam was stored initially in stock tanks and then in reservoirs on the Clabaugh Ranch. *Id* at 36-37. Clabaugh had no idea of the quality of water produced from these wells including SAR or EC values of the produced water and had used the water for years in his cattle operation. *Id* at 37-38. Clabaugh admitted that soil conditions around the reservoirs where the coalbed methane water had been stored since Clabaugh was in high school is not noticeably different than soil on other areas of the ranch. *Id* at 39.

Clabaugh estimated that leases he had issued for coalbed methane production on the Clabaugh Ranch had resulted in approximately 40 coalbed methane wells on the ranch. Clabaugh admitted that the coal seams underlying the ranch had to be dewatered to begin coalbed methane production. *Id* at 25-26. The water produced pursuant to the Clabaugh coalbed methane production is disposed of via an underground drip system and stored in two reservoirs on the ranch. *Id* at 26-27.

Clabaugh testified that he had no idea of the EC or SAR of the coalbed methane water being produced and disposed of on his own land. *Id* at 29. Clabaugh was not even aware of whether the water was even being treated before discharge and that it was not important to Clabaugh to even know the water quality being placed on his own land. *Id* at 29. If the quality of water being discharged on Clabaugh's family homestead both before and after coalbed methane production is irrelevant to Clabaugh, it is patently apparent as stated under oath by Clabaugh that the quality of the discharges by Lance is equally unimportant to Clabaugh in the appeal. As he

testified, Clabaugh would object to anyone putting distilled water into Wild Horse Creek. *Id* at 82.

While Lance believes that Clabaugh has no right to appeal this permit to the EQC and the EQC therefore has no jurisdiction to consider this appeal, the EQC must, if it hears this matter, focus on the permit being challenged. How has Clabaugh been harmed, if at all, **by this permit**? What measurable decrease in livestock or crop production will be caused by the effluent limits set **by this permit**? How much of the water, if any, discharged **by this permit** actually spreads out onto lands along Wild Horse Creek? What is the EC and SAR of the water discharged **by this permit** miles downstream of the outfall where such water might meander across Clabaugh's lands along Wild Horse Creek because of his stubborn and illogical refusal to either correct, or allow others to correct at no expense to Clabaugh, numerous trash log jams and lack of a channel to carry water across his ranch?

If the EQC concludes it can even hear this appeal, the EQC must focus on the one permit that is the subject of the appeal and cannot focus on the collective effect of a number of WYPDES permits upstream of Clabaugh on Wild Horse Creek. As argued *supra*, Clabaugh has the burden of showing that the permit he is appealing was issued in violation of Wyoming statutes and the Rules and Regulations duly adopted by DEQ pursuant to WEQA. Because Clabaugh cannot in any case meet that burden of proof, Lance is entitled to judgment as a matter of law and an order dismissing this matter.

SUMMARY JUDGMENT STANDARD

Whereas an administrative body such as the EQC is confronted with a case where there are no genuine issues as to any material fact and the prevailing party is entitled to judgment as a matter of law, the administrative body should grant summary judgment pursuant to Rule 56, Wyoming Rules of Civil Procedure. *See, McGarby v. Key Property Management, LLC*, 2009 WY 84, ¶ 10 (Wyo. 2009). When a summary judgment motion is filed, the party opposing the summary judgment motion must file with the court affidavits, depositions, or other reliable information to show that there are specific facts showing there is a genuine issue for trial and the moving party is not entitled to judgment as a matter of law. *See*, Rule 56(e), W.R.C.P. Failure to do so will result in the grant of a summary judgment motion. *Id.* Summary

judgment motions can be granted in an administrative hearing context. *See, Quinn v. Securitas Security Services*, 158 P.3d, 711 (Wyo. 2007). .

Lance is entitled to summary judgment in this matter because:

1. Petitioner, Clabaugh Ranch, has no right to appeal this matter to the EQC;
2. Because Petitioner has no right to have this matter considered by the EQC, the EQC has no subject matter jurisdiction over the appeal; and,
3. Even if the EQC finds that Clabaugh has a statutory right to appeal the renewal of a WYPDES permit to the EQC, there are no contested issues of material fact and Lance is entitled to judgment as a matter of law.

**CLABAUGH HAS NO STATUTORY RIGHT TO APPEAL THE
RENEWAL OF A WYPDES PERMIT TO THE EQC**

The basic principles of administrative review in Wyoming require that: (1) there be a final agency action which is reviewable, and (2) there be a statutory grant of the right to appeal. In this case, the issuance of the permit constituted final agency action. However, neither the WEQA or the WAPA provides Clabaugh with the right to appeal the permit to the EQC. Rather, the WEQA and WAPA require Clabaugh to appeal the permit to the District Court, not the EQC.

a. The Right to Administrative Review Must be Granted by Statute

“[A]ctions of an administrative agent are not reviewable unless made so by statute.” *Holding’s Little America v. Board of County Commissioners of Laramie County*, 670 P.2d 699, 702 (Wyo. 1983). The rule that to seek review of an administrative decision must be conferred by statute was recognized by the Supreme Court many years ago and remains true today. In *Pritchard v. State of Wyoming Division of Vocational Rehabilitation*, 540 P.2d 523, 525 (Wyo. 1975) the Court stated:

The appellate process is a statutory one. This court said in 1883 in *McLaughlin v. Upton*, 3 Wyo. 48, 48, 52, 2 P. 534, 537:

‘A party can only bring his writ of error or appeal here as the statutes allow:’

We were there speaking of an appeal from a district court to the supreme court, but the same rule prevails in appealing from an administrative order to the district court. The court, in the above cited early Wyoming case, also held that when the appeal statutes are followed the appellate court acquires jurisdiction, but when they are not it does not. These rules regulated appellate matters in 1883 and they remain applicable today.

Pritchard, 540 P.2d at 524, N.1. The Pritchard Court ultimately ruled that the State Division of Vocational Rehabilitation (“DVR”) had no authority to seek review by the district court of an administrative decision of the State Career Services Counsel because no statutory provisions entitled the DVR to appeal an adverse administrative decision to district court. *Id* at 525. It follows that if a third party has no right to challenge an administrative decision at the outset, he has no ability to seek review of that administrative decision without such a right being conferred by statute.

ii. Right to Appeal Under the WEQA

Because the right to appeal must be granted to a party by statute, the first question is whether the Environmental Quality Act itself provides a right to administrative review to a third party. It does not. Rather, the WEQA sets forth two avenues of appeal: one for permits, and a second for an “aggrieved party.”

In determining the meaning of a statute, “where the language of a statute is plain and unambiguous and conveys a clear and definite meaning, we do not resort to rules of statutory construction.” *Allied Fidelity Insurance Company v. Environmental Quality Council*, 753 P.2d 1040 (Wyo. 1988) (citing *Thomson v. Wyoming In-Stream Flow Committee*, 651 P.2d 778 (Wyo. 1982)). Also, the WEQA must be construed “as a whole, giving effect to every word, clause, and sentence . . .” *In the Matter of the Estate of Kirkpatrick v. Marafioti*, 77 p.3d 404, 406 (Wyo. 2003) (citation omitted).

Historically the EQC has relied on Wyo. Stat. § 35-11-112 of the WEQA as a basis for its jurisdiction over petitions. That section provides that the EQC:

Shall act as the hearing examiner for the department and shall hear and determine all cases or issues arising under the laws, rules, regulations, standards or orders issued or administered by the department or its air quality, land quality, solid and hazardous waste management or water quality divisions... The council shall ...

Conduct hearings in any case contesting the grant, denial, suspension, revocation or renewal of any permit, license, certification or variance authorized by this act.

Wyo. Stat. Ann. § 35-11-112(a)(iv). Thus, Wyo. Stat. § 35-11-112 gives the EQC the *authority* to consider various challenges, but does not confer upon potential litigants the *right* to appeal to the EQC. Said another way, Wyo. Stat. § 35-11-112 does not provide *who* may pursue a challenge with the EQC, rather, that question is answered by Wyo. Stat. § 35-11-802.

Wyo. Stat. § 35-11-802 provides for appeals to the EQC by a permit *applicant*:

If the director refuses to grant any permit under this act, **the applicant** may petition for a hearing before the council to contest the decision. At such hearing, the director and appropriate administrator shall appear as respondent and the rules of practice and procedure adopted by the council pursuant to this act and the Wyoming Administrative Procedure Act [§§ 16-3-101 through 16-6-115] shall apply.

Wyo. Stat. Ann. § 35-11-802 (emphasis added). Wyo. Stat. § 35-11-802 therefore provides only the “applicant” with the right to appeal a permit to the EQC.

In contrast, Wyo. Stat. § 35-11-1001 of the WEQA provides for the right of review to an “aggrieved party.” This review is with the district court.

Any aggrieved party under this act, any person who filed a complaint on which a hearing was denied, and any person who has been denied a variance or permit under this act, may obtain **judicial review** by filing a petition for review within thirty days after entry of the order or other final action complained of pursuant to the provisions of the [WAPA].

Wyo. Stat. Ann. § 35-11-1001(a) (emphasis added). This provision allows for any “aggrieved party” to appeal to the District Court.¹ Notably, the provision does not provide that “any aggrieved person” may seek administrative review before the EQC.²

As stated above, where the language of a statute is “plain and unambiguous” the Court will not engage in “rules of statutory construction.” The language of Wyo. Stat. § 35-11-112 is “plain and unambiguous.” It provides the EQC with the authority to “conduct hearings in any case contesting the grant... of any permit.” Wyo. Stat. § 35-11-112 does not say who can petition for such a hearing. On the other hand, Wyo. Stat. § 35-11-802 allows no other person other than the applicant to request a hearing before the EQC. In contrast, Wyo. Stat. § 35-11-1001 grants the right to judicial review (not administrative review) to “any aggrieved party” under the WEQA. Wyo. Stat. § 35-11-1001 does not grant a right of review before the EQC to this broader class of persons. Based on the “plain and unambiguous” language of WEQA,

¹ The WEQA defines “aggrieved party” as:

any person named or admitted as a part or properly seeking or entitled as of right to be admitted as a party to any proceeding under this act because of damages that person may sustain or be claiming because of his unique position in any proceeding held under this act.

Wyo. Stat. Ann. § 35-11-103(a)(vii) (italics added). This language is much broader than Section 802’s language restricting administrative review to the “applicant.”

² This provision is also consistent with the federal NPDES program, which requires that the public (i.e., an “aggrieved party”) be provided with an opportunity to participate in the permitting process. The federal NPDES program requires that the state “shall provide an *opportunity for judicial review in state court* of the final approval or denial of permits...” “40 C.F.R. § 12.30.

Clabaugh did not have a right to appeal the permit to the EQC; rather, the appropriate arena for Clabaugh's appeal was judicial review.

Clabaugh may contend that Wyo. Stat. § 35-11-112 is inconsistent with Wyo. Stat. § 35-11-802 and Wyo. Stat. § 35-11-1001. However, the Wyoming Supreme Court has held that "a specific statute controls over a general statute on the same subject." *Thunderbasin Land, Livestock & Investment Co. v. The County of Laramie County*, 5 P.3d 774, 782 (Wyo. 2000). The court has also held that "a specific provision in a statute controls over an inconsistent general provision pertaining to the same subject." *Id.* Moreover, statutes "relating to the same subject or having the same general purpose must be considered and construed in harmony." *In the Matter of the Estate of James T. Frost v. Dodson*, 155 P.3d 1031, 1034 (Wyo. 2006). Wyo. Stat. § 35-11-112, the general grant of authority to the EQC to hear cases, must be construed in light of Wyo. Stat. § 35-11-802 and Wyo. Stat. § 35-11-1001 – the specific grants to particular parties of right to review either administratively or judicially. If Wyo. Stat. § 35-11-112 were interpreted to allow any person to seek administrative review in front of the EQC, Wyo. Stat. § 35-11-802 (allowing an applicant to appeal to the EQC) and Wyo. Stat. § 35-11-1001 (allowing an aggrieved party to seek judicial review) would have no meaning. In other words, the general grant of authority to the EQC to hear cases does not extend a right to any person to request a hearing before the EQC where the WEQA provides specific, and bifurcated, avenues of review. It is a basic tenant of statutory interpretation that one statute cannot be construed in a manner that would nullify the operation of another statute. *See, State v. Sodergren*, 686 P.2d 521, 527 (Wyo. 1984). To read Wyo. Stat. § 35-11-112 as granting Clabaugh a right to appeal nullifies Wyo. Stat. § 35-11-802 and in large part Wyo. Stat. § 35-11-1001.

This proper interpretation of the WEQA does not prohibit the public's right to review of agency action. Wyo. Stat. § 35-11-1001 explicitly provides that "any aggrieved party" under the WEQA may "obtain judicial review by filing a petition for review within thirty (30) days after the entry of the order or **other final action complained of.**" Wyo. Stat. § 35-11-1001 (emphasis added). This grant of right of judicial review to an "aggrieved party" is broader than the right to administrative review granted by Section 802.

ii. Right to Appeal Granted by WAPA

As the WEQA provides a right of administrative appeal only to a permit “applicant,” and not to an “aggrieved party,” it is necessary to determine whether the Wyoming Administrative Procedures Act provides a right to administrative review to any “aggrieved party.”

WAPA provides for judicial review of WYPDES permitting questions at Wyo. Stat. § 163-3-114(a). That section states, in pertinent part:

Subject to the requirement that administrative remedies be exhausted and in the absence of any statutory or common-law provision precluding or limiting judicial review, any person aggrieved or adversely affected in fact by a final decision of any agency in a contested case, or by other agency action or inaction, is entitled to **judicial review** in the district court...

Wyo. Stat. § 16-3-114(a) (emphasis added). Based on the “plain and unambiguous” language (the standard set forth in *Allied Fidelity*), the WAPA allows “any person aggrieved” to seek *judicial review* of an agency’s “final decision” or “other agency action or inaction.”

In this case, the issuance of the permit constituted a “final administrative decision” and the appropriate avenue for appeal of a non-applicant, under WAPA, is to the District Court. *See*, Wyo. Stat. § 16-3-114(a). As Clabaugh was a non-applicant, the only right to review was to petition the district court. As such, Clabaugh is not properly before the EQC.

iii. The Wyoming Water Quality Rules and Regulations Do Not Provide to a Non-Applicant a Right to Administrative Review.

Clabaugh may take the position that, despite the clear and unambiguous language of the WEQA and the WAPA, Chapter 2 of the Wyoming Water Quality Rules and Regulations (WWQRR) provides non-applicants with the right to administrative review before the EQC. This position is inconsistent with the statutory grant of the right to appeal.

Chapter 2 provides that “in any case where the administrator makes a decision to issue ...a permit ... any interested person may request a hearing before the Environmental Quality Council. A request for hearing shall be made in accordance with the applicable Department of Environmental Quality’s Rules of Practice and Procedure.” 2 WWQRR § 17. This “appeal” provision is at direct odds with Wyo. Stat. § 35-11-802 (granting right of administrative review to the permit “applicant”) and Wyo.

Stat. § 35-11-1001 (granting right of judicial review to “any aggrieved party”) of the WEQA.

In determining whether a regulation promulgated under a federal statute was valid, the U.S. Supreme Court held that a threshold issue is whether the legislature has spoken to the precise question at issue. *Chevron v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842 (1984). If the intent of the legislature is clear, “that is the end of the matter.” *Id.* This basic principle of law has been adopted by the Wyoming Supreme Court. *See, e.g., State ex rel. Wyoming Worker’s Compensation Div. v. Mahoney*, 798 P.2d 836, 838 (Wyo. 1990) (stating “[w]e normally accord some weight to the construction of a statute by an administrative agency unless the agency’s construction is clearly erroneous;” citing *Town of Pine Bluffs v. State Board of Control*, 647 P.2d 1365, 1367 (Wyo. 1982)). In the present case, the legislature has, through WEQA, “spoken” regarding who may seek a hearing before the EQC and who must seek judicial review. The language of the WEQA could not be clearer; Wyo. Stat. § 35-11-802 grants the “applicant” the right to administrative review before the EQC while Wyo. Stat. § 35-11-1001 grants an “aggrieved party” the right to judicial review in the district court. “An agency enjoys only those powers which the legislature has expressing conferred.” *Jackson v. State ex rel. Wyoming Worker’s Compensation Division*, 786 P.2d 874, 878 (Wyo. 1990). “An administrative agency may not exceed the authority expressly delegated to it by the legislature when the agency is promulgating regulations.” *State Department. Of Revenue and Taxation v. Pacificorp*, 872 P.25 1163, 1164 (Wyo. 1994).

The fact that the EQC has been relying on 2 WWQRR § 17 to allow non-applicants to petition the EQC for administrative review is not persuasive. The U.S. Supreme Court decided that, despite the fact that the Veteran’s Administration’s inclusion of a regulation inconsistent with the statute had endured for sixty years, the “regulation’s age is no antidote to clear inconsistency with a statute.” *Brown v. Gardner* 513 U.S. 115, 121 (1994) (citing *Dole v. Steelworkers*, 494 U.S. 26, 42-43 (1990)). In other words, the fact that the EQC has relied on Chapter 2 WWQRR § 17 to allow non-applicants to seek administrative review over the years does not rehabilitate the offending regulation’s inconsistency with the governing statutes.

**THE EQC HAS NO SUBJECT MATTER JURISDICTION TO
CONSIDER THIS APPEAL**

Before a court (administrative adjudicatory body) can “render any decision or order having any effect in any case or matter, it must have subject matter jurisdiction.” *Diamond B Services v. Rohde*, 120 P.3d 1031, 1038 (Wyo. 2005), *United Mine Workers of America Local 1972 v. Decker Coal Co.*, 774 P.2d 1274 ,1283-1284 (Wyo. 1989). If a court does not have subject matter jurisdiction, “it lacks any authority to proceed, and any decision, judgment, or other order is, as a matter of law, utterly void and of no effect for any purpose.” *Geerts v. Jacobsen*, 100 P.3d 1265, 1269 (Wyo. 2004) (citing *Terex Corp. v. Hough*, 50 P.3d 317 (Wyo. 2002)). This basic tenant of law applies to proceedings before administrative agencies as well as courts. *Amoco Production Company v. Wyoming State Board of Equalization*, 7 P.3d 900, 904 (Wyo. 2000).

As the Wyoming Supreme Court has stated, “[t]he principles of subject matter jurisdiction are well defined, consistent and deeply rooted. Subject matter jurisdiction cannot be conferred by the consent of the parties... Nor can subject matter jurisdiction be waived.” *McDougall v. McDougall*, 961 P.2d 382, 383 (Wyo. 1998) (citations omitted). In addition, subject matter jurisdiction can be raised at any time, “even on appeal.” *Mutual of Omaha Insurance Company v. Blury*, 952 P.2d 1117, 1119 (Wyo. 1998) (citing *Pawlowski v. Pawlowski*, 925 P.2d 240, 243 (Wyo. 1996)).

A court may maintain jurisdiction over a cause of action long enough to determine whether it has subject matter jurisdiction over that cause of action. See, *Geerts* 1009 P.3d at 1269 (stating that “before proceeding to a disposition on the merits, a court should be satisfied that it does have the requisite jurisdiction” (citing *Terex*)). See also, *Weller v. Weller*, 9600 P.2d 494 (Wyo. 1998) (stating that “[i]f a lower court acts without jurisdiction, the Supreme Court ‘will notice the defect and have jurisdiction on appeal, not on the merits, but merely for the purpose of correcting the error of the lower court in maintaining the suit.’” (citing *Gookin v. State Farm Fire & Cas. Ins. Co.*, 826, P.2d 229, 232 (Wyo. 1992)).

As stated above, the WEQA and WAPA provide that Clabaugh’s only right of appeal, as an “aggrieved party,” is to the District Court, not to the EQC. Because, under the controlling statutes, Clabaugh does not have the right (or ability) to appeal the permit to the EQC, the EQC lacks subject matter jurisdiction to hear the issues raised by Clabaugh. See, *Wachovia Bank v. Schmidt*, 546 U.S. 303, 305 (2006) (stating that subject matter jurisdiction “poses the question ‘whether’ the Legislature

empowered the court to hear cases of a certain genre.”) As stated above, Wyo. Stat. § 35-11-112 of the WEQA vests the EQC with the authority to hear contested cases; the Wyoming Legislature did not provide Clabaugh with the right to initiate a contested case by appealing the permit to the EQC and, hence, the EQC has no jurisdiction to hear Clabaugh’s appeal.

THERE ARE NO CONTESTED ISSUES OF MATERIAL FACT AND LANCE IS ENTITLED TO JUDGMENT IN THIS MATTER AS A MATTER OF LAW

Even if the EQC rules that Clabaugh has a statutory right to appeal the renewal of the Lance permit to the EQC and the EQC has subject matter jurisdiction in this matter, Lance is still entitled to judgment as a matter of law. There is no possible way that Clabaugh can sustain his burden of proof in this matter.

BURDEN OF PROOF

It is clear pursuant to the WEQA that the petitioner in this matter, Clabaugh, bears the burden of showing by at least a preponderance of the evidence during the course of the hearing scheduled in this matter, that the permit issued by DEQ does not comply with Wyoming law and the rules and regulations issued by DEQ. Any analysis of this fact must begin with a review of the Wyoming Administrative Procedure Act and the authority granted by the WEQA to the EQC to review this permit.

Wyo. Stat. § 35-11-112 provides that:

[t]he [EQC] shall act as the hearing examiner for the department and shall hear and determine all cases or issues arising under the laws, rules, regulations, standards or orders issued or administered by the department or its air quality, land quality, solid and hazardous waste management or water quality divisions.³

This permit was clearly issued by John Corra, in his capacity as the Director of DEQ and, upon a proper challenge by a party with statutory standing to challenge this matter before the EQC, can be heard by the EQC. Wyo. Stat. § 35-11-112(a)(iv) further provides that the EQC may “conduct hearings in any case contesting the grant, denial, suspension, revocation, or renewal of any permit, license, certification, or variance authorized or required by this act.” Wyo. Stat. § 35-11-112(f) further

³ As noted supra, Wyo. Stat. § 35-11-112 provides authority for the EQC to hear certain matters, but does not specify who may bring such a challenge.

provides that “all proceedings of the council shall be conducted in accordance with the Wyoming Administrative Procedure Act.”

The WAPA defines “contested case” as “a proceeding including but not restricted to ratemaking, price fixing, and licensing, in which legal rights, duties or privileges of a party are required by law to be determined by an agency after an opportunity for hearing...” See Wyo. Stat. § 16-3-101(b)(ii). WAPA further provides that a “[l]icense” includes the whole or part of any agency **permit**, certificate, approval, registration, charter or similar form of permission required by law, but it does not include a license required solely for revenue purposes...” See, Wyo. Stat. § 16-3-101(b)(iii). (emphasis added). The Act further provides “Licensing” includes the agency process respecting the grant, denial, renewal, revocation, suspension, annulment, withdrawal or amendment of a license...” See, Wyo. Stat. § 16-3-101(b)(iv).

It cannot be contested that the permit being appealed by Clabaugh was a renewal of a WYPDES permit previously issued to Lance. Based on the definitions set forth *supra* from the WAPA, it cannot be denied that the EQC will be conducting a “contested case” hearing pursuant to the Wyoming Administrative Procedure Act. Pursuant to the Wyoming Administrative Procedures Act, “allocation of the burden of proof is a matter of law.” *JM v. Department of Family Services*, 922 P.2d 219, 221 (Wyo. 1996). “The general rule of administrative law is that, unless a statute otherwise assigns the burden of proof, **the proponent of an order** has the burden of proof.” *Id.*

Assuming for the sake of argument that Clabaugh can even challenge this permit, one must look to WEQA to find the burden of proof. Here the WEQA actually assigns, by implication and reasonable extension, the burden of proof to the person challenging a duly authorized DEQ permit. Wyo. Stat. § 35-11-802 is the only section of WEQA that expressly addresses burden of proof. This statute provides that:

[i]f the director refuses to grant any permit under this act, the applicant may petition for a hearing before the council to contest the decision. The council shall give a public notice of such hearing. At such hearing the director and appropriate administrator shall appear as respondent and the rules of practice and procedure adopted by the council pursuant to this act and the Wyoming Administrative Procedure Act ... shall apply. **The burden of proof shall be upon the petitioner.** The council must take final action on any such hearing within 30 days from the date of the hearing.

Wyo. Stat. § 35-11-802 (emphasis added). While this statute facially does not appear to apply to the situation at hand which involves an appeal by a downstream landowner of a permit **issued** by DEQ, further examination of this statute and other sections of WEQA make it apparent that Wyo. Stat. § 35-11-802 allocates the burden of proof to Clabaugh in this matter. The plain and inescapable implication of Wyo. Stat. § 35-11-802 is that anyone challenging a permit duly issued by DEQ bears the burden of proof in such a challenge.⁴

It is clear that pursuant to WEQA and WAPA that the contested permit in this matter is a license and not an order. As noted supra, WAPA defines license to include any agency “**permit**, certificate, approval, registration, charter or similar form of **permission**” required by law. Wyo. Stat. § 16-3-101(b)(iii) (emphasis added). The **permit** at issue permits and authorizes discharges of coal bed methane produced water to surface waters of the state subject to the conditions of the permit.

The Wyoming Environmental Quality Act has separate provisions for permits and orders. Wyo. Stat. § 35-11-801 provides for DEQ issuance of permits. Wyo. Stat. § 35-11-701(c)(i) and (ii) provides for DEQ issuance of **orders** requiring persons to cease and desist from “**violations of permits or licenses.**” Permits and orders serve separate functions. The WEQA provides ten days to appeal an order. Wyo. Stat. § 35-11-701(c)(ii). The DEQ rules of practice and procedure provides 60 days to appeal other “final actions” of the administrators or director, including grant or denial of permits. Chapter 1, section 16(a), DEQ Rules of Practice and Procedure. The petitioner here appealed the contested permit within 60 days, but not within the 10 day limit for appealing a DEQ order. Wyo. Stat. § 35-11-802 assigns the burden of proof upon the “petitioner.” Article 8 of WEQA deals with “permits.” Section 35-11-802 is the only section in the WEQA that expressly addresses burden of proof. Section 35-11-802 provides for a contested case hearing before the EQC to contest DEQ “refusal to grant a permit in which the DEQ shall appear as a respondent.”

If Clabaugh has any right to contest the permit, it is patently apparent by implication that pursuant to Wyo. Stat. § 35-11-802, where the DEQ issues a permit,

⁴ The Wyoming Supreme Court has addressed the extension, by implication, of several different kinds of statutes over the years. For instance, criminal statutes cannot be extended by implication. *Yellowbear v. State*, 174 P.3d 1270 (Wyo. 2008). Tax statutes cannot be extended by implication. *Kennedy Oil v. Department of Revenue*, 205 P.3d 999 (Wyo. 2008). Statutes effecting real property interests cannot be extended by implication. *Kindler v. Anderson*, 433 P.2d 268 (Wyo. 1967). Other than these limited statutes, there are no other constraints on the extension of a statute by implication recognized by the Wyoming Supreme Court.

anyone challenging that permit would bear the burden of proof of proving that the permit was issued in violation of Wyoming law. It would make no sense to require either DEQ or the person granted a permit to bear the burden of proving that the permit was properly issued under Wyoming law pursuant to a challenge of some third party. Such an interpretation would be inconsistent with WEQA and WAPA. If a person or entity seeking a permit which is denied must bear the burden of proving that the permit was improperly denied, it would lead to an absurd result to require a person who had been granted a permit to thereafter bear the burden of showing that the permit was properly issued under Wyoming law. To require such a result, ignores the plain import of WEQA and the significance of the application and issuance of the permit in the first instance. The issuance of the permit by DEQ authorized certain actions under Wyoming law and until such time as some petitioner proves that the permit does not comply with Wyoming law, the permit must be relied upon and have some legal force and effect.

THERE ARE NO CONTESTED ISSUES OF MATERIAL FACT

The petition filed in this matter by Clabaugh alleges in vague, conclusory, ambiguous, and nondescript terms various violations of both WEQA and the rules and regulations issued by DEQ. It is apparent from the deposition of Clabaugh, which is attached hereto as Exhibit 1 and which is incorporated herein by reference as if fully set forth, that there are no material issues of fact in dispute with regard to this appeal and that Lance is entitled to judgment as a matter of law. There is no possible way that Clabaugh can prove during the course of this contested case proceeding that the Lance permit was issued in violation of existing Wyoming laws and regulations. Accordingly, Lance is entitled to judgment as a matter of law and the EQC has no choice but to issue an order granting Lance's Motion for Summary Judgment and dismissing the pending petition.

The factual allegations of the petition filed by Clabaugh will be addressed individually as they appear in the petition filed by Clabaugh.

Paragraph 3(d) "The outfalls are located up drainage from the Clabaugh ranch and any water discharged under the permit will be discharged onto the Clabaugh ranch."

Clabaugh testified that he had no knowledge of how much water was being discharged into Wild Horse Creek upstream of his ranch. See, Clabaugh Deposition at

p. 64. Clabaugh had no idea of quantities being discharged by particular outfalls and such information was irrelevant to Clabaugh because “I don’t want their water period.” *Id.* Clabaugh could not provide any facts to support the proposition that every ounce of water discharged into Wild Horse Creek actually ran across the Clabaugh Ranch. *Id.* at 65. Clabaugh admitted that water evaporates and soaks into the ground. *Id.*

It is uncontroverted that Clabaugh cannot establish that discharges from the Lance permit will have any effect on the Clabaugh Ranch.

Paragraph 3(e) “The water that the permit allows Lance to discharge will cross Clabaugh ranch for several miles.”

See Clabaugh testimony referenced with regard to paragraph 3(d) *supra*. It is uncontroverted that Clabaugh cannot establish that discharges pursuant to the Lance permit will have any effect on the Clabaugh Ranch.

Paragraph 3(f) “The discharged water will pass through the bottom lands on the Clabaugh ranch through areas that serve as important grazing pastures for Clabaugh livestock.”

Clabaugh admitted that the **collective** effect of water flowing in Wild Horse Creek has had a limited effect on the operation of the Clabaugh Ranch. Clabaugh has lost some of his “bottomland” along Wild Horse Creek. *Id.* at 13-14. Clabaugh can no longer calve along Wild Horse Creek but calves on another area of the ranch. *Id.* at 14-15. When Clabaugh was asked how coalbed methane development had affected his cow-calf operation, Clabaugh testified: **“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.” *Id.* at 14 (emphasis added). Clabaugh could not provide the number of cases of “foot rot” and testified he had lost one bull, two cows, and some unknown number of calves because of the ice. *Id.* at 14-16.

Clabaugh estimated that on some years, he would hay what he estimated to be 300 acres of “bottom land” hay along the creek. This hay was only put up if there had been sufficient rainfall to justify the haying. Otherwise, Clabaugh would just graze this area along the creek. During drought years, Clabaugh did not cut the hay. Clabaugh admitted that the last ten years had been drought years in Campbell County. *Id.* at 18-21.

While the **collective** effect of water being discharged into Wild Horse Creek may have had some limited effect on Clabaugh, Clabaugh cannot establish that the discharges pursuant to the Lance permit will have any effect on the Clabaugh Ranch.

Paragraph 3(g) “Water uses in existence on or after November 28, 1975, and the level of water necessary to protect those uses are not maintained and protected by the permit in violation of Ch. 1, Section 8 of the Water Quality Rules and Regulations of the DEQ.”

Clabaugh admitted in his deposition that he could provide no facts to support the allegation in paragraph 3(g) of his petition. Clabaugh could not even relate what was provided in Ch. 1, Section 8 of the Water Quality Division Rules and Regulations of the DEQ. Clabaugh further admitted that he has filed the same petition for every appeal he has filed with regard to any upstream discharge on Wild Horse Creek. Clabaugh also admitted that prior to coalbed methane production Clabaugh used water being produced from coal seams to water his livestock. *Id* at 91-92. Clabaugh admitted that there was no noticeable decrease in livestock or crop production based on historical use of methane gas water or based on water discharge associated with coalbed methane production on Clabaugh Ranch. *Id* at 61-62. Clabaugh further admitted that there are no irrigation systems on ranch but for irrigation associated with Clabaugh’s own coalbed methane production. There are no sprinkler systems, head gates, spreader dikes, etc., on Wild Horse Creek. *Id* at 33. The water uses pre and post coalbed methane production have not changed. Clabaugh has used coalbed methane water for his livestock his entire life and has never irrigated, or undertaken any efforts to irrigate; from Wild Horse Creek his entire life.

It is uncontroverted by these admissions that Chap. 1, Section 8 of the Water Quality Division Rules and Regulations of the DEQ are not violated by the Lance permit.

Paragraph 3(h) “The Permit does not prevent the presence of substances attributable to or influenced by the activities of man that will settle to form sludge, bank or bottom deposits in quantities which could result in significant aesthetic degradation, significant degradation of habitat for aquatic life or adversely affect agricultural use, plant life or wildlife in violation of Ch.1, § 15 of the Water Quality Rules and Regulations of the DEQ.”

Clabaugh admitted in his deposition that he could provide no facts to support the allegation in paragraph 3(h) of his petition. Clabaugh could not even relate what was provided in Ch. 1, Section 15 of the Water Quality Division Rules and Regulations of the DEQ. *Id* at 92-93.

It is uncontroverted by these admissions that Chap. 1, Section 15 of the Water Quality Division Rules and Regulations of the DEQ is not violated by the Lance permit.

Paragraph 3(i) “The Permit does not prevent the presence of floating and suspended solids attributable to or influenced by the activities of man in quantities which could result in significant aesthetic degradation, significant degradation of habitat for aquatic life, or adversely affect agricultural water use, plant life, or wildlife in violation of Ch. 1, § 16 of the Water Quality Rules and Regulations of the DEQ.”

Clabaugh admitted in his deposition that he could provide no facts to support the allegation in paragraph 3(i) of his petition. Clabaugh could not even relate what was provided in Ch. 1, Section 16 of the Water Quality Division Rules and Regulations of the DEQ. *Id* at 93-94. Clabaugh admitted he had no idea how many dissolved solids were allowed by permit or the quantity of solids flowing through or being deposited on the ranch. *Id* at 107-108.

It is uncontroverted by these admissions that Chap. 1, Section 16 of the Water Quality Division Rules and Regulations of the DEQ is not violated by the Lance permit.

Paragraph 3(j) “The Permit does not prevent the waters from containing substances attributable to or influenced by the activities of man that produce taste, odor and color or that would visibly alter the natural color of the water in violation of Ch. 1, § 17 of the Water Quality Rules and Regulations of the DEQ.”

Clabaugh admitted in his deposition that he could provide no facts to support the allegation in paragraph 3(j) of his petition. Clabaugh could not even relate what was provided in Ch. 1, Section 17 of the Water Quality Division Rules and Regulations of the DEQ. *Id* at 94. Clabaugh has no facts as to how the taste, odor, or color of Wild Horse Creek has been affected by coalbed methane production. *Id.* Clabaugh admitted that Wild Horse Creek, when it flowed, was always muddy and silty and not of a quality that you would drink. *Id* at 40.

It is uncontroverted by these admissions that Chap. 1, Section 17 of the Water Quality Division Rules and Regulations of the DEQ is not violated by the Lance permit.

Paragraph 3(k) “The Permit allows degradation of Wyoming surface waters to such an extent as to cause a measurable decrease in crop or livestock production in violation of Ch. 1, § 20 of the Water Quality Rules and Regulations of the DEQ. The Permit does not establish effluent limitations that will protect livestock consumption.”

Clabaugh admitted in his deposition that he could provide no facts to support the allegation in paragraph 3(k) of his petition. Clabaugh could not even relate what was provided in Ch. 1, Section 20 of the Water Quality Division Rules and Regulations of the DEQ. *Id* at 94-95.

Clabaugh testified:

Q. Tell me what facts you can tell me today that show that, by the issuance of this permit to Lance Petroleum, there has been a measurable decrease in crop or livestock production on your ranch.

A. I've had a loss of crop.

Q. From this permit?

A. From the water, period.

Q. From the water in total. Correct?

A. Yes.

Q. And what -

A. I'm not going to say it's all coming from here. No, I can't. I'm talking about water coming all the way down the creek.

Q. So collectively, all the permits issued on Wild Horse Creek you believe has caused a loss of crop?

A. Yes.

Q. And tell me what that loss of crop has been.

A. Hay -

Q. Assuming that -

A. -- grass.

Q. Go ahead.

A. Hay and grass.

Q. So assuming it would have been a good year and you could have hayed, you've lost that hay crop. Correct?

A. Yes.

Q. And when you say and grass, you believe there are different kinds of grass growing on your bottomlands now than prior to CBM production. Correct?

A. Yes.

Q. And what experts have you had study the grass on the Clabaugh Ranch that leads you to conclude there's a different type of grass and in different quantities growing on the Clabaugh Ranch?

A. I've had no experts that I can say of.

Q. So it's just your general observation. Correct?

A. Yes, sir.

Q. And you cannot tell me that that loss of hay or grass is specifically attributable to this permit that you're appealing. Correct?

A. No.

Id at 95-96.

It is uncontroverted by these admissions that Chap. 1, Section 20 of the Water Quality Division Rules and Regulations of the DEQ is not violated by the Lance permit.

Paragraph 3(l) "The Permit fails to assure compliance with the turbidity requirements of Ch. 1, § 23 of the Water Quality Rules and Regulations of the DEQ."

Clabaugh admitted in his deposition that he could provide no facts to support the allegation in paragraph 3(l) of his petition. Clabaugh could not even relate what was provided in Ch. 1, Section 23 of the Water Quality Division Rules and Regulations of the DEQ. *Id* at 96-97. Clabaugh admitted that he did not even know what "turbidity" was. As discussed *supra*, Clabaugh testified that Wild Horse Creek, when running, has always been full of silt and mud. *Id* at 40.

It is uncontroverted by these admissions that Chap. 1, Section 23 of the Water Quality Division Rules and Regulations of the DEQ is not violated by the Lance permit.

Paragraph 3(m) "The Permit fails to establish conditions to provide for and assure compliance with the Clean Water Act, the Wyoming Environmental Quality Act, and the Wyoming Water Quality Rules and Regulations prior to the final administrative disposition of the permit in violation of Ch. 2, § 5(c)(ii) of the Water Quality Rules and Regulations of the DEQ."

Clabaugh admitted in his deposition that he could provide no facts to support the allegation in paragraph 3(m) of his petition. Clabaugh could not even relate what was provided in Ch. 2, Section 5(c)(ii) of the Water Quality Division Rules and Regulations of the DEQ. *Id* at 98.

It is uncontroverted by these admissions that Chap. 2, Section 5(c)(ii) of the Water Quality Division Rules and Regulations of the DEQ is not violated by the Lance permit.

Paragraph 3(n) “The Permit fails to require that the discharge ensures compliance with the applicable water quality requirements of all affected states in violation of Ch. 2, § 9(a)(v).”

Clabaugh admitted in his deposition that he could provide no facts to support the allegation in paragraph 3(n) of his petition. Clabaugh could not even relate what was provided in Ch. 2, Section 9(a)(v) of the Water Quality Division Rules and Regulations of the DEQ. *Id* at 98-99. Clabaugh admitted he did not know what an “affected state” was. *Id* at 99.

It is uncontroverted by these admissions that Chap. 2, Section 9(a)(v) of the Water Quality Division Rules and Regulations of the DEQ is not violated by the Lance permit.

Paragraph 3(o) “The conditions of the Permit do not provide compliance with applicable requirements of Wyo. Stat. § 35-11-302 and the Water Quality Rules and Regulations of the DEQ.”

Clabaugh admitted in his deposition that he could provide no facts to support the allegation in paragraph 3(o) of his petition. Clabaugh could not even relate what was provided in Wyo. Stat. § 35-11-302 and the Water Quality Division Rules and Regulations of the DEQ. *Id* at 99.

It is uncontroverted by these admissions that Wyo. Stat. § 35-11-302 and the Water Quality Division Rules and Regulations of the DEQ are not violated by the Lance permit.

Paragraph 3(p) “The Permit fails to include the conditions and limitations that are required in all permits by Ch. 2, Appendix H paragraphs (b)(i)(ii)(v)(vii) and (ix) of the Water Quality Rules and Regulations of the DEQ.”

Clabaugh admitted in his deposition that he could provide no facts to support the allegation in paragraph 3(p) of his petition. Clabaugh could not even relate what was provided in Ch. 2, Appendix H paragraphs (b)(i), (ii), (v), (vii), and (ix) of the Water Quality Division Rules and Regulations of the DEQ. *Id* at 99-100. Clabaugh admitted that he did not have any understanding of what “Appendix H” was. *Id* at 100.

It is uncontroverted by these admissions that Ch. 2, Appendix H paragraphs (b)(i), (ii), (v), (vii), and (ix) of the Water Quality Division Rules and Regulations of the DEQ is not violated by the Lance permit.

Paragraph 3(q) “The Permit fails to require the permittee to take all reasonable measures to prevent downstream erosion that would be attributable to the discharge of produced water as required by Ch. 2, Appendix H paragraph (d)(iv) of the Water Quality Rules and Regulations of the DEQ.”

Clabaugh admitted in his deposition that he could provide no facts to support the allegation in paragraph 3(q) of his petition. Clabaugh could not even relate what was provided in Ch. 2, Appendix H paragraphs (d)(iv) of the Water Quality Division Rules and Regulations of the DEQ. *Id* at 100-101. Clabaugh further admitted erosion was not a “huge problem” and he could think of only three areas on the ranch where erosion had occurred. *Id* at 102-103. Clabaugh could supply no facts to support that the erosion was specifically attributable to the Lance permit. *Id* at 103.

It is uncontroverted by these admissions that Ch. 2, Appendix H paragraphs (d)(iv) of the Water Quality Division Rules and Regulations of the DEQ is not violated by the Lance permit.

Paragraph 3(r) “The Permit does not require that the produced water be used for agriculture or wildlife during periods of discharge in violation of 40 C.F.R. Part 435 Subpart E. The Permit does not require that the produced water have use in agriculture or wildlife propagation and actually be put to such use during periods of discharge and Lance has not documented that the produced water will actually be put to use during periods of discharge in violation of Ch. 2, Appendix H paragraph (a)(i) of the Water Quality Rules and Regulations of the DEQ.”

Clabaugh admitted in his deposition that he could provide no facts to support the allegation in paragraph 3(r) of his petition. Clabaugh could not even relate what was provided in Ch. 2, Appendix H paragraph (a)(i) of the Water Quality Division Rules and Regulations of the DEQ. *Id* at 103-104. Clabaugh admitted that his livestock and wildlife are using coalbed methane produced water in Wild Horse Creek, *Id* at 104, and have historically done so for years. *Id* at 91-92.

It is uncontroverted by these admissions that Ch. 2, Appendix H paragraph (a)(i) of the Water Quality Division Rules and Regulations of the DEQ is not violated by the Lance permit.

Paragraph 3(s) “The Permit’s effluent limits will not protect plant life from adverse effects of the discharge, and water with the quality allowed by the Permit will cause a measurable decrease in crop and livestock production.”

Clabaugh admitted in his deposition that he could provide no facts to support the allegation in paragraph 3(s) of his petition. *Id* at 104-105.

Q: And tell me specifically with this permit, what facts do you have that the issuance of this permit and the discharge pursuant to this permit are causing adverse effects and a measurable decrease in crop and livestock production?

A: I can't.

Id at 105.

It is uncontroverted that Clabaugh cannot show that he has suffered a measurable decrease in livestock or crop production or that plant life will suffer adverse affects because of the issuance of the Lance permit.

Paragraph 3(t) "The Permit violates the anti-backsliding provisions of the Clean Water Act."

Clabaugh admitted in his deposition that he could provide no facts to support the allegation in paragraph 3(t) of his petition. Clabaugh could not even relate what the anti-backsliding provisions of the Clean Water Act were. *Id* at 105-106.

It is uncontroverted by these admissions that Clean Water Act is not violated by the Lance permit.

In addition to his unexplainable inability to provide any facts, knowledge, or reason for appealing this permit other than his oft repeated statement that Mr. Clabaugh "is not their sponge," Clabaugh also admitted:

1. Clabaugh had no idea what the effluent limits were in the Lance permit and was going to challenge any water going into Wild Horse Creek. *Id* at 106;

2. Clabaugh had no facts to establish how much of the Lance discharge flowed through his land, escaped the channel and flowed onto his land, evaporated, or sank into the ground. *Id* at 106, 108-109; and,

3. Clabaugh had no idea of the soil EC on the Clabaugh ranch either pre or post coalbed methane production. *Id* at 106-107.

Accepting Clabaugh's testimony as being 100% accurate, one could conclude that **the collective effect of coalbed methane production upstream may** have had some effect on Clabaugh and his ranch operation. That being said, Clabaugh bears the burden of proving in this petition that the Lance permit being challenged in this

matter was issued in violation of Wyoming law and is somehow harming Clabaugh. Based on his sworn testimony, Clabaugh cannot provide any facts showing there are material issues of fact with regard to the petition he filed. He provided no facts to support his petition.

The affidavits of Jason Thomas, DEQ Coal Bed Methane Permitting Manager, and Terry Brown, Ph.D., which are attached hereto as Exhibits 2 and 3 respectively, establish that WYPDES Permit No. WY0049697 fully complies with WEQA, Wyoming Water Quality Rules and Regulations, and the Agricultural Use and Protection Policy currently being considered by the EQC as a proposed rule. Further, these affidavits conclusively show that the effluent limits in this permit regarding Outfall 013 are fully protective of existing downstream uses and will cause no measurable decrease in livestock or crop production.

CONCLUSION

Clabaugh had no statutory right to challenge the renewal of the permit in question to the EQC. Because this matter is not properly before the EQC, the EQC has no subject matter jurisdiction to hear this matter or take any action with regard to this permit. Even if the EQC believes it has jurisdiction to consider this petition, there are no contested issues of material fact and Lance is entitled to judgment as a matter of law. The petition must be dismissed forthwith.

Dated this 17th day of July, 2009.

~~SPEIGHT, McCUE & CRANK, P.C.~~

By: 

Patrick J. Crank #5-2305
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Cheyenne, WY 82003
(307) 634-2994
Fax: (307) 635-7155

ATTORNEY FOR LANCE OIL AND GAS
COMPANY, INC.

CERTIFICATE OF SERVICE

This is to certify that on the 17th day of July, 2009, a true and correct copy of the foregoing was served upon counsel as follows:

Director, Department of Environmental Quality [] U.S. Mail
122 West 25th Street [] Federal Express
Herschler Building, Room 174 [] Fax
Cheyenne, WY 82002 [X] Hand Delivered

John Burbridge [X] U.S. Mail
Wyoming Attorney General's Office [] Federal Express
123 Capitol Building [] Fax
Cheyenne, WY 82002 [] Hand Delivered

Tom C. Toner [X] U.S. Mail
Yonkee & Toner, LLP [] Federal Express
P.O. Box 6288 [] Fax
Sheridan, WY 82801 [] Hand Delivered

A large, stylized handwritten signature in black ink, appearing to read 'T.C. Toner', is written over a horizontal line.

PJC:ch

Exhibit 1

BEFORE THE ENVIRONMENTAL QUALITY COUNCIL
OF THE STATE OF WYOMING
Docket No. 08-3802

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

DEPOSITION OF KENNETH CLABAUGH
Taken in behalf of Lance Oil and Gas

8:00 a.m., Monday
June 29, 2009

PURSUANT TO NOTICE, the deposition of KENNETH
CLABAUGH was taken in accordance with the applicable
Wyoming Rules of Civil Procedure at the Lubnau Law
Office, 300 South Gillette Avenue, Suite 2000, Gillette,
Wyoming, before Randy A. Hatlestad, a Registered Merit
Reporter and a Notary Public of the State of Wyoming.

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1 APPEARANCES
2 For Clabaugh Ranch: MR. TOM C. TONER
3 Attorney at Law
4 YONKEE & TONER
5 319 West Dow Street
6 P.O. Box 6288
7 Sheridan, Wyoming 82801-6288
8 For Lance Oil MR. PATRICK J. CRANK
9 and Gas: Attorney at Law
10 SPEIGHT, McCUE & CRANK
11 2515 Warren Avenue, Suite 505
12 P.O. Box 1709
13 Cheyenne, Wyoming 82003-1709
14 For DEQ: MR. JOHN S. BURBRIDGE
15 Assistant Attorney General
16 WYOMING ATTORNEY GENERAL'S OFFICE
17 123 Capitol Avenue
18 Cheyenne, Wyoming 82002
19 Also Present: Mr. Jason Thomas
20 Mr. Tim Kalus

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27 EXHIBITS

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1 Q. And how long ago?
2 A. About 1990, '91. I don't know. Somewhere in
3 there.
4 Q. And why were you -- what type of action were
5 you deposed in in 1990 or '91?
6 A. Ranch estate settlement.
7 Q. That you were personally involved in?
8 A. Yes, sir.
9 Q. And do you recall who the attorneys were that
10 were involved in that?
11 A. Larry Yonkee and Hayden Heaphy.
12 Q. And what was the name of the case that you were
13 deposed in, if you remember?
14 A. I don't remember.
15 Q. Any other depositions other than that
16 deposition back in 1990 to '91?
17 A. No, sir.
18 Q. And were you represented by Mr. Yonkee?
19 A. Yes, sir.
20 Q. Let me just real quickly kind of tell you about
21 depositions. You've done it once, but it's been some
22 period of time. You need to answer out audibly, say yes
23 or no or give us an answer. You can't nod your head or
24 shake your head because that's hard for the court
25 reporter to take down. You understand a deposition is

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1 PROCEEDINGS
2 (Deposition proceedings commenced 8:00
3 a.m., June 29, 2009.)
4 KENNETH CLABAUGH,
5 called for examination by Lance Oil and Gas, being first
6 duly sworn, on his oath testified as follows:
7 EXAMINATION
8 BY MR. CRANK:
9 Q. Could you please state your name?
10 A. Ken Clabaugh.
11 Q. And what's your address, Mr. Clabaugh?
12 A. 3541 West Echeta, Box 12, Arvada, Wyoming.
13 Q. How far is that from Gillette?
14 A. 35 miles.
15 Q. Which direction?
16 A. Northwest.
17 Q. What's your phone number, Mr. Clabaugh?
18 A. (307) 736-2222.
19 Q. It will help our court reporter a little bit if
20 you'll wait until I'm totally done asking my question.
21 And I'll just tell you up front I have a horrible habit
22 of trailing off and then starting again. So we'll just
23 work on it today. Have you ever had your deposition
24 taken before?
25 A. Yes, sir.

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1 essentially just a statement taken under oath?
2 A. Yes.
3 Q. And if you don't understand any question I put
4 to you today or if you need it repeated or if you don't
5 hear me, please let me know. Okay?
6 A. Yes.
7 Q. And can I assume that if I ask you a question
8 and you give me an answer, that you understood the
9 question, and you're giving me your best truthful answer
10 to that question?
11 A. Yes.
12 Q. What did you do to prepare for your deposition
13 here today?
14 A. I had a meeting with my attorney.
15 Q. Mr. Toner?
16 A. Mr. Toner.
17 Q. Please don't tell me what you and Mr. Toner
18 discussed, but when did you meet with Mr. Toner?
19 A. Saturday.
20 Q. And where did you meet with Mr. Toner?
21 A. His office.
22 Q. And for approximately how long did the two of
23 you meet?
24 A. Hour.
25 Q. Did you review any documents in preparation for

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1 your deposition here today?
 2 A. Not really. Just some maps and -- yeah, I
 3 guess documents, yeah.
 4 Q. What documents do you recall reviewing prior to
 5 your deposition here today?
 6 A. We looked at some maps, some interrogatories.
 7 Q. What interrogatories do you recall looking at?
 8 A. The ones that go with the lawsuit.
 9 Q. With this particular lawsuit?
 10 A. No, not this one here.
 11 Q. Interrogatories in the civil lawsuit that you
 12 brought?
 13 A. Yeah.
 14 Q. Are those interrogatories that you answered?
 15 A. With his help.
 16 Q. But what I'm trying to establish, these are
 17 your statements, with Mr. Toner's help, with regard to
 18 some discovery in that other civil lawsuit. Correct?
 19 A. Yes.
 20 Q. These are not answers of interrogatories that
 21 you gave to the other side of that lawsuit?
 22 A. No.
 23 MR. CRANK: Do you have copies of those
 24 interrogatories with you today, Tom?
 25 MR. TONER: No, I don't.

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1 MR. CRANK: These are interrogatories in
 2 the water trespass suit, I guess?
 3 MR. TONER: Yes.
 4 Q. (BY MR. CRANK) What maps did you look at?
 5 A. Just maps of the ranch.
 6 Q. Were these maps that you brought with you to
 7 the meeting or maps that Mr. Toner had?
 8 A. Maps that Mr. Toner had.
 9 Q. Other than meeting with Mr. Toner for an hour
 10 and reviewing the documents you've discussed here today,
 11 did you do anything else in preparation for your
 12 deposition here today?
 13 A. No, sir.
 14 Q. Mr. Clabaugh, could you please tell me your
 15 educational history?
 16 A. Grade school, high school, three years of
 17 college.
 18 Q. And where were you raised?
 19 A. Arvada, Wyoming.
 20 Q. And so you went to Gillette High School, I
 21 guess?
 22 A. Yes, sir.
 23 Q. And when did you graduate?
 24 A. 1964.
 25 Q. And where did you attend college?

Page 8

1 A. Casper and the University of Wyoming.
 2 Q. So I would guess two years at Casper College,
 3 then?
 4 A. (Deponent nods head.)
 5 Q. You nodded. Is that yes?
 6 A. Yes.
 7 Q. And then you went on for a year of college at
 8 University of Wyoming?
 9 A. Yeah. Well, vice versa. I went to Wyoming
 10 first and then back to Casper.
 11 Q. Did you receive any type of degree?
 12 A. No, sir.
 13 Q. Tell me about your work history.
 14 A. On a ranch.
 15 Q. Did you also at one time -- I understand or
 16 I've heard tell that you were one of the best pickup
 17 riders in rodeo history.
 18 A. I don't know about that.
 19 Q. Did you do that work?
 20 A. Yes, I did it.
 21 Q. For what? I assume bareback and bronc riders?
 22 A. Yes, sir.
 23 Q. Help them safely get off the wild beast they're
 24 riding?
 25 A. Yes, sir.

Page 9

1 Q. I see you've got an NFR buckle. So you did
 2 that at the NFR?
 3 A. Yes, sir.
 4 Q. How many years did you do that work?
 5 A. At the NFR or --
 6 Q. All together.
 7 A. Probably 30.
 8 Q. Do you still do that?
 9 A. No, sir.
 10 Q. And other than that, you've worked on the
 11 ranch?
 12 A. Yeah.
 13 Q. Is this a family ranch?
 14 A. Yes, sir.
 15 Q. Tell me about the history of your ranch.
 16 A. My grandfather came there in 1892 and
 17 homesteaded in 1905. And my dad was raised there, and so
 18 was I.
 19 Q. Do you have other siblings?
 20 A. I have a sister.
 21 Q. And does she still live here in the Gillette
 22 area or Wyoming?
 23 A. No, sir.
 24 Q. And is your dad still alive?
 25 A. No, sir.

Page 10	Page 12
1 Q. So probably since you were a little-bitty kid,	1 A. Coyotes.
2 you've been working on that ranch?	2 Q. And is there something about the wool prices?
3 A. Yes, sir.	3 A. I don't know. I haven't watched them since I
4 Q. How many acres is the ranch?	4 got out of the sheep business.
5 A. 8,120 deeded.	5 Q. How many cattle do you run on your leased and
6 Q. And do you have leases?	6 deeded land?
7 A. Yes, sir.	7 A. Usually about 400. Depends on the year. 400,
8 Q. Do you have any state leases?	8 450 head.
9 A. Yes, sir.	9 Q. And tell me about your cattle operation.
10 Q. How much state lease land do you have?	10 A. It's cow-calf, yearling.
11 A. 640 acres.	11 Q. So when do you sell?
12 Q. So one school section?	12 A. In the fall.
13 A. Yes, sir.	13 Q. And what do you sell?
14 Q. And as I understand it, that school section is	14 A. Yearlings.
15 surrounded by your deeded land?	15 Q. And you said 400 head. That's with calves --
16 A. Yes, sir.	16 A. Yeah.
17 Q. And the school section is actually on Wild	17 Q. -- or is that cows?
18 Horse Creek?	18 A. Just cows.
19 A. Yes, sir.	19 Q. And how has that number of cows that you run on
20 Q. Do you have any federal leases?	20 your place fluctuated over the years?
21 A. Yes, sir.	21 A. Well, I've lost some leases, so I don't have as
22 Q. And how much federal lease do you have?	22 many. And then I've lost all my bottomland. No hay
23 A. Oh, a couple thousand BLM.	23 land.
24 Q. Do you have any private leased land?	24 Q. What's the most cows you ever recall you or
25 A. Yes, sir.	25 your family running on the Clabaugh Ranch?
Page 11	Page 13
1 Q. How much private leased land?	1 A. Mother cows or all together?
2 A. About 3,000 acres.	2 Q. Well, let's just go -- the 400 is mother cows.
3 Q. And are all the leased and the deeded acres	3 Right?
4 contiguous to each other?	4 A. Yes.
5 A. Yes, sir. Well, wait a minute. The leased	5 Q. Let's just go with mother cows, then.
6 land I got, does it join my land?	6 A. Depending on the year, I guess, how much rain.
7 Q. Uh-huh.	7 But we've had as high as 450, 460, probably.
8 A. Yes, sir.	8 Q. And you said you lost some leases?
9 Q. Who is your private lease with?	9 A. Yes, sir.
10 A. Larry Robbins.	10 Q. What leases have you lost?
11 Q. And I assume that's a neighbor to your place?	11 A. I lost a lease I had on Middle Prong. I had to
12 A. Yes.	12 turn it back.
13 Q. And I assume you raise cattle?	13 Q. Middle Prong of what creek?
14 A. Yes, sir.	14 A. Wild Horse.
15 Q. Have you always raised cattle?	15 Q. And how many acres was that?
16 A. Yes, sir.	16 A. About 3,500.
17 Q. Any other livestock you've raised on that land	17 Q. Any other leases that you've lost or turned
18 over the years?	18 back?
19 A. Raised some horses and sheep at one time.	19 A. No.
20 Q. When is the last time you had sheep on that	20 Q. Who was the lease on the Middle Prong of Wild
21 land?	21 Horse Creek with?
22 A. 1988, probably, '89.	22 A. Butcher Trust.
23 Q. Been a period of time?	23 Q. So it was a private lease?
24 A. Yes, sir.	24 A. Yes, sir.
25 Q. How come nobody's raising sheep anymore?	25 Q. And you said you've lost all your bottomland?

4 (Pages 10 to 13)

Page 14

1 A. Well, not all of it, but sure a lot, quite a
 2 lot of it.
 3 Q. Can you quantify for me how many acres you
 4 think you've lost?
 5 A. No.
 6 Q. And please tell me how that's affected your
 7 cow-calf operation.
 8 A. Well, it probably hasn't affected -- well, it
 9 took away my calving pastures. You have quite a bit more
 10 foot rot. I've had some death loss because of the ice.
 11 Q. Let's take those one at a time. You said you
 12 used to calve down in the bottomlands. Of Wild Horse
 13 Creek, I assume?
 14 A. Yes, sir.
 15 Q. And for how many years had you been doing that?
 16 A. All my life.
 17 Q. And when did you quit doing that?
 18 A. About four years ago, five years ago.
 19 Q. So if it's 2009, that would have been 2003,
 20 2004?
 21 A. Probably 2004 that I had to completely quit.
 22 Q. And I assume you found some other place to
 23 calve?
 24 A. Yeah.
 25 Q. Where are you calving now?

Page 15

1 A. Off the creek.
 2 Q. Just a different section of your deeded land?
 3 A. Yes.
 4 Q. And you said that you'd had some foot rot?
 5 A. Yes.
 6 Q. Tell me what that is.
 7 A. The feet rot because of moisture walking on
 8 water.
 9 Q. And how many cases of that have you had?
 10 A. I don't know.
 11 Q. Can't quantify?
 12 A. No, I can't give you a number.
 13 Q. And do you believe that your cases of foot rot
 14 increased since the advent of CBM production?
 15 A. Oh, yeah, because I never had any before. So
 16 if you had one, you had more.
 17 Q. And you said you had some deaths because of the
 18 ice?
 19 A. Yes.
 20 Q. Tell me about that.
 21 A. I had bulls get out on the ice and break their
 22 back, cow, calves drown in the creek.
 23 Q. Can you quantify how many cows or calves or
 24 bulls you've lost because of ice?
 25 A. No. I know of one bull for sure and a couple

Page 16

1 cows. I don't know how many calves.
 2 Q. So two mother cows and one bull?
 3 A. Uh-huh.
 4 Q. And that would be since 2004, 2005 time frame,
 5 I would guess?
 6 A. Yeah.
 7 Q. That's a yes?
 8 A. Yes.
 9 Q. Tell me about your cattle operation. As I look
 10 at the pictures of your place, it looks like rangeland to
 11 me. Is that accurate?
 12 A. I guess it could be, yeah.
 13 Q. So you graze your cows on your place or on your
 14 leased land year-round. Correct?
 15 A. Try to, yeah.
 16 Q. When you say "try to," are there times where
 17 you've got to move your cows to other places?
 18 A. Well, it depends on the weather, whether you
 19 do. I shipped all this yearling stuff to the feedlot
 20 because I can't feed them at home.
 21 Q. As I understood it, that was your practice, was
 22 to sell your yearlings in the fall.
 23 A. Yeah.
 24 Q. And has that been the practice of the Clabaugh
 25 Ranches for years?

Page 17

1 A. Oh, back and forth. Sometimes you sold calves.
 2 If you had feed, you kept them as yearlings.
 3 Q. So if you had a bumper crop of grass, you might
 4 keep a few extra cows?
 5 A. Right.
 6 Q. Because your rangeland could carry that extra
 7 capacity. Correct?
 8 A. Yes, sir.
 9 Q. Do you rotate the pastures that you have your
 10 calves in?
 11 A. Yes, but no specific dates.
 12 Q. Just based on your experience as a rancher and
 13 looking at what grass is left, you move them, then, I
 14 assume?
 15 A. Right.
 16 Q. On the school section, is there some specific
 17 time when they have to be on and off of that school
 18 section?
 19 A. No, sir.
 20 Q. What about the BLM leases?
 21 A. Yes.
 22 Q. What date can they go on the BLM leases?
 23 A. Oh, usually about the first of November.
 24 Q. And they can stay until when?
 25 A. First of May.

5 (Pages 14 to 17)

Page 18

1 Q. And how many animal units can you put on the
 2 BLM ground?
 3 A. I don't know what those leases are, because
 4 it's all intermingled and deeded.
 5 Q. Do you feed in the winter?
 6 A. Depending on the year.
 7 Q. So if you have a harsh winter, you may need to
 8 supplement by feeding hay?
 9 A. Right.
 10 Q. When you have to feed, what do you feed?
 11 A. Hay.
 12 Q. Grass hay? Alfalfa? What kind of hay?
 13 A. Grass.
 14 Q. And do you put up hay on the Clabaugh Ranches?
 15 A. Used to.
 16 Q. And when is the last time that you put up hay
 17 on the Clabaugh Ranches?
 18 A. 2004.
 19 Q. And how did you put up hay? Tell me about that
 20 operation.
 21 A. We have a swather and a baler.
 22 Q. And what would you cut down, and what would you
 23 bale?
 24 A. All that bottomland.
 25 Q. So just natural grass that grew along the

Page 19

1 bottomland?
 2 A. Yes.
 3 Q. How many years have you been doing that?
 4 A. All my life.
 5 Q. And tell me about how much hay you could
 6 produce off your bottomland.
 7 A. I guess that depended on the year.
 8 Q. Good year.
 9 A. Good year, a ton or more to the acre, probably.
 10 Q. And how many acres did you have that you were
 11 cutting hay off of?
 12 A. Well, I had some upland hay and some bottomland
 13 hay. So I don't know. There was probably 400 acres. I
 14 don't know. That's just an estimate.
 15 Q. And I understand that. But how much would you
 16 estimate was the bottomland hay of that 400?
 17 A. Probably 300 acres.
 18 Q. And then you had 100 of upland hay?
 19 A. Yeah.
 20 Q. Are you still putting up the upland hay?
 21 A. Yes.
 22 Q. And have you put up any bottomland hay since
 23 2004?
 24 A. No, sir.
 25 Q. How come?

Page 20

1 A. Because it's been saturated with water and
 2 salt, and it changed the structure of the grass from
 3 smooth brome and bluestem to slew grass and foxtail.
 4 Q. Not worth cutting?
 5 A. Well, better than a snowbank, but no, I don't
 6 cut it.
 7 Q. What do you mean, it's better than a snowbank?
 8 A. Cows eating that instead of the snowbank.
 9 Q. So how many -- and what kind of bales do you
 10 bale this into?
 11 A. Big round bales.
 12 Q. And you believe that you're able to produce a
 13 ton an acre on a good year?
 14 A. Yeah, probably.
 15 Q. Bad year?
 16 A. You graze it.
 17 Q. So you didn't even cut it?
 18 A. (Deponent shakes head.)
 19 Q. So on years when you didn't have much moisture,
 20 you would not cut either the bottomland or the upland
 21 hay?
 22 A. No, sir.
 23 Q. Tell me, in an average ten-year period, how
 24 many years were good years and how many years were bad
 25 years. What I'm really asking, Mr. Clabaugh, is how

Page 21

1 often would you graze it, and how often would you cut it?
 2 A. That would be pretty hard to make an accurate
 3 statement. A guess would be you'd get eight out of ten
 4 that you could hay. That's just an estimate, though.
 5 Q. Have you ever -- you know, Wyoming's just
 6 finally coming out of about a ten-year drought. How did
 7 that affect -- did you have that drought up here in
 8 Campbell County?
 9 A. Oh, yeah.
 10 Q. And I assume a drought like that would cause
 11 you to graze it, versus go ahead and cut it?
 12 A. Yes.
 13 Q. If you didn't have enough hay put up, would you
 14 have to go buy hay in the winter if you had to
 15 supplementally feed?
 16 A. Yes.
 17 Q. And where would you buy your hay?
 18 A. Cheapest place.
 19 Q. Have you ever bought hay from Mr. Floyd?
 20 A. No, sir.
 21 Q. Never in any of your dealings with the Clabaugh
 22 Ranch have you ever bought hay from Mr. Floyd?
 23 A. No, sir.
 24 Q. How come?
 25 A. Well, he didn't have enough for himself. He

Page 22

1 don't never sell hay.
 2 Q. And if you're experiencing problems cutting
 3 your hay, you would expect Mr. Floyd's also experiencing
 4 it cutting his hay. Correct?
 5 A. Yeah, I'm sure.
 6 Q. Same country. Right?
 7 A. Yeah.
 8 Q. Is that a yes?
 9 A. Yes.
 10 Q. Do you own the minerals under your ranch?
 11 A. Not all of them.
 12 Q. Of your 8,000-plus deeded acres, what
 13 percentage of that do you own the minerals?
 14 A. Me personally?
 15 Q. You or Clabaugh Ranches or some business entity
 16 associated with you.
 17 A. Well, they're family held.
 18 Q. So between you and your family, do you hold all
 19 the minerals under that 8,000-and-some-odd deeded acres?
 20 A. Well, some of it's just in family, but yes.
 21 Q. So this was homesteaded during the time period
 22 when the government gave you the minerals under the
 23 ground, as well as the surface estate, I would assume?
 24 A. They didn't give them to me. It was --
 25 Q. To your grandpa?

Page 23

1 A. Yes, sir.
 2 Q. And those have been passed down to various
 3 family members over the years?
 4 A. Yes.
 5 Q. Is there any mineral production on your 8,000-
 6 some-odd deeded acres?
 7 A. Yes.
 8 Q. Tell me about that mineral production.
 9 A. I don't understand.
 10 Q. Oil wells?
 11 A. Gas, methane gas.
 12 Q. No oil wells?
 13 A. No, sir.
 14 Q. All CBM gas?
 15 A. Yes.
 16 Q. And who are the operators that are producing
 17 the CBM gas underneath the Clabaugh Ranch?
 18 A. Cedar Resources.
 19 Q. And when, approximately, was that methane gas
 20 put into production?
 21 A. Oh, I'd say three years. Don't hold me to
 22 that. Could have been three and a half. Could have been
 23 two and a half.
 24 Q. So three years ago?
 25 A. Yes.

Page 24

1 Q. Three and a half years ago?
 2 A. (Deponent nods head.)
 3 Q. Sometime 2005, 2006 time frame?
 4 A. Yeah.
 5 Q. Correct?
 6 A. Yes.
 7 Q. And I assume you receive income from that CBM
 8 production?
 9 A. Yes.
 10 Q. Tell me about the income your family
 11 collectively receives monthly or yearly from that CBM
 12 production.
 13 A. That depends on the price of gas.
 14 Q. Best month you've ever had.
 15 A. I don't recall.
 16 Q. You have no memory?
 17 A. Yeah, but I don't know how much it was.
 18 Q. Well, you can't estimate at all for me?
 19 A. No.
 20 Q. Why is that?
 21 A. Well, I don't have the figures in front of me.
 22 Q. Well, and I'm not asking for exact figures,
 23 Mr. Clabaugh. I'm asking for an estimate of your best
 24 monthly income you've had off of CBM production.
 25 A. I can't answer that.

Page 25

1 Q. Have you ever received as large a check in your
 2 life -- have you ever received a larger check for
 3 anything other than your CBM production?
 4 A. Me personally or the ranch?
 5 Q. Well, let's break them up. You personally.
 6 A. Probably not.
 7 Q. What about the ranch?
 8 A. Oh, the ranch has.
 9 Q. For what?
 10 A. Cattle sales.
 11 Q. So the calves off the 450 -- 400 to 450 calves
 12 in any given year could have been larger on a yearly
 13 basis than the CBM production?
 14 A. The ranch don't get any CBM production.
 15 Q. So it all goes to you or other family members?
 16 A. Yes, sir.
 17 Q. But you have no memory of what the size of
 18 those checks might have been?
 19 A. No.
 20 Q. How many CBM wells are on the Clabaugh Ranch?
 21 A. Probably 40, give or take.
 22 Q. And are all those wells producing methane gas?
 23 A. I don't know what they're producing. I don't
 24 know who's shut in, what's broke down. They're all
 25 capable.

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1 Q. And I assume that there's a coal seam that
 2 underlies the Clabaugh Ranch?
 3 A. Yes.
 4 Q. And do you know anything about the geology
 5 underneath your ranch?
 6 A. No, sir.
 7 Q. You don't know how deep the coal seams are, how
 8 many coal seams there may be?
 9 A. No, sir.
 10 Q. Do you know which coal seam they're producing
 11 out of?
 12 A. I have no idea.
 13 Q. Did they have to dewater the coal seams to
 14 begin --
 15 A. Yes, sir.
 16 Q. And where did they put the water that they took
 17 out of the coal seams when they put your CBM into
 18 production?
 19 A. They have an underground drip system they're
 20 putting it into.
 21 Q. So a subirrigation system?
 22 A. Uh-huh.
 23 Q. And how many acres are they putting that
 24 underwater drip system into?
 25 A. Oh, I think they must have it up to about 26,

Page 27

1 28 acres now. Or they got more than that in. They must
 2 have 40-some in by now.
 3 Q. Tell me what you understand about the system.
 4 You have 40 methane gas wells. And I assume they collect
 5 the water from all those wells into some central
 6 location?
 7 A. Well, they have two reservoirs that they pump
 8 into with the excess. But it's going right out of the
 9 wells right into the underground drip, the way I
 10 understand it.
 11 Q. So you have underground drip coming directly
 12 from the various methane wells. Correct?
 13 A. Yeah.
 14 Q. And then there's also two impoundment
 15 reservoirs on your ranch --
 16 A. Yes.
 17 Q. -- that excess water is pumped to? Are there
 18 any treatment facilities for any of this water?
 19 A. No, sir.
 20 Q. So this is going in an underground drip
 21 untreated. Correct?
 22 A. To my knowledge.
 23 Q. And how would you describe the area of your
 24 ranch where this underground drip is occurring? Upland?
 25 Riparian? Bottomland?

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1 A. Upland.
 2 Q. And tell me what upland -- you used the term
 3 earlier that you had upland hay and bottom hay. But
 4 what's upland to you?
 5 A. Off of the creek.
 6 Q. And so all of the subirrigated drip is on
 7 upland ground --
 8 A. Yeah.
 9 Q. -- as you describe it. Correct?
 10 A. Yes, sir.
 11 Q. I'm doing my nasty habit of tailing off, and
 12 you're answering before I'm done. So if you could wait
 13 until I'm totally done with my question and give me an
 14 answer, it will help out our court reporter. Can you do
 15 that?
 16 A. Uh-huh.
 17 Q. Is that a yes?
 18 A. Yes.
 19 Q. How long has this subirrigated drip system been
 20 going on?
 21 A. Well, ever since they've been producing gas on
 22 the place.
 23 Q. So clear back to 2005, 2006?
 24 A. No. Probably '7, '6, '7, along in there. I
 25 don't remember when they started that.

Page 29

1 Q. What's the EC of the water that's being
 2 produced on the methane gas wells on the Clabaugh
 3 Ranches?
 4 A. EC?
 5 Q. Electrical conductivity.
 6 A. I have no idea.
 7 Q. What's the SAR, sodium absorption ratio, of the
 8 water that's being produced on the methane gas wells on
 9 the Clabaugh Ranches?
 10 A. I have no idea.
 11 Q. Have you ever heard those numbers?
 12 A. No, not on Clabaugh Ranch.
 13 Q. Was it important to you to know what kind of
 14 water's being placed on your deeded ground on the
 15 Clabaugh Ranch?
 16 A. No, because I trust the guys putting it in.
 17 Q. Why do you trust them?
 18 A. Never done me wrong yet.
 19 Q. And you've been dealing with them since, what,
 20 2005 at the earliest?
 21 A. Yeah.
 22 Q. Where is Cedar Resources from? Are they a
 23 Wyoming --
 24 A. Gillette.
 25 Q. What's your percentage of the production?

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1 A. My percentage. I don't follow your question.
 2 Q. Well, do you get a percentage of each monthly's
 3 production as payment for producing those minerals?
 4 A. Yes.
 5 Q. What's your percentage?
 6 A. I own approximately 22 percent, 26 percent. I
 7 don't know. However that's broke down. 26 percent.
 8 Q. Of the mineral production. Correct?
 9 A. (Deponent nods head.)
 10 Q. Is that a yes?
 11 A. I own 26 percent of the minerals.
 12 Q. So when CBM is produced and the oil company
 13 writes the Clabaugh family collectively a check, you get
 14 26 percent of whatever that check is --
 15 A. Yes.
 16 Q. -- total amount is. Correct?
 17 A. Yes, sir.
 18 Q. Who else shares in that -- in those minerals?
 19 A. My sister, my dad's trust and my dad's
 20 brother's family.
 21 Q. And do you know how much of the minerals your
 22 sister owns?
 23 A. Equal amount to me.
 24 Q. So 26 percent. How much goes into your dad's
 25 trust?

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1 A. Equal.
 2 Q. Another 26 percent?
 3 A. Yeah.
 4 Q. And then how much to your dad's brother's
 5 family?
 6 A. What's left.
 7 Q. Who are the beneficiaries of your dad's trust?
 8 A. I am.
 9 Q. Does your sister have any share in your dad's
 10 trust?
 11 A. No.
 12 Q. So really, you essentially own 52 percent of
 13 the minerals. Is that accurate?
 14 A. No.
 15 Q. Why is that?
 16 A. Because I only own 26 percent of them.
 17 Q. Yet you're the sole beneficiary of your dad's
 18 trust?
 19 A. But that don't make me own them.
 20 Q. Do you receive income from your dad's trust?
 21 A. Just out of that mineral, yes.
 22 Q. Does all that mineral income flow through your
 23 dad's trust to you?
 24 A. Yes, sir.
 25 Q. And, Mr. Clabaugh, if I understand your

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1 testimony, the most cows, mother cows, you've ever run on
 2 your place was 400 -- 450 to 460 cows. Correct?
 3 A. Uh-huh. That's been quite a while ago, too.
 4 Q. So that's a yes?
 5 A. Yes.
 6 Q. And this spring you're running 400 cows, mother
 7 cows, as I understand it?
 8 A. This spring?
 9 Q. Yeah.
 10 A. We're down to about 300, 280 to 300.
 11 Q. Why did you tell me earlier that you ran 400
 12 cows?
 13 A. You asked how many we mostly ever run.
 14 Q. I'm still confused. You said 450 to 460?
 15 A. We have run that many, yes, in years past.
 16 Q. And this spring you're down to 300?
 17 A. Yes, or less, 290, 300.
 18 Q. You don't know exactly how many mother cows you
 19 have today?
 20 A. No, sir.
 21 Q. Why is that?
 22 A. I don't know. About 300.
 23 Q. Tell me about what irrigation you do on the
 24 Clabaugh Ranch. Now, we've discussed this subirrigation
 25 system that Cedar Resources has put in to deal with the

Page 33

1 CBM water. Is there any other irrigation on the Clabaugh
 2 Ranch?
 3 A. That who done, me or --
 4 Q. Anybody.
 5 A. I guess if you call CBM water running down a
 6 creek, it's irrigating, but I didn't do it.
 7 Q. Are there any sprinkler systems on the Clabaugh
 8 Ranch?
 9 A. No, sir.
 10 Q. Have you ever installed any spreader dikes on
 11 Wild Horse Creek?
 12 A. No.
 13 Q. Are there any kind of head gates or any kind of
 14 irrigation system that you've installed or your family's
 15 installed or the Clabaugh Ranches has installed on Wild
 16 Horse Creek?
 17 A. No.
 18 Q. Tell me about Wild Horse Creek. You lived
 19 there your whole life. Correct?
 20 A. Yes.
 21 Q. Let's do it before and after CBM production.
 22 Okay? When you were in high school, did Wild Horse Creek
 23 flow year-round?
 24 A. Never.
 25 Q. How many months of the year would it actually

Page 34

1 flow?
 2 A. You might have a little runoff in the spring.
 3 And if you had a big rain in the summer, it might have
 4 flooded. Other than that, it didn't.
 5 Q. Once snow started to melt in the spring, can
 6 you tell me how long Wild Horse Creek would run?
 7 A. Depend on how much snow there was, how warm it
 8 got. But not over a couple, three days, probably.
 9 Q. And then after that, I assume there may be some
 10 kind of stagnant water and deeper pools along Wild Horse
 11 or deeper cuts along Wild Horse Creek?
 12 A. No. Usually it soaked it up.
 13 Q. So even that dried up?
 14 A. Yeah.
 15 Q. Where did your cows get water, then?
 16 A. Wells.
 17 Q. And where were the wells? Were they along the
 18 creek? Were they on the upland sections or both?
 19 A. Both.
 20 Q. And how did those wells produce water?
 21 A. We had pumps on some of them. Some of them
 22 were flowing.
 23 Q. So some artesian wells?
 24 A. They weren't true artesians. Water was being
 25 forced up by the gas.

Page 35

1 Q. What's a true artesian to you?
 2 A. My understanding of it, that it flows on its
 3 own. There's no gas forcing the water up.
 4 Q. Some underground pressure other than methane
 5 gas pushes it to the surface?
 6 A. Yes.
 7 Q. And you said you had pumps on some of them.
 8 Windmills, electric pumps? What kind of pumps?
 9 A. We've had it all.
 10 Q. And probably a pain in the butt to take care
 11 of.
 12 A. Yes, sir.
 13 Q. How deep were these wells?
 14 A. All the way from probably 250, I don't know, to
 15 1,000, 1,100. Some of those flowing wells was 1,000.
 16 Q. Tell me about the wells that flowed because of
 17 the gas pressure. How many wells did you have on your
 18 8,000 deeded acres that you recall? Can you estimate for
 19 me?
 20 A. That flowed?
 21 Q. Well, let's go total wells first, and then
 22 let's do flowed.
 23 A. That are there or you use today?
 24 Q. No. Let's go back to the time when you were in
 25 high school, let's say.

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1 A. Probably around ten.
 2 Q. Did that increase or decrease over the years,
 3 stay constant?
 4 A. Pretty constant.
 5 Q. Now, of those ten, how many naturally flowed?
 6 A. When I was in high school or now?
 7 Q. Let's say high school.
 8 A. Three.
 9 Q. And as I understand what you were telling me
 10 earlier, those were the deeper wells that flowed.
 11 Correct?
 12 A. Yes, sir.
 13 Q. And you believe those wells flowed because of
 14 gas pressure?
 15 A. It's my understanding that's why they flowed.
 16 Q. And I guess I would assume, but you tell me if
 17 I'm correct, that those wells were probably -- if they're
 18 flowing because of gas pressure, those wells were
 19 probably drilled into a coal seam.
 20 A. Yes, sir.
 21 Q. You'd agree with that statement?
 22 A. Yes.
 23 Q. And you use those wells to water your
 24 livestock?
 25 A. Yes.

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1 Q. And if they flowed, I assume -- well, what did
 2 you do, run them into a stock tank or something?
 3 A. Yes.
 4 Q. And usually stock tanks on wells like that have
 5 a drain, and it spreads out over the surface once it runs
 6 out of the stock tank. Correct?
 7 A. It went into a reservoir.
 8 Q. And that reservoir was on your deeded ground?
 9 A. Yes.
 10 Q. And you used both the reservoir and the stock
 11 tank and the well to water your livestock?
 12 A. Yes.
 13 Q. Those flowing wells, were those upland, on
 14 upland ground or bottom ground?
 15 A. Two of them was on bottom. One of them was
 16 upland.
 17 Q. Now, you said -- you asked me if I wanted to
 18 know if they flowed when you were in high school or
 19 today. Is there a change?
 20 A. They've quit. And then after CBM, they've all
 21 quit now.
 22 Q. So all the wells that you believe were drilled
 23 into coal seams have quit naturally flowing?
 24 A. Yes.
 25 Q. What was the EC, electrical conductivity, of

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1 that water you were watering your livestock with out of
 2 those flowing wells?
 3 A. I have no idea.
 4 Q. What was the SAR, sodium absorption ratio, of
 5 the water you were using to water your livestock out of
 6 those flowing wells?
 7 A. I have no idea.
 8 Q. But you used those for years to water your
 9 livestock. Correct?
 10 A. Yes.
 11 Q. And put it -- actually stored it in a
 12 reservoir. Correct?
 13 A. Yes.
 14 Q. So that you'd have water later in the summer.
 15 Correct?
 16 A. I don't know if it was later in the summer.
 17 Just to keep it from running all over.
 18 Q. Because those wells were constantly flowing
 19 into the stock tank, I guess?
 20 A. Yes.
 21 Q. And are those reservoirs still on the Clabaugh
 22 place where that water flowed into?
 23 A. Yes.
 24 Q. Describe for me the soil around those
 25 reservoirs where this water flowed.

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1 A. I can't. I don't have any idea.
 2 Q. Nothing jumps out at you that it's different
 3 than other soil types you have on the Clabaugh Ranch.
 4 Correct?
 5 A. I wouldn't know the difference.
 6 Q. It's certainly not salty or alkaline, or
 7 there's not a noticeable visual difference when you look
 8 at the soil around those reservoirs where these flowing
 9 wells flowed for years?
 10 MR. TONER: Object to the form of the
 11 question as compound.
 12 Q. (BY MR. CRANK) You can go ahead and answer.
 13 A. Repeat it.
 14 Q. When you look at the soil conditions around
 15 those reservoirs, is there anything noticeable about that
 16 soil as compared to other areas of the ranch?
 17 A. Not to my knowledge.
 18 Q. And you've been living on that place your whole
 19 life. Correct?
 20 A. Yes, sir.
 21 Q. When Wild Horse Creek ran in that spring for
 22 those two or three days that you've described for me, was
 23 it muddy?
 24 A. The creek muddy?
 25 Q. Yeah.

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1 A. Well, yeah, the creek bottom would be muddy if
 2 water was running in it. If it didn't get out of the
 3 banks, no, it wasn't muddy.
 4 Q. I'm not talking about the bottom of the creek
 5 channel. But was the water colored like it had dirt and
 6 silt in it like you see when water runs off in a hurry?
 7 A. Probably not so much in the spring in the
 8 runoff, but the big floods, yeah, in the summertime would
 9 be muddy.
 10 Q. In the spring, did it look like water in that
 11 pitcher, where you'd say, boy, I want to go have a drink
 12 of that?
 13 A. No. It wasn't that clear.
 14 Q. And particularly with regard to these big storm
 15 events, then it gets very muddy, doesn't it?
 16 A. Yes, sir.
 17 Q. Do you have big thunderstorms come in in the
 18 afternoon?
 19 A. Have had, yes.
 20 Q. What's the most you recall it raining at one
 21 time on the Clabaugh Ranches?
 22 A. Total?
 23 Q. Uh-huh. One storm.
 24 A. Well, in the '70s it rained about ten inches in
 25 two weeks.

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1 Q. And was Wild Horse Creek flooding then?
 2 A. Yes.
 3 Q. Out of the banks?
 4 A. Yes.
 5 Q. Very muddy, very turbulent-looking water, I
 6 guess?
 7 A. Yes.
 8 Q. How often does that happen in a given summer,
 9 that you get a big storm like that?
 10 A. More not than there is.
 11 Q. Can you estimate for me? It happens once,
 12 twice, three times, five times, ten times?
 13 A. You're fortunate if it happens once.
 14 Q. So you like those storm events because it puts
 15 water in the creek. Correct?
 16 A. Well, it puts water out on those -- good water
 17 out on the -- those meadows.
 18 Q. Puts water all over your ranch. Correct?
 19 A. What?
 20 Q. If it's a big storm, it puts water all over
 21 your ranch. Correct?
 22 A. Yes.
 23 Q. Causes the grass to grow?
 24 A. Yes.
 25 Q. Do you have any irrigation rights on the

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1 Clabaugh Ranch that are adjudicated with the Wyoming
 2 State Engineer's Office?
 3 A. I don't know about that. I looked in Cheyenne.
 4 And there's one draw there that my grandfather had some
 5 water rights on, but it's not in the bottom of Wild Horse
 6 Creek.
 7 Q. Have you ever used those water rights?
 8 A. No, sir.
 9 Q. So your grandpa died when?
 10 A. 1952.
 11 Q. Have they been used since 1952?
 12 A. No. He never used them.
 13 Q. Who are your neighbors around your place,
 14 Mr. Clabaugh?
 15 A. Lloyd Land and Livestock. Joining neighbors?
 16 Q. Yeah.
 17 A. That join me?
 18 Q. Yeah.
 19 A. Joy Voiles.
 20 Q. Boils? B-O --
 21 A. V.
 22 Q. Voiles?
 23 A. Voiles. Larry Robbins, John Walsh.
 24 Q. Can you spell his last name?
 25 A. W-A-L-S-H. And Sorenson.

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1 Q. Do you believe -- and are they all ranchers?
 2 A. Yes, sir.
 3 Q. They run the same kind of operation, generally,
 4 that you do?
 5 A. Pretty much.
 6 Q. Is there any one of those neighbors that you
 7 think runs a different type of operation than you do?
 8 A. Not to my knowledge.
 9 Q. So as I understand your operation, you run a
 10 cow-calf operation, try to put up what hay you can during
 11 the summer and graze your cattle year-round on this
 12 rangeland and your leases.
 13 A. Yes.
 14 Q. Is that a pretty good description?
 15 A. Yes, sir.
 16 Q. And so your neighbors try to do that same
 17 thing, as far as you understand?
 18 A. Yes, sir.
 19 Q. Of those neighbors, who is upstream and who is
 20 downstream on Wild Horse Creek? Or they may not be
 21 either.
 22 A. Floyds are upstream, and the rest of them are
 23 not on the creek.
 24 Q. So only you and Mr. Floyd are on the Wild Horse
 25 Creek?

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1 A. Well, right there where I live, yeah.
 2 Q. There are other people, I assume, below you.
 3 Correct?
 4 A. Yes.
 5 Q. Are there people above Mr. Floyd on Wild Horse
 6 Creek?
 7 A. Yes.
 8 Q. What's your relationship like with Mr. Floyd?
 9 A. Well, we get along.
 10 Q. You guys help each other brand?
 11 A. We did this year. I wasn't there. My hired
 12 man was.
 13 Q. So you go help if you're around or your help
 14 goes and helps Mr. Floyd brand, and then when you're
 15 branding, he comes and helps you. Correct?
 16 A. Yes.
 17 Q. Other cooperative projects? You have fencing,
 18 anything else?
 19 A. Oh, yeah.
 20 Q. Like what?
 21 A. They fix their -- well, if the fence is down,
 22 you go fix it.
 23 Q. No problems with Mr. Floyd running his cattle
 24 on your place or you running your cattle on his place or
 25 anything of that nature?

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1 A. We don't have that problem.
 2 Q. Good neighbors?
 3 A. Yeah.
 4 Q. What about your other neighbors, feel the same
 5 way about them?
 6 A. Yeah, pretty much.
 7 Q. And your understanding of Mr. Floyd's operation
 8 is it's very similar to your operation. Correct?
 9 A. Pretty much.
 10 Q. Are there any differences that you know of
 11 between -- that jump out at you with regard to
 12 Mr. Floyd's operation and your operation on the Clabaugh
 13 Ranch?
 14 A. Not to my knowledge.
 15 Q. You've been on Mr. Floyd's ranch, I assume,
 16 over the years?
 17 A. Yes, sir.
 18 Q. Looking for cattle, helping him with fence,
 19 helping him with branding, stuff like that. Correct?
 20 A. Yes.
 21 Q. Anything you notice about the soil type on
 22 Mr. Floyd's ranch that is different than the soil that's
 23 on your ranch?
 24 A. No.
 25 Q. And so you understand my question, you know

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1 those red rocks you see in Wyoming? I understand that's
 2 the Chugwater Formation. Anytime you see red rocks like
 3 that, it's from the Chugwater Formation. There's nothing
 4 like that that you could notice about Mr. Floyd's ranch
 5 that's different than your ranch. Correct?
 6 A. I wouldn't have any idea.
 7 Q. All appears to be the same kind of dirt.
 8 Correct?
 9 A. I assume, yes.
 10 Q. On a drought year or on a good year, when you
 11 look at your land and you look at Mr. Floyd's land, does
 12 it appear the same amount of grass grows?
 13 A. I assume, yes.
 14 Q. Have you ever noticed a difference?
 15 A. Depends on how many cows you got in it, I
 16 guess.
 17 Q. Someone might overgraze it, and you'd say, boy,
 18 that pasture looks horrible. But if the two pastures
 19 have yet to have been grazed, they look generally the
 20 same. Correct?
 21 A. Pretty much, I'd say, yes.
 22 Q. You've never said, boy, old Floyd's got a lot
 23 better land than I do. I wish I had Floyd's place
 24 instead of mine. Correct?
 25 A. No, I never said that.

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1 Q. You put up hay. He puts up hay. Correct?
 2 A. Yes.
 3 Q. Does it appear to you, Mr. Clabaugh, the same
 4 type of vegetation grows on both the Floyd place and on
 5 your place?
 6 A. As a whole, yes.
 7 Q. And when you say "as a whole," are you hedging
 8 that at all? I mean, is there anything you notice
 9 different between the forage type that grows on
 10 Mr. Floyd's place and the forage type that grows on your
 11 place?
 12 MR. TONER: Object to the form of the
 13 question as compound again.
 14 Q. (BY MR. CRANK) You can answer.
 15 A. Outside of some alfalfa they planted, it's the
 16 same.
 17 Q. Now, let's talk about that alfalfa. This
 18 alfalfa is something that Mr. Floyd has put in since CBM
 19 production came down the pike. Correct?
 20 A. Yes.
 21 Q. And so he's raising alfalfa, as I understand
 22 it, pretty close right above your place?
 23 A. Yes.
 24 Q. Have you been out there and looked at those
 25 fields?

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1 A. No.
 2 Q. Have you ever raised alfalfa?
 3 A. No.
 4 Q. How do you know he's raising alfalfa, then?
 5 A. Was told that.
 6 Q. Do you know how many deeded acres Mr. Floyd
 7 has?
 8 A. No, sir.
 9 Q. How many leased?
 10 A. No, sir.
 11 Q. Does the term "carrying capacity of a range"
 12 mean anything to you, Mr. Clabaugh?
 13 A. Yes.
 14 Q. What's carrying capacity to you?
 15 A. How many cows you can run on an acre of land or
 16 how many acres it takes for a cow.
 17 Q. Does it appear to you that the carrying
 18 capacity for Mr. Floyd is any different on Mr. Floyd's
 19 place than it is on yours?
 20 A. I don't know what theirs is.
 21 Q. Do you know what yours is?
 22 A. Depends on the year.
 23 Q. And I guess that changes every year, depending
 24 on rainfall and other events. Correct?
 25 A. Yes, sir.

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1 Q. Have you ever noticed a significant difference
 2 between the number of cows he's running on his place and
 3 the number of cows you're running on your place?
 4 A. No, I haven't noticed.
 5 Q. I would assume, but tell me if I'm wrong, that
 6 Mr. Floyd's cows get their water from wells and from Wild
 7 Horse Creek when it's running and the same as your cows
 8 get it. Correct?
 9 A. Yes. They have reservoirs and wells just like
 10 me.
 11 Q. And historically, they'd had reservoirs and
 12 wells just like you. Correct?
 13 A. Uh-huh.
 14 Q. Is that a yes?
 15 A. Yes.
 16 (Exhibit No. 31 marked for
 17 identification.)
 18 Q. (BY MR. CRANK) Mr. Clabaugh, let me show you
 19 what I've marked as Deposition Exhibit 31. I know this
 20 won't be exactly accurate. But could you take that blue
 21 pen I've handed you and draw in for me -- well, let me
 22 ask you first, do you recognize this map?
 23 A. Yes.
 24 Q. And is the area of Clabaugh Ranch located on
 25 this map someplace?

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1 A. Part of it.
 2 Q. Could you take the blue pen I've handed you --
 3 A. Wait a minute. Wait a minute.
 4 Q. Is that still accurate? Part of the Clabaugh
 5 Ranch is on this map?
 6 A. Yeah.
 7 Q. Could you take the blue pen I've handed you,
 8 and could you draw in there where the Clabaugh Ranch is
 9 on this particular map, Deposition Exhibit 31?
 10 A. I don't think this is right. Deadman's up
 11 here. And this is Section 23. I don't have anything in
 12 23.
 13 Q. So none of the Clabaugh Ranch lies on this map?
 14 A. I don't think so. There might be a little up
 15 here under this exhibit deal. That's all, though.
 16 Q. Wild Horse Creek on Deposition Exhibit 31 flows
 17 which way?
 18 A. Northwest.
 19 Q. So it flows from the bottom of -- the bottom
 20 right-hand corner of Deposition Exhibit --
 21 A. Yeah.
 22 Q. -- 31 to the upper right-hand corner of
 23 Deposition Exhibit 31?
 24 A. Yes.
 25 Q. And you don't believe any part of the Clabaugh

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1 Ranch is shown on this map?
 2 A. I don't think so.
 3 Q. Where is the Clabaugh Ranch in relation to this
 4 map?
 5 A. North and west.
 6 Q. So you're pointing towards the corner of
 7 Deposition Exhibit 31 where the deposition exhibit
 8 sticker is placed. Correct?
 9 A. Yes. Here's a little bit that's on me right
 10 there.
 11 Q. Go ahead and draw in what you think what part
 12 of the Clabaugh Ranch appears on this map.
 13 A. Probably here to here. Just above this line
 14 right here.
 15 Q. Could you draw on that line with the blue pen?
 16 A. (Complied.)
 17 Q. Is that a section line you're drawing on?
 18 A. Yeah.
 19 Q. And what section is that? Do you know?
 20 A. 22.
 21 Q. Can you write "22" on there?
 22 A. I think it's 22. I'm just going by the
 23 terrain.
 24 Q. You've drawn on Deposition Exhibit 31 with a
 25 blue pen. Correct?

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1 A. Yeah.
 2 Q. Can you put your initials next to where you
 3 drew?
 4 A. (Complied.)
 5 Q. You've marked "KC" on that exhibit. Correct?
 6 A. That's right.
 7 Q. You wrote your initials, KC, on the area of the
 8 map where you drew on. Correct?
 9 A. Yes.
 10 (Exhibit No. 32 marked for
 11 identification.)
 12 Q. (BY MR. CRANK) Let me hand you what I marked
 13 as Deposition Exhibit 32. You can take a moment and look
 14 at that, Mr. Clabaugh, and tell me when you're ready.
 15 A. Ready for what?
 16 Q. To answer questions about the document.
 17 A. Okay.
 18 Q. Mr. Clabaugh, I'll tell you that this is part
 19 of what's called a Section 20 analysis done by Kevin
 20 Harvey for Petro-Canada on lands upstream of the Clabaugh
 21 Ranch. Have you ever read that Section 20 analysis
 22 before?
 23 A. No.
 24 Q. And during the course of that analysis, they
 25 had a person named Jerry Gladson go out and survey the

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1 various types of vegetation that existed upstream of the
 2 Clabaugh Ranch. Do you understand that?
 3 A. I -- yeah.
 4 Q. You have no idea that occurred?
 5 A. No.
 6 Q. Do you have prairie cordgrass on your ranch?
 7 A. Not to my knowledge.
 8 Q. Western wheatgrass?
 9 A. There's some western wheat, I'm sure.
 10 Q. Smooth brome grass?
 11 A. Yeah, there's smooth brome.
 12 Q. Quack grass?
 13 A. Not to my knowledge.
 14 Q. And how you would know if something was quack
 15 grass or prairie cordgrass?
 16 A. The reason I said not to my knowledge is
 17 because I don't know the difference.
 18 Q. You wouldn't know the difference between them?
 19 A. No.
 20 Q. What's smooth brome look like? Do you know
 21 what smooth brome looks like?
 22 A. Yeah.
 23 Q. Describe it for me.
 24 A. That the grass is -- said it's smooth brome.
 25 That's what I was raised with.

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1 Q. Repeat your answer.
 2 A. Just a grass that was called smooth brome. And
 3 we have a lot of it.
 4 Q. And if you were looking at smooth brome and
 5 prairie cordgrass, could you tell the difference?
 6 A. I don't know what prairie cordgrass looks like,
 7 but I know what smooth brome looks like.
 8 Q. Well, describe it for me. What's it look like?
 9 A. I could show it to you, but I can't describe it
 10 to you.
 11 Q. Foxtail barley?
 12 A. I don't know what foxtail barley is. I know
 13 what foxtail looks like. But whether it's foxtail barley
 14 or not, I can't answer that.
 15 Q. Tell me what the foxtail you're familiar with
 16 looks like.
 17 A. It's got a fuzzy head on it.
 18 Q. Is that good or bad for cattle?
 19 A. Bad.
 20 Q. Why?
 21 A. They won't eat it.
 22 Q. Western wheatgrass, you wouldn't know that if
 23 you saw it?
 24 A. Yeah. But there's -- I know it's wheatgrass.
 25 I couldn't tell you whether it's western or intermediate

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1 or whatever, because they're all wheatgrasses in that
 2 family.
 3 Q. What looks different about a wheatgrass family,
 4 versus a smooth brome?
 5 A. Well, they're altogether different plants, kind
 6 of like a cottonwood tree and a pine tree.
 7 Q. Tell me what you see when you see the two.
 8 What's the difference?
 9 A. I guess the wheatgrass would be taller and have
 10 a long head on it.
 11 Q. Has seeds on the top?
 12 A. Yeah.
 13 Q. And does smooth brome have seeds on the top?
 14 A. Yeah, but it's fuzzy. It's different.
 15 Q. Thistles, do you have thistle problems out
 16 there?
 17 A. Some. Not -- what kind of thistle?
 18 Q. Well, I don't know. You're the rancher. I see
 19 a thistle, and they all look the same to me.
 20 A. There's Canadian thistle. I don't know what --
 21 tumbleweed is a thistle. But I don't know what -- we got
 22 a little of it. We spray for Canadian thistle. We have
 23 some of that.
 24 Q. Those are the real spiky, nasty-looking ones?
 25 A. Yeah.

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1 Q. Do livestock eat thistle?
 2 A. Depends on how hungry they are. I've seen them
 3 eat it, yeah.
 4 Q. Do you know what a Carex grass looks like,
 5 C-A-R-E-X?
 6 A. Never heard of it.
 7 Q. Have you always had foxtails on your place?
 8 A. Not much. We get a little. Where those wells
 9 would run into the reservoir, there might be some there.
 10 But no, we never had any.
 11 Q. But there's always been some foxtail on the
 12 Clabaugh Ranch as long as you can recall?
 13 A. Not any abundant, no.
 14 Q. I understand you're telling me that it's more
 15 prevalent now?
 16 A. Oh, yeah, very much.
 17 Q. But there's always been some there?
 18 A. Not much, though.
 19 Q. So tell me what's happened to your ranch since
 20 CBM production came into play.
 21 A. In what way?
 22 Q. In any way.
 23 A. Give me a specific.
 24 Q. Well, I want to know what, you know -- well,
 25 I'll give you specifics. It's my understanding,

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1 Mr. Clabaugh, that you've been complaining about the
 2 quantity of water that comes across your ranch for some
 3 time. Is that accurate?
 4 A. Yes.
 5 Q. When did you first start noticing that problem?
 6 A. 2004.
 7 Q. And you raised complaints about it. Correct?
 8 A. Yes.
 9 Q. And who did you complain to?
 10 A. Anybody that would listen.
 11 Q. I assume Mr. Toner?
 12 A. Yep.
 13 Q. He listens, but you just got to pay him, I
 14 assume?
 15 A. Yes.
 16 Q. The DEQ?
 17 A. Yes.
 18 Q. Anybody else?
 19 A. Jason's heard it. State Lands --
 20 Q. Excuse me?
 21 A. -- Wyoming Oil and Gas Commission, governor.
 22 Q. Powder River Basin Resource Council?
 23 A. Yeah, they know about it.
 24 Q. Anybody else you can think of?
 25 A. Not that I can think of right now.

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1 Q. And tell me, what was your complaint? What was
 2 happening to your ranch that you were mad about enough to
 3 complain to these people?
 4 A. I'm the sponge.
 5 Q. Explain that.
 6 A. All the water coming from upstream is wiping me
 7 out, killing the trees and the grass.
 8 Q. Is it worse in the summer or the winter?
 9 A. Only difference is you got water in the summer,
 10 ice in the winter.
 11 Q. So if I understand your complaints, anytime of
 12 the year, you have more water than can stay in the
 13 channel, so it spreads out on your bottomlands. Correct?
 14 A. Part of it, there's no channel.
 15 Q. So it spreads out all over your bottomlands.
 16 Correct?
 17 A. Yeah.
 18 Q. And so your complaint is they're putting too
 19 much water into Wild Horse Creek. Correct?
 20 A. If they was putting five gallons, it's too much
 21 for me.
 22 Q. Why do you say that?
 23 A. I'm not their sponge.
 24 Q. So in a perfect world, there would be no water
 25 being placed into -- perfect world for Kenny Clabaugh,

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1 there would be no water being placed into Wild Horse
 2 Creek?
 3 A. Right. Except natural.
 4 Q. Storm events?
 5 A. Right.
 6 Q. Spring runoff. Correct?
 7 A. Right.
 8 Q. What is the historical electrical conductivity
 9 of that water that came down Wild Horse Creek during
 10 spring runoff?
 11 A. I have no idea.
 12 Q. And you haven't asked anyone to study that and
 13 come up with a figure. Correct?
 14 A. I'm sure it's been done, but I don't have the
 15 figures, no.
 16 Q. You never did it?
 17 A. I never done it. But I wouldn't understand it,
 18 anyway.
 19 Q. You never asked Mr. Toner or anyone else to do
 20 that on your behalf?
 21 MR. TONER: Excuse me. You can't ask him
 22 what he asked me to do. That's attorney/client
 23 privilege.
 24 MR. CRANK: You're correct. Thank you,
 25 Tom.

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1 Q. (BY MR. CRANK) You never have instructed
 2 anyone to go out and try to determine the historical EC
 3 of Wild Horse Creek. Is that true?
 4 A. I've never asked anybody.
 5 Q. And same question for the sodium absorption
 6 ratio, SAR. What's the historical SAR of Wild Horse
 7 Creek?
 8 A. I have no idea. I'm sure it's been done by
 9 Jason and Powder River Basin, but I have no idea.
 10 Q. And you never instructed anyone --
 11 A. No.
 12 Q. -- or hired an expert to go do that. Correct?
 13 A. No.
 14 Q. Correct?
 15 A. No.
 16 Q. What decrease in livestock or crop production
 17 have you experienced on the subirrigated land that is
 18 being irrigated by Cedar Resources?
 19 A. Ask that again.
 20 Q. What decrease in livestock or crop production
 21 have you experienced on the subirrigated land that Cedar
 22 Resources is subirrigating with methane water?
 23 A. There hadn't been any increase or decrease. We
 24 just have a field fenced off down there, and that's what
 25 they're putting it in.

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1 Q. And so the grass hasn't changed?
 2 A. They haven't planted it yet.
 3 Q. Is it just bare dirt?
 4 A. Well, they're working on it now, yeah.
 5 Q. So it's bare dirt?
 6 A. At this point today, it is. Could have seeded
 7 it.
 8 Q. What was there before they tore it up?
 9 A. Pubescent wheatgrass.
 10 Q. What?
 11 A. Pubescent wheatgrass.
 12 Q. What is pubescent wheatgrass?
 13 A. Another wheatgrass.
 14 Q. I thought they'd been subirrigating the stuff
 15 since '05, '06.
 16 A. I don't remember when they started. Whenever
 17 they started drilling wells, they started doing it.
 18 Q. So as you sit here today, you can't point to
 19 any noticeable decrease in livestock or crop production
 20 because of the application of that water by Cedar
 21 Resources?
 22 A. No.
 23 Q. And historically, at any point in time during
 24 the Clabaugh Ranch, what noticeable increase of livestock
 25 or crop production can you point me to with regard to the

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1 Clabaugh Ranch's use of these naturally flowing wells
 2 that you've used for years?
 3 A. Repeat that.
 4 Q. We discussed earlier in your testimony that you
 5 had these naturally flowing wells which you believed were
 6 being -- the water was being pushed to the surface by
 7 methane gas. Correct?
 8 A. Yes.
 9 Q. And those go into stock tanks and ultimately go
 10 into reservoirs, and your livestock use it. Correct?
 11 A. Yes.
 12 Q. What noticeable decrease in livestock or crop
 13 production can you point out for me that was caused by
 14 the use of that methane gas water over the years?
 15 A. I guess I couldn't say there was any.
 16 Q. Do you know how many operators are upstream
 17 from you on Wild Horse Creek?
 18 A. No, sir.
 19 Q. At the time of the original Section 20 analysis
 20 done by Mr. Harvey, it looks to me, Mr. Clabaugh, like
 21 there were 117 outfalls above you on Wild Horse Creek.
 22 Does that sound about right?
 23 A. I have no idea.
 24 Q. You at some stage decided to appeal every
 25 permit that was issued for an outfall into Wild Horse

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1 Creek. Is that accurate?
 2 A. I'm sure it is.
 3 Q. And do you recall when you made that decision
 4 to appeal every permit?
 5 A. No, sir.
 6 Q. Why did you make that decision?
 7 A. It was their plan for a permit that they were
 8 going to put water in the creek. I'm still not their
 9 sponge.
 10 Q. And how many permit appeals do you recall
 11 having made?
 12 A. I have no idea. You'd have to ask Mr. Toner
 13 that.
 14 Q. Well, Mr. Toner won't let me ask him that. You
 15 have no idea? That's your testimony?
 16 A. No.
 17 Q. Do you plan to continue (sic) every permit
 18 that's issued that could possibly drain into Wild Horse
 19 Creek in the future?
 20 A. I guess that would be on his advice to me.
 21 Q. You'd certainly rely on his advice whether an
 22 appeal should be taken. But is it your intention to
 23 appeal every permit issued in the future on Wild Horse
 24 Creek?
 25 A. I'd have to say I couldn't answer that without

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1 his telling me his advice on what to do.
 2 Q. Do you have any knowledge, Mr. Clabaugh, of how
 3 much water is being placed into Wild Horse Creek from any
 4 of the number of outfalls upstream of you on Wild Horse
 5 Creek?
 6 A. I have no idea.
 7 Q. So as you sit here today, you have no knowledge
 8 of whether one outfall may be putting a million gallons a
 9 day into the creek or one outfall may be putting a gallon
 10 a day into the creek?
 11 A. I don't have that knowledge, no.
 12 Q. Does that matter to you?
 13 A. No.
 14 Q. Why?
 15 A. It's all coming down the creek, so --
 16 Q. So it has no relevance to you whatsoever?
 17 A. Not to me.
 18 Q. Why?
 19 A. I don't want their water, period.
 20 Q. So tell me what knowledge you have that all the
 21 water that's placed in the Wild Horse Creek actually gets
 22 to your ranch.
 23 A. I guess if it's going into the creek, it will
 24 get there eventually.
 25 Q. Explain that.

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1 A. If you put water in the creek upstream, at some
 2 time or point, it's going to go through me.
 3 Q. Maybe. Does water evaporate, Mr. Clabaugh?
 4 A. Yeah.
 5 Q. Does water seep into the ground?
 6 A. I don't think much is soaking in at the ground,
 7 how saturated that ground is.
 8 Q. But does water soak into the ground?
 9 A. Theoretically, it does.
 10 Q. So tell me what facts you have today that every
 11 ounce of water that's discharged into Wild Horse Creek
 12 actually gets to the Clabaugh Ranch.
 13 A. I have no -- no facts to that.
 14 Q. What other problems -- we talked about you feel
 15 like you're the sponge for all the CBM production
 16 upstream from you. What other complaints do you have, if
 17 any, about CBM production?
 18 A. It's killing the trees. It's put salt and
 19 minerals on the ground, changed the grasses. Some places
 20 it's just totally killed the grasses.
 21 Q. Tell me about how -- how many miles of Wild
 22 Horse Creek, approximately, do you own?
 23 A. That I own or goes through me?
 24 Q. Well, let's do own first.
 25 A. There's about six miles of it, but there's a

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1 school section in there, and I don't have it broke down.
 2 Q. So six miles total?
 3 A. Approximately.
 4 Q. Including the school section?
 5 A. Right.
 6 Q. And sections are what? A mile square.
 7 Correct?
 8 A. Yes, sir.
 9 Q. And tell me about the channel in that six
 10 miles.
 11 A. Some places it varies from three feet deep to
 12 nothing.
 13 Q. So there are places where there's a defined
 14 channel cut through the earth. Correct?
 15 A. Yes.
 16 Q. And you believe the deepest you've seen it is
 17 three feet, approximately?
 18 A. Three, four. I don't know.
 19 Q. You haven't measured it?
 20 A. No.
 21 Q. And there are other places in that six miles
 22 where there's no defined channel. Is that accurate?
 23 A. Right.
 24 Q. Where the water just kind of meanders down the
 25 bottomland. Correct?

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1 A. Yes.
 2 Q. And historically, that's what it's done.
 3 Correct?
 4 A. Yes.
 5 Q. Are there places in there where there are kind
 6 of logjams -- or I've heard them called trash dams -- in
 7 the channel?
 8 A. Yes.
 9 Q. And describe those for me, what you see.
 10 A. Just trees through the years that's damned up
 11 the creek.
 12 Q. Trees, when they die, or branches, when they
 13 die --
 14 A. Yeah.
 15 Q. -- fall. And when the floods come in spring or
 16 with a big thunderstorm, they wash down to where they
 17 hook up with something and stop. Correct?
 18 A. Yes.
 19 Q. What is the effect of those trash dams? What
 20 does that do to the water?
 21 A. In what way to the water?
 22 Q. When water hits that, what does it do?
 23 A. Spreads out.
 24 Q. Causes it to spread out across the bottomland.
 25 Correct?

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1 A. Yes.
 2 Q. Have you undertaken any efforts to do any
 3 channel work on that six miles of Wild Horse Creek?
 4 A. Why?
 5 Q. I'll ask you that question in just a second.
 6 But have you undertaken any efforts to do any channel
 7 work on that six miles?
 8 A. No.
 9 Q. Why?
 10 A. What's the purpose?
 11 Q. Well, if your complaint is that water's
 12 spreading all over your bottomland and saturating it, why
 13 wouldn't you try to make the channel better so it didn't
 14 do that?
 15 A. It's not my responsibility. I'm not the
 16 sponge.
 17 Q. So do you believe that if you did channel work,
 18 it would help remediate the problems you're experiencing
 19 on your bottomland?
 20 A. It's not my problem. You caused the problem.
 21 Q. I didn't ask you that question. If the channel
 22 were defined through that six miles of Wild Horse Creek,
 23 would it solve some of the problems you're experiencing
 24 with that water spreading out on your bottomlands?
 25 A. Oh, I'm sure it would.

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1 Q. And would it cause -- would it help solve some
 2 of the problems you're experiencing with salt being
 3 deposited on your land?
 4 A. Well, yeah, I'm sure it would.
 5 Q. And would it solve some of the problems you're
 6 experiencing with your bottomland being saturated, as you
 7 describe it?
 8 A. Yes.
 9 Q. Would it solve some of the problems you're
 10 experiencing with your cattle catching foot rot?
 11 A. Yes.
 12 Q. Would it solve some of the problems you're
 13 experiencing with your cattle being injured on the ice
 14 flows that build up during the winter?
 15 A. In places, yeah. Where there's no channel --
 16 going back to the other question -- it wouldn't have any
 17 effect on it.
 18 Q. Did you experience ice flows naturally during
 19 the winter prior to the advent of CBM production?
 20 A. We had no water, no.
 21 Q. It didn't flow at all in the winter?
 22 A. No.
 23 Q. Would it solve some of the -- if you improve
 24 the channel over that six miles of Wild Horse Creek,
 25 would it solve some of the problems with the different

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1 types of grass that you claim are now growing?
 2 A. I can't answer that.
 3 Q. Why can't you answer that?
 4 A. Because I don't know.
 5 Q. What would happen in the spring and the summer
 6 when you'd have these large thunderstorms when they would
 7 come to a place where there's one of these trash dams on
 8 Wild Horse Creek?
 9 A. Water would spread out.
 10 Q. And when that water spread out, it spread out
 11 all the mud and silt and stuff that it had picked up
 12 upstream as it came down the Wild Horse Creek drainage.
 13 Correct?
 14 A. Yes.
 15 Q. And what would happen when you'd have a large
 16 rain event like that and it would come to a place in Wild
 17 Horse Creek where there was no defined channel?
 18 A. Spread out.
 19 Q. And it would carry with it everything that was
 20 in that runoff water. Correct?
 21 A. Very true.
 22 Q. I understand at one time Jason's boss, John
 23 Corra, spent a lot of time trying to work out a solution
 24 to your flooding problems between you and the operators
 25 that were upstream from you. Do you recall that?

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1 A. Some of it.
 2 Q. Tell me what you remember of Mr. Corra's
 3 efforts.
 4 A. They wanted to dig a channel down through me.
 5 Q. So Mr. Corra was kind of shuttling between you
 6 and the operators upstream. Is that accurate?
 7 A. I assume that. I don't know that.
 8 Q. Did you have that impression based on your
 9 conversations with Mr. Corra?
 10 A. I guess we never discussed between me and the
 11 operators. I don't know what he discussed with them.
 12 Q. And you, at the end of all that effort, refused
 13 to allow anyone to improve the channel on the Clabaugh
 14 Ranch for Wild Horse Creek. Correct?
 15 A. Well, why would I want my place to look like
 16 Maycock's?
 17 Q. Didn't ask you that. You refused to allow any
 18 work to be done on the channel. Correct?
 19 A. Very true.
 20 Q. And at one time there was -- the State Board of
 21 Land Commissioners, as I understand it, wanted to improve
 22 the channel on the state school section. Correct?
 23 A. Yes, sir.
 24 Q. And you refused to allow the State permission
 25 to cross across your deeded land to get to the school

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1 section to improve that channel. Correct?
 2 A. To improve the channel, yes.
 3 Q. And the operators were operating to improve the
 4 channel at their expense. Isn't that true?
 5 A. That was my understanding.
 6 Q. So it wouldn't have cost you any money or any
 7 effort. Correct?
 8 A. It couldn't have cost me anything. But all
 9 you're going to do is make it (sound effect) funnel.
 10 Q. And I understand you didn't want that to
 11 happen.
 12 A. No.
 13 Q. But it would have been totally free to you.
 14 Correct?
 15 A. Sometimes free costs a lot of money.
 16 Q. You would have experienced no out-of-pocket
 17 expense with regard to this channel improvement.
 18 Correct?
 19 A. Right then, no.
 20 Q. Is your ranch for sale?
 21 A. It's not on the market, but yeah, I'd sell it.
 22 Q. And have you offered to sell your market to --
 23 to sell your ranch to anybody in the last two or three
 24 years?
 25 A. We offered it to the gas company.

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1 Q. And for what price?
 2 A. I don't think that's necessary to divulge.
 3 Q. You have to.
 4 MR. TONER: I don't think he does have to.
 5 It's not relevant to this case at all.
 6 MR. CRANK: Sure, it is.
 7 MR. TONER: I instruct him not to answer
 8 it.
 9 MR. CRANK: You're instructing him not to
 10 answer that question?
 11 MR. TONER: I'm instructing him not to
 12 answer that question. It has no relevance to this. It's
 13 being asked to harass him.
 14 MR. CRANK: It is not. Absolutely,
 15 it's --
 16 MR. TONER: I've instructed him not to
 17 answer. If you think you can do it, go to the Council
 18 and try to get an order. But what he's offered as
 19 settlement in the trespass case has no relevance to this
 20 case.
 21 MR. CRANK: And, Tom, I didn't understand
 22 from his testimony this was settlement of the trespass
 23 case.
 24 MR. TONER: Well, it was. It was an offer
 25 made to Lance, Anadarko and the group to sell the ranch

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1 to settle the trespass case.
 2 Q. (BY MR. CRANK) Well, we'll have to come back
 3 and do that later, Mr. Clabaugh.
 4 A. Fine.
 5 Q. What would you sell your ranch to me to -- to
 6 me for today? What price would you put on it?
 7 A. I can't answer that.
 8 Q. You have no idea?
 9 A. No.
 10 Q. What other factors about the Wild Horse Creek,
 11 as it exists today, cause flooding of your bottomlands?
 12 We talked about the trash dams. We've talked about the
 13 lack of channel in places. Is there anything else?
 14 A. Not to my knowledge.
 15 Q. Have you told me about all the problems you've
 16 experienced because of CBM production on Wild Horse
 17 Creek? Is there anything else you want to tell me about?
 18 A. Not to my knowledge.
 19 Q. Well, today is my day, Mr. Clabaugh. I get to
 20 ask you questions. And I'm asking if there's anything
 21 else that you can think of, other than what you've
 22 described today, that has been caused by CBM water
 23 flowing down Wild Horse Creek to your detriment.
 24 A. Not to my knowledge.
 25 Q. Do you, Mr. Clabaugh, understand that Wild

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1 Horse Creek contains waters of the United States and
 2 waters of the State of Wyoming?
 3 A. Repeat that.
 4 Q. Do you understand that, by definition, by
 5 statutory definition, streams like Wild Horse Creek are
 6 considered to be waters of the State of Wyoming?
 7 A. I thought all water in the state was the
 8 State's water.
 9 Q. So you do understand that the water that flows
 10 down Wild Horse Creek is State water. Correct?
 11 A. Well, the water in that pitcher is State water.
 12 Q. That might be Lubnau's water. I don't know.
 13 Free-flowing water down a stream are waters of the State
 14 of Wyoming. Do you understand that?
 15 A. Yeah.
 16 Q. And do you understand that under Wyoming law,
 17 there's an easement for water to flow across private
 18 land?
 19 MR. TONER: I'm going to object. This has
 20 no relevance to this case, and I direct him not to answer
 21 that question. You're trying to do discovery in
 22 connection with the trespass case. It has nothing to do
 23 with the water quality. I direct him not to answer the
 24 question.
 25 MR. CRANK: All right. I'm going to put

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1 this on the record. Tom, the only time, under the Rules
 2 of Civil Procedure, you can instruct a witness not to
 3 answer the question is if there's a privilege question.
 4 This has nothing to do with privilege. And what you're
 5 going to make us do is come back and do a second
 6 deposition of Mr. Clabaugh. I have no knowledge of the
 7 trespass case. I mean, as you already know by my
 8 questioning today, I don't even have the interrogatories
 9 that Mr. Clabaugh's answered. So I'm not trying to do
 10 discovery in the water trespass case.
 11 MR. TONER: In fact, that is exactly what
 12 you're doing. Because it has no relevance at all to the
 13 issue of water quality whether or not there is an
 14 easement that exists with the State of Wyoming. That is
 15 an issue in the trespass case. And if questions are
 16 being asked simply to harass the witness and for purposes
 17 that are not relevant to the case, I can instruct the
 18 witness not to answer that question. And I do so
 19 instruct him.
 20 MR. CRANK: Okay. And we'll seek costs,
 21 including attorneys' fees, when we got to come back and
 22 do a second deposition with Mr. Clabaugh.
 23 MR. TONER: I understand that's your right
 24 to attempt that. And you will have your opportunity to
 25 prove how the question of an easement is relevant to the

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1 water quality standards --
 2 MR. CRANK: Absolutely will.
 3 MR. TONER: -- set by the DEQ in the
 4 permit.
 5 Q. (BY MR. CRANK) Tell me, Mr. Clabaugh, what
 6 quality concerns you have about the CBM water flowing
 7 down Wild Horse Creek.
 8 A. It's putting salt and minerals on my ground.
 9 Q. And how do you know that?
 10 A. You can see it.
 11 Q. And it's putting salt and minerals where it
 12 spreads out and floods --
 13 A. Yeah.
 14 Q. -- the bottomlands. Correct? Correct?
 15 A. Yes.
 16 Q. What is the SAR, sodium absorption ratio, of
 17 the water flowing down Wild Horse Creek today?
 18 A. I have no idea. I've told you that about three
 19 times. I have no idea.
 20 Q. And what is the electrical conductivity of the
 21 water flowing down Wild Horse Creek today?
 22 A. I do not know.
 23 Q. And what is the load of salt that is flowing in
 24 that water down Wild Horse Creek today?
 25 A. I don't know.

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1 Q. And tell me the quantity of dissolved solids
2 that are flowing in that water down Wild Horse Creek
3 today.
4 A. I don't know.
5 Q. And isn't it true, Mr. Clabaugh, your complaint
6 about Wild Horse Creek as it exists today is with regard
7 to the quantity of water that's flowing down that creek?
8 A. Yes.
9 Q. And you're challenging this permit issued to
10 Lance because you believe it adds to the quantity of
11 water flowing down Wild Horse Creek. Correct?
12 A. Yes.
13 MR. CRANK: Let's take a break.
14 (Deposition proceedings recessed
15 9:35 a.m. to 9:43 a.m.)
16 Q. (BY MR. CRANK) Mr. Clabaugh, you mentioned
17 that you can see salt in places on your land?
18 A. Uh-huh. Yes.
19 Q. Do you know if that salt is being deposited by
20 the water coming across your land or it's leaching up
21 from the soil because of the water on the land?
22 A. I don't know that water will make the salt
23 leach up. The salt's there. Where it's coming from, I
24 don't know.
25 Q. So you've seen other instances where, if you

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1 put water on soil in this country, it causes the salt to
2 leach up out of the soil?
3 A. Well, I don't know as I saw it and say that's
4 what happened, but you assume that.
5 Q. You what?
6 A. I'm not to say that's exactly what happened,
7 but you assume that's what happened. Yeah, I'd say that.
8 Q. How much water is flowing down Wild Horse Creek
9 now?
10 A. Depends.
11 Q. On an average day, no storm.
12 A. I don't have any idea. I don't have no way of
13 measuring. I wouldn't know.
14 Q. And you haven't done any investigation to
15 determine how many cubic feet per second?
16 A. No.
17 Q. Millions of gallons a day?
18 A. No.
19 Q. How many barrels?
20 A. No.
21 Q. Do you know how much water is discharged into
22 Wild Horse Creek pursuant to this particular permit that
23 you're appealing?
24 A. No.
25 Q. And let me tell you that it's about 200 to 350

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1 gallons a minute. Does that sound like a lot, little?
2 How would you characterize that?
3 A. A lot.
4 Q. Why?
5 A. That's a lot of water in a minute.
6 Q. Do you know how many months of the year that
7 discharge actually is put into Wild Horse Creek?
8 A. No.
9 Q. Do you know what's done with that water during
10 the irrigation season?
11 A. No.
12 Q. Are you aware that, during the irrigation
13 season, all of that discharge is used to irrigate the
14 alfalfa on Mr. Floyd's land?
15 A. I don't know that it all is or isn't.
16 Q. Would it surprise you that that's being used to
17 irrigate alfalfa?
18 A. Yes.
19 Q. Why?
20 A. I guess all you'd really have to do is fly over
21 the field and look at it.
22 Q. What do you see?
23 A. White ground.
24 Q. In the alfalfa field?
25 A. Uh-huh.

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1 Q. And when did you notice that?
2 A. Ever since they've been doing it.
3 Q. And do you know when that alfalfa field went
4 in?
5 A. No, not for sure.
6 Q. So why, if you see white ground in the alfalfa
7 field, would that surprise you that they're using this
8 discharge to irrigate that alfalfa?
9 A. Because that's probably what's making the
10 ground white, I assume. I don't know.
11 Q. And so you assume that's salt from the water?
12 A. Yes.
13 Q. Were you aware that this water is being treated
14 before it's placed into Wild Horse Creek?
15 A. That's what I've been told.
16 Q. And who told you that?
17 A. That's what the treatment plant's supposed to
18 do.
19 Q. And does that have any relevance to you with
20 regard to this particular permit, the fact that the
21 water's being treated before it's put into Wild Horse
22 Creek?
23 A. Quantity is just as bad as quality to me.
24 Q. So it doesn't matter to you?
25 A. No.

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1 Q. They could be putting distilled water into Wild
 2 Horse Creek, and you would still object to that?
 3 A. Yes, I would.
 4 Q. Mr. Clabaugh, if the actual discharge into the
 5 creek occurs only between approximately October to April
 6 of every year, does that have any relevance to you with
 7 regard to the appeal of this permit?
 8 A. Yeah.
 9 Q. Why?
 10 A. Makes ice.
 11 Q. So once again, any discharge into Wild Horse
 12 Creek, you object to?
 13 A. Yes.
 14 Q. And if the rest of the year that water's used
 15 for irrigation, I guess you would approve of using it for
 16 irrigation. Is that correct?
 17 A. It's not my call.
 18 Q. Just any water into Wild Horse Creek is your
 19 call?
 20 A. Yeah.
 21 Q. Is that a yes?
 22 A. That gets to me, yes.
 23 Q. And tell me what facts you have that any of
 24 this water being discharged under this permit gets to
 25 you.

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1 A. Well, that outfall's about 150 yards above my
 2 fence.
 3 Q. So you believe it runs onto your land.
 4 Correct?
 5 A. Yeah.
 6 Q. And is there a channel in Wild Horse Creek at
 7 that area?
 8 A. A small one, yes.
 9 Q. And how much of that -- have you ever
 10 quantified how much of that water actually reaches the
 11 Clabaugh Ranch?
 12 A. No, sir.
 13 Q. And have you ever quantified how much of that
 14 water stays in the channel and how much of that water
 15 from the Lance permit actually spreads out over your
 16 bottomlands?
 17 A. Where there's no channel, it all does.
 18 Q. Assuming it gets there. Correct?
 19 A. It will get there.
 20 Q. You believe it will get there. Have you ever
 21 measured how much --
 22 A. No.
 23 Q. -- of this 200 to 350 gallons a minute actually
 24 gets to areas of Wild Horse Creek where there's no
 25 channel?

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1 A. When it's about 150 yards above my fence, it's
 2 going to get there, believe me.
 3 Q. It gets into the channel. Correct?
 4 A. (Deponent nods head.)
 5 Q. And I want to know, have you ever quantified or
 6 attempted to quantify --
 7 A. No.
 8 Q. Wait until I'm done with my question, please.
 9 A. I answered it twice already. I said no.
 10 Q. So you have no idea, just so we're clear on the
 11 record, how much of this water actually gets to areas of
 12 Wild Horse Creek where there's no channel. Correct?
 13 A. Correct.
 14 Q. Or how much is spread out over the bottomlands
 15 because of these trash dams. Correct?
 16 A. I can't say that the trash dams are making
 17 any -- where it's running out of the channel, there's no
 18 channel. The trash dams ain't got nothing do with it.
 19 Q. So they have no spreading effect of the water
 20 coming down Wild Horse Creek?
 21 A. No. Where there's no channel, no.
 22 Q. Well, I understand where there's areas where
 23 there's no channel, it naturally spreads out. But my
 24 question is how much of this water being discharged
 25 pursuant to this Lance permit is being spread out onto

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1 your bottomlands because of the trash dams?
 2 A. I don't know.
 3 Q. What is the electrical conductivity of that
 4 discharge from the Lance permit where it crosses onto the
 5 Clabaugh Ranch?
 6 A. I don't know.
 7 Q. And what is the SAR of the discharge from this
 8 Lance permit where it crosses onto the Clabaugh Ranch?
 9 A. I don't know.
 10 Q. And what is the electrical conductivity of this
 11 discharge from the Lance permit in areas where there are
 12 trash dams on Wild Horse Creek?
 13 A. I don't know.
 14 Q. What is the electrical conductivity of the
 15 discharge pursuant to the Lance permit in areas where
 16 there's no channel on Wild Horse Creek?
 17 A. I don't know.
 18 Q. What is the SAR of the water where there are
 19 trash dams on Wild Horse Creek from the Lance discharge?
 20 A. I don't know.
 21 Q. And what is the SAR of the water when it hits
 22 areas where there's no channel on the Clabaugh Ranch from
 23 the Lance permit?
 24 A. I don't know.
 25 Q. You understand, don't you, Mr. Clabaugh, that

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1 water chemistry can change from the end of the pipe as it
 2 goes downstream? Correct?
 3 A. I don't know.
 4 Q. Doesn't it make sense to you that water, as it
 5 flows over land, will pick up minerals and silt and other
 6 characteristics of the land it's flowing over?
 7 A. I assume that, yes.
 8 Q. And so whatever the EC and the SAR are that's
 9 being discharged at the end of the pipe might be
 10 different downstream on your ranch. Isn't that true?
 11 A. I don't know.
 12 Q. Why don't you know? If you assume that water,
 13 when it flows over land, might change its chemical
 14 composition, why don't you know that it might be
 15 different someplace downstream on your ranch?
 16 MR. TONER: Objection to the form of the
 17 question. It's compound.
 18 Q. (BY MR. CRANK) You can answer.
 19 A. I'm not qualified to say that.
 20 Q. And you have no idea how many outfalls are
 21 located upstream of you on Wild Horse Creek?
 22 A. No, sir.
 23 Q. Nor what quantity those particular outfalls may
 24 be placing into Wild Horse Creek?
 25 A. No, sir.

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1 Q. And you have no idea how those quantities that
 2 are being put into Wild Horse Creek, you don't know what
 3 the chemistry of those outfalls are upstream of Wild
 4 Horse Creek. Correct?
 5 A. No, sir.
 6 Q. And you have no idea how either the chemistry
 7 or the quantity might compare to the outfall that's being
 8 contested in this particular permit?
 9 A. I haven't.
 10 Q. Mr. Clabaugh, you would agree with me -- I know
 11 you don't want to improve the channel on your property.
 12 But if that channel were different, it could be that none
 13 of this water spreads out on your bottomlands. Correct?
 14 A. Possible, I guess.
 15 Q. And you never allowed anybody to do any work to
 16 achieve that result. Correct?
 17 A. No.
 18 Q. And you don't plan to do so in the future?
 19 A. No. I don't want it looking like Maycock's.
 20 Q. And what does Mr. Maycock's land look like?
 21 A. You know.
 22 Q. I've never been there. I don't.
 23 A. You've seen the pictures of the channel they
 24 built down through there. It's a mess.
 25 Q. I don't think I have. What's it look like?

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1 A. Serpentine mess.
 2 (Exhibit No. 33 marked for
 3 identification.)
 4 Q. (BY MR. CRANK) Let me hand you what I've
 5 marked as Deposition Exhibit 33. Do you recognize that?
 6 A. I've seen it.
 7 Q. What is it?
 8 A. It's a petition to the Environmental Quality
 9 Council.
 10 Q. And this is an appeal of the permit issued to
 11 Lance Petroleum on -- how do you say it, Echeta, Echeta
 12 Road?
 13 A. Echeta Road, yeah.
 14 Q. This is the permit we've been discussing today.
 15 Correct?
 16 A. Yes.
 17 Q. Did you review this prior to it being filed
 18 with the Environmental Quality Council?
 19 A. Yes.
 20 Q. Do you review every appeal of these permits
 21 upstream from you on Wild Horse Creek?
 22 A. I don't know. We've done a lot of them. So I
 23 don't know if I've been through every one. But I'm aware
 24 of them, yeah.
 25 Q. And so when you review them, how do you review

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1 them?
 2 A. Just go over them with Tom, and he tells me.
 3 Q. What are you looking for particularly? Don't
 4 telling me what Mr. Toner tells you, but what are you
 5 looking for?
 6 A. I'm looking to get rid of the water.
 7 Q. All right. So do you go through these
 8 paragraph by paragraph and analyze whether --
 9 A. No.
 10 Q. -- this particular permit might violate --
 11 A. No.
 12 Q. -- that section that you're alleging?
 13 A. No.
 14 Q. Why?
 15 A. I don't want the water. I let him take care of
 16 the legal part of it.
 17 Q. So what's in the petition doesn't matter to you
 18 as long as the quantity of water coming down Wild Horse
 19 Creek is lessened?
 20 A. And the quality. Because I don't want the salt
 21 and the iron and minerals that you can see on the ground.
 22 I don't want that, either. But if you get rid of the
 23 quantity, you'll take care of the other.
 24 Q. So before the break, Mr. Clabaugh, this was
 25 purely a quantity issue with you. Correct?

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1 A. Well, yeah.
 2 Q. And so we took a break. And after the break in
 3 this deposition, now it's also a quality issue?
 4 A. Quantity and quality. They go hand in hand.
 5 Q. Well, and the record will speak that you failed
 6 to mention anything about quality before the break in
 7 this deposition. Correct?
 8 MR. TONER: I object to that. That's not
 9 a correct representation of the record. He's talked
 10 about salts and minerals repeatedly. Object to the form.
 11 Q. (BY MR. CRANK) Correct?
 12 A. I've talked about salts and the minerals. So
 13 I'm not going to -- so it's quantity and quality, however
 14 you look at it.
 15 MR. CRANK: And, Tom, let's quit doing
 16 speaking objections. The correct objection is you object
 17 as to the form under the Wyoming Rules of Civil
 18 Procedure.
 19 MR. TONER: I think you have to state the
 20 basis. Rather than just saying you object to the form of
 21 the question, you have to state why the form is
 22 objectionable.
 23 MR. CRANK: I don't believe.
 24 MR. TONER: Disagree.
 25 Q. (BY MR. CRANK) So why don't you turn to page

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1 2, Mr. Clabaugh. And do you see paragraph G on page 2?
 2 A. Uh-huh.
 3 Q. And Deposition Exhibit 33 says that you're
 4 alleging that, "Water uses in existence on and after
 5 November 28, 1975 and the level of water quality
 6 necessary to protect those uses are not maintained and
 7 protected by the permit in violation of Chapter 1,
 8 Section 8 of the water quality rules and regulations of
 9 the DEQ." Did I read that correctly?
 10 A. That's what it says.
 11 Q. Tell me what facts you have, as you sit here
 12 today, to tell me that paragraph G is accurate.
 13 A. I don't have the facts.
 14 Q. You can tell me none. Correct?
 15 A. Right.
 16 Q. Isn't it true, Mr. Clabaugh, that you file this
 17 same petition for every appeal you file with regard to
 18 any discharge upstream of you on Wild Horse Creek?
 19 A. Yes.
 20 Q. Can you tell me what Chapter 1, Section 8 of
 21 the water quality rules and regulations of the DEQ even
 22 pertains to?
 23 A. No.
 24 Q. Prior to CBM production in Wyoming, you used
 25 water from coal seams to water your livestock. Correct?

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1 A. Yes.
 2 Q. And to irrigate with. Correct?
 3 A. No irrigation.
 4 Q. Because you put that water into stock ponds.
 5 Correct?
 6 A. Yes.
 7 Q. Paragraph H on Deposition Exhibit 33 provides,
 8 "The permit does not prevent the presence of substances
 9 attributable to or influenced by the activities of man
 10 that will settle to form sludge, bank or bottom deposits
 11 in quantities that could result in significant aesthetic
 12 degradation, significant degradation of habitat for
 13 aquatic life or adversely affect agricultural use, plant
 14 life or wildlife in violation of Chapter 1, Section 15 of
 15 the water quality rules and regulations of the DEQ." Did
 16 I read that accurately?
 17 A. Yeah.
 18 Q. Please tell me what facts you have,
 19 Mr. Clabaugh, that tend to show that paragraph H of the
 20 petition appealing this permit is accurate and can be
 21 proved.
 22 A. I can't answer that.
 23 Q. You have no facts as you sit here today.
 24 Correct?
 25 A. Right.

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1 Q. And you can't tell me what Chapter 1, Section
 2 15 of the water quality rules and regulations of the DEQ
 3 even provides, can you?
 4 A. No.
 5 Q. Paragraph I in Deposition Exhibit 33 alleges a
 6 violation of Chapter 1, Section 16 of the water quality
 7 rules and regulations of the DEQ. Correct?
 8 A. Yes.
 9 Q. I won't read it again because it's in the
 10 deposition exhibit. But tell me what facts you have that
 11 tend to show that paragraph I of this petition appealing
 12 the permit issued to Lance Petroleum is true and can be
 13 proved.
 14 A. I don't.
 15 Q. And once again, you don't know what Chapter 1,
 16 Section 16 of the water quality rules and regulations of
 17 the DEQ even provides, do you?
 18 A. No.
 19 Q. Paragraph J alleges a violation of Chapter 1,
 20 Section 17 of the water quality rules and regulations of
 21 the DEQ. Is that accurate?
 22 A. I don't know.
 23 Q. Look at it, paragraph J.
 24 A. Yeah.
 25 Q. Tell me what facts you have, as you sit here

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1 today, that Chapter 1, Section 17 of the water quality
 2 rules and regulations of the DEQ has been violated by the
 3 issuance of this permit.
 4 A. I have none.
 5 Q. And you don't know what Chapter 1, Section 17
 6 of those water quality rules and regulations even
 7 provides, do you?
 8 A. No.
 9 Q. And how has the taste, odor or color of Wild
 10 Horse Creek been affected by CBM production?
 11 A. I can't answer that.
 12 Q. You have no facts to --
 13 A. No, I have no facts.
 14 Q. Paragraph K alleges that the issuance of this
 15 permit violates Chapter 1, Section 20 of the water
 16 quality rules and regulations of the DEQ. Is that
 17 accurate?
 18 A. Yes.
 19 Q. And tell me what facts you have today to tell
 20 me that Chapter 1, Section 20 of the water quality rules
 21 and regulations of the DEQ has somehow been violated by
 22 the issuance of this permit.
 23 A. I don't.
 24 Q. And you don't know what this section even
 25 provides. Correct?

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1 A. No.
 2 Q. And tell me what facts you have to show that,
 3 by the issuance of this permit to Lance Petroleum,
 4 there's been a measurable decrease in crop or livestock
 5 production on your ranch.
 6 A. Repeat that.
 7 Q. Tell me what facts you can tell me today that
 8 show that, by the issuance of this permit to Lance
 9 Petroleum, there has been a measurable decrease in crop
 10 or livestock production on your ranch.
 11 A. I've had a loss of crop.
 12 Q. From this permit?
 13 A. From the water, period.
 14 Q. From the water in total. Correct?
 15 A. Yes.
 16 Q. And what --
 17 A. I'm not going to say it's all coming from here.
 18 No, I can't. I'm talking about water coming all the way
 19 down the creek.
 20 Q. So collectively, all the permits issued on Wild
 21 Horse Creek you believe has caused a loss of crop?
 22 A. Yes.
 23 Q. And tell me what that loss of crop has been.
 24 A. Hay --
 25 Q. Assuming that --

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1 A. -- grass.
 2 Q. Go ahead.
 3 A. Hay and grass.
 4 Q. So assuming it would have been a good year and
 5 you could have hayed, you've lost that hay crop.
 6 Correct?
 7 A. Yes.
 8 Q. And when you say and grass, you believe there
 9 are different kinds of grass growing on your bottomlands
 10 now than prior to CBM production. Correct?
 11 A. Yes.
 12 Q. And what experts have you had study the grass
 13 on the Clabaugh Ranch that leads you to conclude there's
 14 a different type of grass and in different quantities
 15 growing on the Clabaugh Ranch?
 16 A. I've had no experts that I can say of.
 17 Q. So it's just your general observation.
 18 Correct?
 19 A. Yes, sir.
 20 Q. And you cannot tell me that that loss of hay or
 21 grass is specifically attributable to this permit that
 22 you're appealing. Correct?
 23 A. No.
 24 Q. Paragraph L alleges that the permit fails to
 25 assure compliance with the turbidity requirements of

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1 Chapter 1, Section 23 of the water quality rules and
 2 regulations of the DEQ. Tell me what facts you have as
 3 you sit here today that this permit issued to Lance
 4 Petroleum violates Chapter 1, Section 23 of the water
 5 quality rules and regulations of the DEQ.
 6 A. I can't.
 7 Q. And you don't even know what that section
 8 provides. Correct?
 9 A. No.
 10 Q. And what is turbidity?
 11 A. I have no idea.
 12 Q. Paragraph L alleges -- well, there's the end of
 13 the alleged violations of Chapter 1. Would you agree
 14 with me, Mr. Clabaugh, that since you've alleged no other
 15 violations of Chapter 1 of the water quality rules and
 16 regulations of the DEQ, this permit must not violate
 17 those other sections of Chapter 1?
 18 A. I don't know.
 19 Q. If there were other sections of Chapter 1 that
 20 were violated, you would have wanted those alleged in
 21 this petition. Correct?
 22 A. Yes.
 23 Q. And since they're not alleged, you would assume
 24 that they're not violated. Correct?
 25 A. Yes.

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1 Q. Paragraph M alleges that Chapter 2, Section
 2 5(c), Romanette (ii) of the water quality rules and
 3 regulations of the DEQ has been violated by the issuance
 4 of this permit to Lance Petroleum. Is that correct?
 5 A. I don't know. This here, yeah.
 6 Q. That's what it alleges. Correct?
 7 A. Yeah. Right.
 8 Q. Tell me what facts you have to show that
 9 Chapter 2, Section 5(c)(ii) of the water quality rules
 10 and regulations of the DEQ were violated by the issuance
 11 of the permit to Lance Petroleum.
 12 A. I don't.
 13 Q. And you, once again, don't know what Chapter 2,
 14 Section 5(c), Romanette (ii) even provides. Correct?
 15 A. No.
 16 Q. Paragraph N alleges that the permit fails to
 17 require that the discharge ensures compliance with the
 18 applicable water quality requirements of all affected
 19 states in violation of Chapter 2, Section 9(a), Romanette
 20 (v). Is that what that petition alleges?
 21 A. Yes.
 22 Q. And what facts do you have that the issuance of
 23 this permit to Lance Petroleum is in violation of Chapter
 24 2, Section 9(a), Romanette (v)?
 25 A. I don't.

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1 Q. And once again, you don't know what Chapter 2,
 2 Section 9(a), Romanette (v) even provides?
 3 A. No.
 4 Q. And what is an affected state, Mr. Clabaugh?
 5 A. I don't know.
 6 Q. And do you have any idea what the applicable
 7 water quality requirements are of whatever an affected
 8 state is?
 9 A. No.
 10 Q. Paragraph O provides that the issuance of this
 11 permit violated Chapter 2, Section 9(a), Romanette (vi)
 12 of the water quality rules and regulations of the DEQ.
 13 Is that accurate?
 14 A. Yes.
 15 Q. And what facts do you have today that show that
 16 this permit was issued in violation of Chapter 2, Section
 17 9(a), Romanette (vi) of the water quality rules and
 18 regulations of the DEQ?
 19 A. I don't.
 20 Q. And do you even know what that provision says?
 21 A. No.
 22 Q. Paragraph P, as in Pat, provides that this
 23 permit issued to Lance Petroleum allegedly violates
 24 Chapter 2, Appendix H, paragraphs (b), Romanette (i),
 25 Romanette (ii), Romanette (v), Romanette (vii) and

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1 Romanette (ix) of the water quality rules and regulations
 2 of the DEQ. Is that what this petition alleges,
 3 Mr. Clabaugh?
 4 A. Yes.
 5 Q. What facts do you have that those particular
 6 sections of Appendix H of Chapter 2 of the water quality
 7 rules and regulations of the DEQ were violated by the
 8 issuance of this permit to Lance Petroleum?
 9 A. I don't.
 10 Q. And you don't know what those provisions even
 11 provide, do you?
 12 A. No.
 13 Q. What is Appendix H, if you know?
 14 A. I don't know.
 15 Q. Paragraph Q alleges that this permit issued to
 16 Lance Petroleum violates Chapter 2, Appendix H,
 17 paragraphs (d), Romanette (iv) of the water quality rules
 18 and regulations of the DEQ. Is that accurate?
 19 A. Yes.
 20 Q. What facts do you have that this permit issued
 21 to Lance Petroleum violates Chapter 2, Appendix H,
 22 paragraph (d), Romanette (iv) of the water quality rules
 23 and regulations of the DEQ?
 24 A. I don't.
 25 Q. Once again, you don't know what this provision

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1 even says?
 2 A. No.
 3 Q. And has this Lance permit caused downstream
 4 erosion on the Clabaugh Ranch? Are you thinking,
 5 Mr. Clabaugh?
 6 A. Would you repeat it?
 7 Q. Sure. Has this Lance permit caused downstream
 8 erosion on the Clabaugh Ranch?
 9 A. The water has caused erosion, yes.
 10 Q. And I'm asking specifically --
 11 A. I can't answer specific.
 12 MR. TONER: Ken, you should wait until Pat
 13 finishes his question. You're talking over each other.
 14 A. Excuse me.
 15 Q. (BY MR. CRANK) Let me ask it again. Tell me
 16 specifically, has this issuance of this permit to Lance
 17 Petroleum caused downstream erosion on your ranch?
 18 A. It has attributed to it, I'm sure.
 19 Q. And why are you sure of that?
 20 A. When it's that far above the fence, it's coming
 21 through, yeah. Part of their water, yeah, it has caused
 22 some problems.
 23 Q. So you're assuming that this water makes it
 24 down to the portion of your ranch where there's been
 25 erosion. Correct?

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1 A. Yes.

2 Q. And how far away from the Lance outfall is the

3 erosion occurring?

4 A. Quarter of a mile.

5 Q. And what erosion have you experienced on the

6 ranch? Describe it for me, please.

7 A. Making head cuts.

8 Q. What's a head cut?

9 A. Making a new channel.

10 Q. In areas where there was no channel?

11 A. True.

12 Q. Any other erosion? Have you described all that

13 for me?

14 A. Not -- no.

15 Q. It doesn't sound like erosion is a huge

16 problem. Am I accurate in that?

17 A. It is a problem, though.

18 Q. Well, it sounds like the major problem is the

19 bottomlands are flooding because there's no channel.

20 Correct? Or it's spreading out because of these trash

21 dams. Correct?

22 A. True.

23 Q. How many areas are you aware of on the Clabaugh

24 Ranch today that have been eroded because of CBM water in

25 total?

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1 A. Three.

2 Q. And with regard to any of those three erosion

3 areas, you can't point specifically to the Lance permit

4 as having caused that erosion. Correct?

5 A. Not them solely, no.

6 Q. And if Lance is only discharging to Wild Horse

7 Creek between October and approximately April, your

8 complaint with regard to that discharge is it forms ice.

9 Correct?

10 A. Yes.

11 Q. And if it forms ice, I would assume that it's

12 not a significant contributor to the erosion. Is that

13 accurate or not?

14 A. When ice melts, yes.

15 Q. So in the spring, you believe the ice melts and

16 then causes erosion?

17 A. Yes.

18 Q. Paragraph R alleges that the permit issued to

19 Lance Petroleum violates Chapter 2, Appendix H, paragraph

20 (a), Romanette (i) of the water quality rules and

21 regulations of the DEQ. Is that accurate?

22 A. Yes.

23 Q. And tell me what facts you have to support that

24 the issuance of the permit to Lance Petroleum in this

25 matter violates Chapter 2, Appendix H, paragraph (a),

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1 Romanette (i) of the water quality rules and regulations

2 of the DEQ.

3 A. I have none.

4 Q. And you, once again, don't know what Appendix H

5 is or what that particular provision even says?

6 A. No.

7 Q. When this water comes down the creek, I assume

8 your cows actually drink the water that's in Wild Horse

9 Creek. Correct?

10 A. Not if there's a water tank over there to go

11 drink out of, they won't.

12 Q. But you're not here telling me that none of

13 this water that's coming down Wild Horse Creek has never

14 been used by either your livestock or wildlife. Correct?

15 A. Oh, it's been used, yeah.

16 Q. And what kind of wildlife do you have on your

17 ranch?

18 A. Deer and antelope and --

19 Q. All right. And -- go ahead.

20 A. And all the rest, skunks, badgers, whatever.

21 Q. And I assume that wildlife, whatever it is,

22 uses both your stock tanks, as well as Wild Horse Creek,

23 as a watering source?

24 A. Yes.

25 Q. Paragraph S, as in Sam, alleges that the

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1 permits effluent limits will not protect plant life from

2 adverse effects of the discharge, and water with the

3 quality allowed by the permit will cause a measurable

4 decrease in crop and livestock production. What facts do

5 you have to support that allegation in the petition?

6 A. Just what you see.

7 Q. Those are the effects that you've already

8 described in your deposition?

9 A. Yes.

10 Q. Anything else?

11 A. Not to my knowledge.

12 Q. And tell me about specifically with this

13 permit, what facts do you have that the issuance of this

14 permit and the discharge pursuant to this permit are

15 causing adverse effects and a measurable decrease in crop

16 and livestock production?

17 A. I can't.

18 Q. Paragraph T alleges that the permit violates

19 the anti-backsliding provisions of the Clean Water Act.

20 Do you know what the anti-backsliding provisions of the

21 Clean Water Act are?

22 A. No.

23 Q. So what facts do you have that the issuance of

24 this particular permit violates the anti-backsliding

25 provisions of the Clean Water Act?

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1 A. I have none.
 2 Q. Is there some particular -- do you know what
 3 the effluent limits are on the permit that's being
 4 appealed in this matter?
 5 A. No.
 6 Q. And if I understand your testimony, it doesn't
 7 matter what the effluent limits are to you?
 8 A. Right.
 9 Q. Any water going into Wild Horse Creek, you're
 10 going to challenge?
 11 A. Right.
 12 Q. As you understand it, the Lance permit
 13 discharges above your land. Correct?
 14 A. Yes.
 15 Q. And Wild Horse Creek flows through your land.
 16 Correct?
 17 A. Yes.
 18 Q. And then leaves your land?
 19 A. Yes.
 20 Q. How many gallons of the Lance -- of the
 21 discharge authorized by the Lance permit actually escapes
 22 from what channel there is on Wild Horse Creek and flows
 23 into your land?
 24 A. I can't answer that.
 25 Q. Mr. Clabaugh, what is the soil EC of the

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1 bottomlands on the Clabaugh Ranch?
 2 A. I don't know.
 3 Q. And you, I assume, have no idea what they were
 4 before CBM production occurred upstream on Wild Horse
 5 Creek?
 6 A. No.
 7 Q. And you have no idea what they are today?
 8 A. No.
 9 Q. What is the soil EC on the upland areas of --
 10 what was the soil EC on the upland areas of the Clabaugh
 11 Ranch prior to CBM production?
 12 A. I don't know.
 13 Q. And I assume, then, you don't know what it is
 14 today?
 15 A. No.
 16 Q. Are you aware that the Lance permit allows a
 17 certain amount of dissolved solids like sodium and other
 18 water chemistry components to be discharged into Wild
 19 Horse Creek?
 20 A. Repeat that.
 21 Q. The permit issued to Lance Petroleum allows a
 22 certain -- a maximum amount of discharged solids to be
 23 discharged into Wild Horse Creek. Are you aware of that?
 24 A. I'm aware that all permits are that way. But
 25 how much, I don't know.

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1 Q. So you don't have any knowledge of what the
 2 specific parameters are in this permit. Correct?
 3 A. No.
 4 Q. Do you have any knowledge or any facts to show
 5 how much of those discharged solids allowed by the permit
 6 are being discharged on the Clabaugh Ranch on a daily
 7 basis?
 8 A. I don't know.
 9 Q. And so the answer would be you wouldn't know on
 10 a monthly or a yearly basis, as well?
 11 A. No, I do not know.
 12 Q. Are there irrigation monitoring points on the
 13 Clabaugh Ranch?
 14 A. No.
 15 Q. How come?
 16 A. I can't answer that. I don't know.
 17 Q. Have you ever allowed anyone to establish an
 18 irrigation monitoring point on the Clabaugh Ranch?
 19 A. No.
 20 Q. And would you allow such a request?
 21 A. Depend on -- I'd have to go to my attorney and
 22 ask to find out.
 23 Q. If the Lance permit authorizes the discharge of
 24 200 to 350 gallons a minute, Mr. Clabaugh, do you have
 25 any facts to show how much of that discharge evaporates?

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1 A. No, sir.
 2 Q. And do you have any facts to show how much of
 3 that discharge might sink into the ground?
 4 A. No, sir.
 5 Q. Have you read or studied or considered a report
 6 issued recently by some experts hired by the
 7 Environmental Quality Council entitled "Expert Scientific
 8 Opinion on the Tier-2 Methodology"?
 9 A. Who's the experts?
 10 Q. Jan M.H. Hendrickx and Bruce A. Buchanan.
 11 A. No, sir.
 12 MR. CRANK: Okay. Give us about ten
 13 minutes, Tom. I may be done.
 14 MR. TONER: Sure.
 15 (Deposition proceedings recessed
 16 10:28 a.m. to 10:38 a.m.)
 17 Q. (BY MR. CRANK) Mr. Clabaugh, we've talked
 18 about these trash dams. How do the trash dams relate to
 19 areas of Wild Horse Creek, if at all, where there's no
 20 channel?
 21 A. I don't think any.
 22 Q. It would occur to me that if there's a big
 23 trash dam in the bottom of that drainage and water washes
 24 up against it and spreads out, there likely would not be
 25 a channel behind the trash dam.

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1 A. I understand what you're saying, but I -- where
 2 it's not in the channel, I can't recall a trash dam below
 3 it.
 4 Q. It would be above it. Water comes up against
 5 the trash dam. It blocks the water, spreads it out, so
 6 there's no defined channel below the trash dam. But tell
 7 me if that's accurate, what you see on your ranch.
 8 A. There's sure some above. But I don't -- I'm
 9 looking at it different than you are. A trash dam below
 10 would hold the water up and make the sediment go down and
 11 cause the channel not to be there, fill up. I'm reading
 12 it different than you are. But there's trash dams all up
 13 and down the creek.
 14 Q. Back in the '80s or '90s, did you have some
 15 kind of lawsuit against a production company named CMS
 16 with regard to permitting water discharge in Wild Horse
 17 Creek?
 18 A. CMS was on me, but we never had any action
 19 against them.
 20 Q. What was CMS doing on you?
 21 A. They had my lease at one time.
 22 Q. And do you remember when they had the lease?
 23 A. Probably '98 or '99. And they got bought out
 24 by Pennaco, Marathon.
 25 Q. And then how did it end up with this other

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1 company, Cedar Resources?
 2 A. I don't remember exactly how that went. The
 3 lease had run out on a technicality.
 4 Q. Failed to put it into production in time?
 5 A. I don't remember what it was now at the time.
 6 But they was over their time. And we filed action. But
 7 that was after 2000 that we filed an action against them
 8 or threatened them or something. I don't know. Tom done
 9 all that.
 10 Q. Mr. Toner?
 11 A. Yeah. And if they didn't re-lease it, they
 12 released it.
 13 Q. And then you ended up leasing it to Cedar
 14 Resources?
 15 A. Yeah. They wouldn't do the surface agreement
 16 we wanted because they wouldn't contain the water, was
 17 the big holdup.
 18 Q. Tell me about the subirrigation that Cedar
 19 Resources is doing. Are you describing that they are
 20 putting in the subirrigation, but they have no crop
 21 growing on top of that?
 22 A. Not yet.
 23 Q. Are there crops growing on part of the land
 24 that's been subirrigated on the Clabaugh Ranch?
 25 A. No.

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1 Q. So you said you thought it was going to be
 2 about 40 acres, if I recall your testimony.
 3 A. Uh-huh.
 4 MR. TONER: Ken, you have to say yes or
 5 no.
 6 A. Yes.
 7 Q. (BY MR. CRANK) And if we went out there today,
 8 it would be 40 acres of bare dirt with nothing growing on
 9 top of it?
 10 A. They're farming it now to get ready to plant
 11 it, yes.
 12 Q. So when did this subirrigation project start?
 13 I understood it had been going on for a number of years.
 14 A. It has been, but they haven't chose to do
 15 anything with it.
 16 Q. So for a period of time -- here's my confusion.
 17 Has this been done in pieces, where they maybe did five
 18 or ten acres with subirrigation, planted a crop and
 19 farmed it, or have they just had subirrigation under bare
 20 dirt for a period of time and now finally this year
 21 they're going to farm it?
 22 A. They've had subirrigation under bare dirt.
 23 Well, I don't say it's bare dirt. They ripped all that
 24 in. And there was still grass growing in between their
 25 deals, not as pasture.

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1 Q. So they just trenched it, then, if I understand
 2 it?
 3 A. Yes.
 4 Q. But now they've bladed all that off, I guess,
 5 and they're going to plant a new crop on top of the
 6 subirrigation?
 7 A. Yes.
 8 Q. And when did they start that project?
 9 A. Here about a month ago. In fact, they're still
 10 working on it.
 11 MR. CRANK: Tom, that's all the questions
 12 I have for Mr. Clabaugh. We have the two open questions
 13 we need to go, I guess, to the EQC or the hearing
 14 examiner and get a ruling on compelling his answer. So
 15 I'll keep the deposition open at least for those purposes
 16 to get a ruling from the hearing officer or the EQC with
 17 regard to those questions you instructed him not to
 18 answer. With that, I believe that's all the questions I
 19 have today.
 20 MR. BURBRIDGE: My turn? I just have a
 21 couple question.
 22 EXAMINATION
 23 BY MR. BURBRIDGE:
 24 Q. Mr. Clabaugh, as you know, my name is John
 25 Burbridge. I represent the DEQ in this matter. And I

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1 just had a couple questions with regard -- I wanted to
 2 follow up on some of Mr. Crank's questions regarding your
 3 soil EC. And my question is have you ever had a soil
 4 analysis done on your property?
 5 A. No, I haven't.
 6 Q. You personally have not?
 7 A. No, sir.
 8 Q. Has anybody other than yourself done any type
 9 of soil analysis on Clabaugh Ranch?
 10 A. Not to my knowledge.
 11 Q. So there hasn't been any type of contractor out
 12 there that's tested the soil for EC or SAR levels?
 13 A. No, sir.
 14 Q. And this would be the same in and along Wild
 15 Horse Creek where it passes through your property?
 16 A. Yes, sir.
 17 Q. And when I talk about Clabaugh Ranch, is your
 18 answer including the BLM leased portions?
 19 A. There's no BLM leased portions on the creek.
 20 Q. And there's been no testing on the BLM portion
 21 itself?
 22 A. Not to my knowledge.
 23 Q. And how about the school section, the State
 24 leases?
 25 A. Not to my knowledge.

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1 Q. Has any firm or any person ever asked
 2 permission to enter your property to perform a soil
 3 analysis?
 4 A. Not to my knowledge.
 5 Q. Have they ever asked to perform a soil analysis
 6 on the State section?
 7 A. Not that I recall.
 8 Q. Now, does Wild Horse Creek pass through any of
 9 the private leases that you have?
 10 A. Private leases meaning that I own the minerals
 11 on?
 12 Q. No. I'm talking about the surface.
 13 A. Oh, private. No. No, sir. No, sir.
 14 Q. And has anybody asked your permission to enter
 15 those portions of your leases to perform any type of soil
 16 analysis?
 17 A. No, sir.
 18 Q. So your testimony today is that there has been
 19 no soil analysis done on your property, your leased
 20 property, private or public?
 21 A. Not to my knowledge.
 22 Q. And I just have a couple questions about the
 23 subirrigation, because I'm trying to picture in my head,
 24 when you say they dig the trenches, are these open
 25 trenches with water in them, or is there piping that goes

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1 into the trenches and the water goes into that and then
 2 it filters into the ground?
 3 A. Piping. They rip a pipe about that big around
 4 into the ground (indicating).
 5 Q. "That big" being what, an inch or two?
 6 A. Half inch, three-quarters an inch. And they
 7 rip it in there, and it's got little holes in it.
 8 Q. This subirrigation property, is it upgradient
 9 from Wild Horse Creek?
 10 A. Oh, yeah. It's off upland. Yeah, it's off the
 11 creek.
 12 Q. Is it situated or close enough that the water
 13 could filter from that and create individual springs into
 14 Wild Horse Creek itself?
 15 A. I think it's far enough away that it won't, but
 16 I'm not saying it couldn't happen. I doubt it. But I
 17 don't know what's going on down there.
 18 Q. How far away is it?
 19 A. Probably at least three-quarters of a mile.
 20 Q. So once that water subirrigates, you really
 21 don't have any idea, as you sit here today, where that
 22 water could end up?
 23 A. No.
 24 Q. Any idea -- do you have any knowledge of what
 25 Cedar Resources plans on putting in for a crop where

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1 they're preparing the soil?
 2 A. He called me the other day and wanted to know
 3 what I wanted to put in there. And I said, "You put in
 4 there what you think will work the best for you." I've
 5 basically turned it over to them.
 6 Q. So do you know what's going in there?
 7 A. No.
 8 Q. Is it like wheat or corn, or is it more of a
 9 grass?
 10 A. Oh, it will be grass. It will be grass. No
 11 alfalfa.
 12 Q. No alfalfa?
 13 A. I don't want any alfalfa.
 14 Q. I trust, just by your answer, that you're going
 15 to have the benefit of this crop by being able to graze
 16 that?
 17 A. Yes, sir.
 18 Q. And will that, then, increase your load
 19 capacity of your ranch with the planting that they're
 20 doing?
 21 A. Not significantly, no.
 22 Q. But you'll be able to add more cows?
 23 A. Well, eight or ten, maybe, but no. They've
 24 only got like -- I don't know. I forget. They just
 25 plowed some in. I don't know how much -- this last deal

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1 they plowed in, how much they got done, but I suppose
 2 they -- I don't know how much they got in.
 3 Q. And will this planting, will it allow you to
 4 add additional acres to be able to hay that particular
 5 property?
 6 A. Yeah, probably. You know, see how it works.
 7 That's the long-range plan, either hay it or graze it,
 8 you know. But it won't have any significant amount on
 9 your numbers, because it's not that big a project. If it
 10 was five, six hundred acres instead of 40, 50, 60 acres,
 11 it would be a lot different.
 12 Q. And I think Mr. Crank probably asked this, but
 13 does Cedar Resources treat that water at all?
 14 A. I don't know whether they're treating it or
 15 not. They're running it through a building up there, but
 16 I don't think they're -- because it never comes to the
 17 surface, and I don't think they have to treat it.
 18 Q. Could that building being covering like a pump
 19 or something?
 20 A. Yeah. And I don't know what they're -- they've
 21 showed it to me, but I don't understand it.
 22 Q. How big is that building?
 23 A. Oh, that way (indicating).
 24 Q. Twelve feet by ten feet or something?
 25 A. Yeah. Probably not even that big. Probably

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1 eight by twelve, something like that.
 2 Q. And have you -- apparently you've had the
 3 opportunity to fly over Mr. Floyd's alfalfa crop. Do you
 4 fly?
 5 A. No. But I've leased airplanes to go look.
 6 Q. And in those flights, have you had an
 7 opportunity to see Lance's treatment facility?
 8 A. Yes.
 9 Q. And how big is that?
 10 A. It's pretty good sized.
 11 Q. Is it bigger than the building on your
 12 property?
 13 A. Oh, yeah.
 14 MR. BURBRIDGE: Thank you. I don't
 15 believe I have any other questions.
 16 MR. CRANK: Could I have one follow-up,
 17 Tom?
 18 MR. TONER: Oh, sure.
 19 EXAMINATION
 20 BY MR. CRANK:
 21 Q. How many gallons a minute or day or year is
 22 Cedar Resources producing?
 23 A. I cannot answer that.
 24 MR. CRANK: With the same provisos, I
 25 guess, I have no further questions, Tom.

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1 MR. BURBRIDGE: Nothing further.
 2 MR. TONER: I have no questions.
 3 (Deposition proceedings concluded
 4 10:52 a.m., June 29, 2009.)
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1 DEPONENT'S CERTIFICATE
 2 I, Kenneth Clabaugh, do hereby certify that I
 3 have read the foregoing transcript of my testimony
 4 consisting of 120 pages taken on June 29, 2009, and that
 5 the same is a full, true and correct transcript of my
 6 testimony.
 7
 8
 9
 10
 11 _____
 12 KENNETH CLABAUGH
 13
 14 () No changes () Changes attached
 15
 16 Subscribed and sworn to before me this _____
 17 day of _____, 2009.
 18
 19 _____
 20 Notary Public
 21
 22 My Commission Expires _____
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CERTIFICATE

I, RANDY A. HATLESTAD, a Registered Merit Reporter and a Notary Public of the State of Wyoming, do hereby certify that the aforementioned deponent was by me first duly sworn to testify to the truth, the whole truth, and nothing but the truth;

That the foregoing transcript is a true record of the testimony given by the said deponent, together with all other proceedings herein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal this 10th day of July, 2009.

Randy A. Hatlestad

RANDY A. HATLESTAD
Registered Merit Reporter

My Commission Expires April 2, 2012.

Authenticating transcript using electronic legal technology.

Exhibit 2

Patrick J. Crank
Speight, McCue & Crank, P.C.
2515 Warren Avenue, Suite 505
Cheyenne, WY 82001
Phone: (307) 634-2994
Fax: (307) 635-7155

Counsel for Lance Oil and Gas Company, Inc.

BEFORE THE ENVIRONMENTAL QUALITY COUNCIL
OF THE STATE OF WYOMING

IN THE MATTER OF THE APPEAL)	
OF CLABAUGH RANCH, INC. FROM)	Docket No. 08-3802
WYPDES PERMIT NO. WY0049697)	
)	

AFFIDAVIT OF JASON THOMAS

COMES NOW your Affiant after having been first duly sworn and states as follows:

1. Your Affiant is employed by the Department of Environmental Quality ("DEQ"). Your Affiant has been employed by DEQ since 2001. Your Affiant is presently the Coal Bed Methane Permitting Manager.
2. During the course of your Affiant's employment with DEQ, your Affiant has reviewed hundreds of WYPDES permits issued by Wyoming DEQ. Your Affiant is well versed in the Wyoming Environmental Quality Act as it pertains to water quality and the Water Quality Rules and Regulations adopted by Wyoming DEQ. Your Affiant is responsible on a daily basis for issuing WYPDES permits within the parameters established by Wyoming statutes, Wyoming Water Quality Rules and Regulations, and federal statutes governing water quality.
3. As the Coal Bed Methane Permitting Manager, your Affiant is familiar with WYPDES Permit No. WY0049697 issued to Lance Oil and Gas on

or about March 24, 2008. A copy of this permit is attached to this Affidavit as **Exhibit 1**.

4. Your Affiant believes that the effluent limits set with regard to Outfall 13, which provide a maximum EC of 2560 and an SAR limit derived from the 1999 Hansen equation are protective of downstream uses and will not cause a measurable decrease in livestock or crop production. Your Affiant does not believe that the permit needs to reflect the revised Hansen formula recognized in the 2006 version of the Hansen Manual. The approximately ten percent (10%) difference in allowable SAR discharge pursuant to the 2006 Hansen formula will not, in your Affiant's opinion, cause a measurable decrease in crop or livestock production or harm downstream land.

5. Your Affiant is also aware, based on your Affiant's education, experience, and training, as well as your Affiant's examination of water quality testing of CBM water in northeast Wyoming, that end-of-pipe effluent limits are frequently not consistent with EC and SAR measurements made downstream from a particular outfall. Water chemistry frequently changes as water travels from an outfall to an irrigation monitoring point, irrigation compliance point, and to where water is actually applied via artificial or non-artificial irrigation practices.

6. Based on your Affiant's education, training, and experience, the WYPDES Permit issued to Lance Oil & Gas on March 24, 2008, which is attached hereto as **Exhibit 1**, fully complies with the Wyoming Environmental Quality Act, Water Quality Rules and Regulations, and the Section 20 Agricultural Use Protection Policy currently being considered as a proposed rule by the Wyoming Environmental Quality Council. While the DEQ may modify the Permit in the future if Lance Oil & Gas seeks renewal of the Permit in the future to reflect the 2006 Hansen formula for calculation of SAR based on a given EC effluent limit, your Affiant does not believe that the SAR effluent limit established pursuant to the 1999 Hansen formula in this permit is posing any immediate risk to any irrigated lands that may exist downstream of Outfall 13 of said permit.

Exhibit 1

Wyoming Department of Environmental Quality
Water Quality Division
WYPDES Program

STATEMENT OF BASIS
Renewal

APPLICANT NAME: Lance Oil and Gas Company, Inc.

MAILING ADDRESS: 1099 18th Street, Suite 1200
Denver, CO 80202-1955

FACILITY LOCATION: Echeta Road Unit, which is located in the SWNE, SWSW, SWNW, NENE, NWSW, and SESE of Section 23, the SWNE, NESW, and SWNW of Section 25, the NWNW, SWNE of Section 24 in Township 53 North, Range 76 West; the NWSW of Section 30, and the SWSW of Section 31 in Township 53 North, Range 75 West, all in Campbell County. Untreated produced water will be discharged to 12 on-channel reservoirs (class 3B) located on named and unnamed ephemeral tributaries (class 3B) to Wild Horse Creek (class 3B) which is tributary to the Powder River (class 2ABWW). One outfall will treat effluent with an ion-exchange system, and the produced water will be discharged directly to Wild Horse Creek (class 3B). The permit requires that the produced water being discharged from this facility originate from the Wall, Gates, Anderson, and Werner coal seams.

NUMBER: WY0049697

This permit has been modified from the draft originally advertised in the January 15, 2007 public notice as a result of a typographical error. The total recoverable barium measurement and reporting frequency has been changed from bi-annually to semi-annually.

This permit has been updated during the renewal process to incorporate all current WDEQ permitting requirements. Effluent limits protective of downstream irrigation uses have been incorporated into this permit based upon a Tier 2 study conducted for the Wild Horse Creek drainage in accordance with the Agricultural Use Protection Policy. Actual monthly load limits are established for outfall 013 in accordance with the Powder River Assimilative Capacity Process, as discharge from outfall 013 will be treated and discharged directly to a stream channel and will not be contained in a reservoir. In addition, the permittee has requested that the following changes be made to this permit during the renewal process:

- 1. The effluent limit for total recoverable arsenic is updated from 7 µg/l to 8.4 µg/l in accordance with current WDEQ regulations.*
- 2. Irrigation protection effluent limit and monitoring requirements are updated in accordance with current WDEQ permitting practices.*
- 3. Irrigation monitoring points, IMP6-IMP9, are added to this facility (See Table I).*
- 4. One reservoir "Floyd 14-23-5376" is added to this facility serving outfall 006.*
- 5. An effluent limit for dissolved copper of 6 µg/l to be monitored annually is included in this permit.*

General Description

This facility is a typical coal bed methane production facility in which groundwater is pumped from a coal bearing formation resulting in the release of methane from the coal bed. The permit authorizes the discharge to the surface of groundwater produced in this way provided the effluent quality is in compliance with effluent limits that are established by this permit. In developing effluent limits, all federal and state regulations and standards have been considered and the most stringent requirements incorporated into the permit. The effluent limits established in this permit are based upon *Chapters 1 and 2 of the Wyoming Water Quality Rules and Regulations* and other evaluations conducted by WDEQ related to this industry. This permit does not cover activities associated with discharges of drilling fluids, acids, stimulation waters or other fluids derived from the drilling or completion of the wells.

Facility Description

The permittee has chosen option 2 of the coal bed methane permitting options. Under this permitting option, the produced water is immediately discharged to a class 2 or 3 receiving stream which is eventually tributary to a class 2AB perennial water of the state. The permit establishes effluent limits for the end of pipe, which are protective of all the designated uses defined in *Chapter 1 of Wyoming Water Quality Rules and Regulations*. This may include drinking water, game and non-game fish, fish consumption, aquatic life other than fish, recreation, agriculture, wildlife, industry and scenic value. In addition, the permit establishes one irrigation monitoring point (IMP1-IMP9 listed in Table 1 of the permit below). The irrigation monitoring points are a designated monitoring location prior to the first downstream point of irrigation diversion/use on Wild Horse Creek from the permitted facility. An IMP differs from an irrigation compliance point (ICP) in that the IMP does not establish effluent limits. IMP sampling is for data-gathering purposes only.

Outfall 013 employs effluent treatment and is authorized to discharge to the Powder River via Wild Horse Creek. Outfalls 001-012 do not employ treatment and are discharged to ephemeral stream channels and reservoirs only.

For outfall 013, in order to meet the required effluent and load limits for discharges to the Powder River, the permittee plans to treat all effluent that will discharge from this outfall. Any concentrated waste generated in the operation of this treatment unit will be contained in lined pits, outside of any natural stream channels or water bodies. These lined pits will not constitute waters of the state and will therefore not require WYPDES permit coverage for discharge into them. However, the pits will require permitting through the Wyoming Oil and Gas Conservation Commission. In addition, the entire treatment facility will require a Chapter 3 permit-to-construct from the WDEQ District Engineer.

The permittee is required to contain all effluent from outfalls 001-012 in a series of on-channel reservoirs at this facility, unless prior written authorization is granted by the WYPDES program for a reservoir release, in association with use of assimilative capacity credits for the Powder River Basin. In the event that such an authorization for release is granted for this facility, the authorization letter will specify the release volume, duration and individual reservoir(s) covered. In the absence of such written authorization for release, the following containment requirements will apply at the reservoirs: the permittee will be required to contain all produced water within a series of on-channel reservoirs during "dry" operating conditions. The permittee is authorized to release discharge from upstream on-channel reservoirs only. Water released from the upstream reservoirs will be allowed to cascade down to the lowermost on-channel reservoirs, identified as follows: "Rick's", "Boone", "N & S Lacy", "004", "Chad", "Rick's Little", "James", "Ty", "Jason", "Ryan", "Bull Pen", and "Willow Tree". This permit prohibits discharge of effluent from the lowermost reservoirs except during periods of time in which natural precipitation causes the lowermost reservoirs to overtop and spill. Intentional or draw-down type

releases from the lowermost reservoirs will constitute a violation of this permit. Discharge from the reservoirs is limited by the permit to natural overtopping and shall not extend beyond a 48 hour period following commencement of natural overtopping. It is the responsibility of the permittee to adequately demonstrate the circumstances in which reservoir discharges occurred, if requested to do so by the WYPDES Program.

Effluent Limits and Monitoring Requirements

Effluent Limits: Permit effluent limits are based on federal and state regulations and are effective as of the date of issuance. Permit limits are applicable to all permitted outfalls unless otherwise indicated. The permit requires that the pH must remain within 6.5 and 9.0 standard units. The permit also establishes a sulfate limit of 3000 mg/l for outfall 013 only. The pH and sulfate limit are based on water quality standards established in Chapter 2 of the *Wyoming Water Quality Rules and Regulations*, in order to protect for livestock and wildlife consumption. The permit also establishes a total recoverable barium limit of 1800 µg/l and a total recoverable arsenic limit of 8.4 µg/l. These limits are based on Water Quality Criteria as established in the *Wyoming Water Quality Rules and Regulations, Chapter 1*, for Human Health values. As a result of a reasonable potential for exceedance, an effluent limit for dissolved copper of 6 µg/l, to be monitored annually, has been established in the permit. In addition, the permit establishes a chloride limit of 150 mg/l, which is based on Water Quality Criteria as established in the *Wyoming Water Quality Rules and Regulations, Chapter 1*, for chronic aquatic life protection values. The limits established in this permit for metals and chlorides reflect the application of the antidegradation provisions required under the *Wyoming Water Quality Rules and Regulations, Chapter 1*. In addition, the permit establishes a dissolved iron limit of 1000 µg/l. The dissolved iron effluent limit is based upon chronic aquatic life protection for class 3B waters, and does not consider the antidegradation provisions under Chapter 1 of the *Wyoming Water Quality Rules and Regulations*, as dissolved iron has been determined to be a non-persistent pollutant, and all the outfalls being authorized for discharge in this permit are located more than one stream mile from confluence with the nearest class 2 water, in this case, the Powder River. This approach reflects current WYPDES permitting practice in regards to establishing dissolved iron effluent limits in CBM surface discharge permits. Based upon the results of the initial monitoring, this permit may be reopened and more stringent limits and/or monitoring and reporting required.

All limits described in this section are intended to protect for the above listed designated uses, on both the immediate receiving water and the perennial mainstem, and apply at the end of pipe.

The permittee is not allowed to introduce chemicals into the treatment units other than the chemicals described above. Should the permittee desire to utilize chemicals such as biocides, algacides, flocculants, water conditioning agents, or anti-scaling agents at this facility, other than the chemicals described in this permit, the permittee must obtain express written consent from the WDEQ prior to use. Use of these and any other chemical not described in the permit without express written consent from the WDEQ is a violation of this permit.

Irrigation Use Protection: This permit authorizes discharges from outfalls that are located above known irrigation activity in Wild Horse Creek drainage. In order to monitor and regulate coal bed methane discharge for compliance with Chapter 1, Section 20 of the *Wyoming Water Quality Rules and Regulations* (protection of agricultural water supply), an end-of-pipe effluent limit for specific conductance (EC) is included in this permit. In addition, this permit requires monitoring for EC and SAR at the established irrigation monitoring point(s) (IMP1-IMP9).

The Wyoming DEQ has determined that an end-of-pipe specific conductance effluent limit of 2,560 micromhos/cm is appropriate for protection of agricultural uses in the Wild Horse Creek drainage. This

effluent limit was derived using soil salinity data submitted with the original application for WY0051985 (*Section 20 Compliance Analysis for Proposed Discharges by Petro-Canada to Wild Horse Creek, Campbell County, WY; KC Harvey, LLC, November 2005*) and supplemental information permit application for WY0056031 (*Section 20 Compliance Analysis for Proposed Discharges by Williams Production to Wild Horse Creek, Campbell County, WY; KC Harvey, LLC, July 2007*).

The end-of-pipe specific conductance limit of 2,560 micromhos/cm was derived through evaluation of the average soil electrical conductivity in the sampled irrigated fields. The average soil EC within the irrigated areas was measured at 4,220 micromhos/cm, with a 95 % confidence interval of +/- 369 micromhos/cm. This means that while the sampled population indicates a mean soil EC of 4,220 micromhos/cm, the actual mean soil EC for all fields likely falls within the range of 3,851 to 4,589 micromhos/cm. For the purpose of introducing a margin of conservatism into the irrigation effluent limit calculations for this permit, the lower value (3,851 micromhos/cm) was assumed to be the actual mean soil EC for the downstream irrigated fields. In calculating an end-of-pipe effluent limit for BC that will maintain a mean soil EC of 3,851 micromhos/cm in the downstream irrigated fields, USDA recommends dividing the soil EC by 1.5 to estimate allowable salinity in the applied water (*Agricultural Salinity and Drainage, Hanson et al., 1999 revision*). This results in an end-of-pipe specific conductance effluent limit of 2,560 micromhos/cm, which is established at each outfall authorized under this permit that is located upstream of irrigation activity, and is effective year-round.

In addition, the permit establishes an effluent limit for SAR at each direct-discharging outfall at this facility (013). SAR at these outfalls is limited to: $SAR < 7.10 \times EC - 2.48$, where "EC" represents the actual EC of the outfall sample in dS/m. The table below provides some example limits for SAR, based on hypothetical EC values measured at the outfall:

EC (umhos/cm) Measured at outfall 013	EC (dS/m) Measured at outfall 013	MAX ALLOWABLE SAR at outfall 013
1000	1.0	5
1100	1.1	5
1200	1.2	6
1300	1.3	7
1400	1.4	7
1500	1.5	8
1600	1.6	9
1700	1.7	10
1800	1.8	10
1900	1.9	11
2000	2.0	12
2100	2.1	12
2200	2.2	13
2300	2.3	14
2400	2.4	15
2500	2.5	15
2600	2.6	16
2700	2.7	17
2800	2.8	17
2900	2.9	18
3000	3.0	19

Note: The above table is for illustration purposes only. The actual EC of the discharge at outfalls 028 will determine the maximum allowable SAR at the outfall at that time, in accordance with the above referenced SAR equation.

As stated above, in addition to the end-of-pipe EC limit, this permit requires monitoring for EC and SAR at the designated irrigation monitoring point(s) (IMP1-IMP9). The Wyoming DEQ has determined that, in this drainage, it is appropriate to establish an EC threshold at the IMP that is equivalent to the calculated average soil EC within the irrigated areas (4,220 micromhos/cm, based on the studies referenced above) divided by 1.5 to estimate allowable salinity in the applied water (based on USDA recommendation cited above). This results in an instream EC threshold of 2,800 micromhos/cm at the IMP, which represents the estimated background salinity of the historically-applied irrigation water in the Wild Horse Creek drainage, and therefore is the target water quality value that the Wyoming DEQ has determined should be achieved at the IMP. The permittee will be required to monitor at the irrigation monitoring point(s) downstream of the on-channel reservoirs at this facility for compliance with the 2,800 micromhos/cm threshold, as well as for compliance with a chemical relationship between EC and SAR, described in detail below under "Monitoring and Reporting Requirements".

Monitoring and Reporting Requirements: The permit requires daily monitoring on the receiving stream below the outfalls in order to determine whether effluent discharged from the outfalls reaches the established irrigation monitoring point(s) (IMP1-IMP9, listed in Table 1 of the permit below). Daily monitoring is necessary because the permit establishes different sampling and analysis requirements based on whether the effluent reaches the irrigation monitoring point(s). Once effluent flow at the irrigation monitoring point(s) has been documented within a sampling month, then weekly monitoring of flow at the IMP(s) is required for the remainder of that calendar month. At the beginning of each calendar month, the monitoring frequency will revert to daily until such time as effluent flow occurs at the irrigation monitoring point(s) and a sample is collected to represent effluent quality for irrigation monitoring point constituents. Results are to be reported twice-yearly and if no effluent from this facility reaches the irrigation monitoring point(s) during an entire sampling month, then "no discharge" is to be reported for the IMP that month. The IMP is not a compliance point. It is intended only as a location to gather downstream water quality data.

Data collected at location IMP1-IMP9 will be evaluated by WDEQ on an ongoing basis in order to determine if effluent from this facility conforms to the following chemical characteristics at the IMP location:

$$EC < 2,800 \text{ micromhos/cm (} = 2.80 \text{ dS/m)}$$

and

$$*SAR < 7.10 \times EC - 2.48$$

(*where "SAR" represents sodium adsorption ratio and "EC" represents specific conductance of the IMP sample in dS/m).

In the event that effluent from this facility is contributing to flow at station IMP1-IMP9, and the IMP sample is exceeding one or more of the instream water chemistry thresholds listed above, during four or more sampling months in any calendar year, then WDEQ may re-open the permit to adjust the outfall effluent limits for EC and/or SAR accordingly.

The permit also requires sampling at a designated tributary water quality monitoring station located on Wild Horse Creek, and at two mainstem water quality monitoring locations on the Powder River

upstream and downstream of the confluence of Wild Horse Creek and the Powder River. Water quality monitoring stations on the Powder River must be located in the main channel of the Powder River outside of the mixing zone of Wild Horse Creek and the Powder River. Effluent samples at the designated water quality monitoring stations must be collected on a monthly basis and are to be reported semiannually. If flow occurs at the tributary water quality monitoring station (TRIB1, location listed in Table 1 of the permit) during a given monthly monitoring period, but this CBM facility did not contribute to that flow, the permittee will report "did not contribute" in the discharge monitoring reports for that monthly monitoring period. Under such circumstances, sampling is not required at the associated mainstem water quality monitoring stations, and it will be the responsibility of the permittee to demonstrate that the effluent from this facility did not contribute to the flow occurring at the tributary water quality monitoring station. If no flow at all occurs at the tributary water quality monitoring station designated as "TRIB1" for an entire monthly monitoring period, then "no flow" is to be reported and samples need not be collected at the associated mainstem and tributary water quality monitoring stations for that monthly monitoring period.

Results are to be reported twice-yearly and if no discharge occurs at the outfall then "no discharge" is to be reported. The permit also requires that an initial monitoring of the effluent be conducted within the first 60 days of discharge and the results submitted to WDEQ and the U.S. Environmental Protection Agency within 120 days of the commencement of discharge.

Powder River Assimilative Capacity for Total Dissolved Solids and Dissolved Sodium

In order to control total dissolved solids (TDS) and dissolved sodium loads into the Powder River in accordance with the Powder River Assimilative Capacity Policy, this permit establishes actual monthly load limits for TDS and dissolved sodium for outfall 013 only (see Part I.A.1.b of the following permit). The actual monthly load limits apply to the sum of all discharges from outfall 013 and vary by month according to background water quality concentrations within the Powder River as well as the Powder River assimilative capacity that has been allocated to the permittee. The total assimilative capacity allocated to the permittee is based on Powder River Basin lease holding information provided to the WDEQ by the permittee. The lease holding information is used to calculate the permittee's net working interest. The net working interest calculated for the permittee is a function of total Powder River Basin coal leased by the permittee, as determined by the Wyoming Geological Survey, and ambient Powder River water quality concentrations determined by the WDEQ. The ambient Powder River water quality concentrations were calculated using United States Geological Survey (USGS) water quality data from USGS station number 06324500, Powder River at Moorhead, for the years 1990-2003.

The actual monthly load limits do not represent the total loads of TDS and dissolved sodium that may be contributed by outfall 013 each month; rather, the actual monthly load limits represent the portion of the total TDS and dissolved sodium loads contributed by outfall 013 that the permittee will be charged assimilative capacity for. The permittee is not charged assimilative capacity for the total monthly TDS and dissolved sodium loads produced by outfall 013; the permittee is only charged assimilative capacity for the portions of the total loads that are above what the loads would be should all effluent discharged from outfall 013 be treated to ambient Powder River concentrations for TDS and dissolved sodium. This approach is in accordance with the Powder River Assimilative Capacity Policy.

The permittee will be required to calculate the actual monthly load for outfall 013 for each month. The actual monthly load from outfall 013, for each month, must be less than or equal to the actual monthly load limits established in Part I.A.1.b of the permit. The permittee has submitted information indicating that they can meet the actual monthly load limits for TDS and dissolved sodium by treating the effluent prior to discharge. The permittee may adjust the TDS and dissolved sodium concentrations in their effluent from outfall 013, and may adjust outfall flow as desired from outfall 013, as long as the actual

monthly load limits can be met, and provided the permittee can meet all other effluent limits and requirements for outfall 013 established in Part I of the permit. The permittee must monitor outfall 013 continuously for flow and monthly for TDS and dissolved sodium, and must show that, for each month, at such flow rates and water quality, that they are achieving compliance with the total actual monthly load limits for this outfall. For months when no dissolved sodium assimilative capacity exists in the Powder River (August and September), the permittee must either cease discharge from outfall 013 or must treat to Powder River ambient concentrations for TDS and dissolved sodium, in order to meet the actual load limits established in the permit.

Calculation of Actual Monthly Loads from Outfall 013: The dissolved sodium and TDS actual monthly loads for outfall 013 will be calculated using the equation below (see also Figure 1 for further explanation of equation):

Equation 1: $[(V \times C_{di}) - (V \times C_{pr})] \times 8.34 \text{ (lb/MG)/(mg/l)} = \text{Actual Monthly Load}$

where:

V = total volume, in million gallons (MG) discharged from the outfall for the given month. This permit requires that flow be monitored continuously at the outfall. The daily flow volumes (as represented from the average daily flow rates in MGD) from the outfall will be summed to determine the total monthly flow volume for the outfall.

C_{di} = concentration, in mg/l, of TDS or dissolved sodium in the discharge. The permittee will be required to monitor once monthly at the outfall for both TDS and dissolved sodium. C_{di} will represent the monthly sampled concentration of the appropriate constituent (TDS or dissolved sodium).

C_{pr} = ambient concentration of TDS or dissolved sodium of Powder River, in mg/l. Ambient concentration values have been pre-determined by the WDEQ using USGS data. For the months of August and September, when sufficient assimilative capacity does not exist within the Powder River to allow discharges from this facility at concentrations above ambient, the TDS ambient concentration is set at Montana standards (TDS = 1,524 mg/l, which is equivalent to EC 2,000 micromhos/cm). The permittee will choose the appropriate value for C_{pr} from the following table, also listed in Part I.A.1.b of the following permit:

Month	C _{pr} Values	
	Total Dissolved Solids (mg/l)	Dissolved Sodium (mg/l)
January	1,345	212
February	1,444	194
March	1,359	186
April	1,161	166
May	956	202
June	860	160
July	1,369	180
August	1,524	250
September	1,524	237
October	1,388	224
November	1,446	213
December	1,482	211

8.34 (lb/MG)/(mg/l) is a conversion factor to convert mg to pounds in the equation.

Actual Monthly Load = the actual monthly load of TDS or dissolved sodium, in pounds, contributed by outfall 013 for a given month.

The permittee will be required to calculate and report the actual monthly loads of sodium and TDS contributed by outfall 013 for each month. The actual monthly loads from outfall 013 for each month must be less than or equal to the actual monthly load limits established in Part I.A.1.b of the following permit.

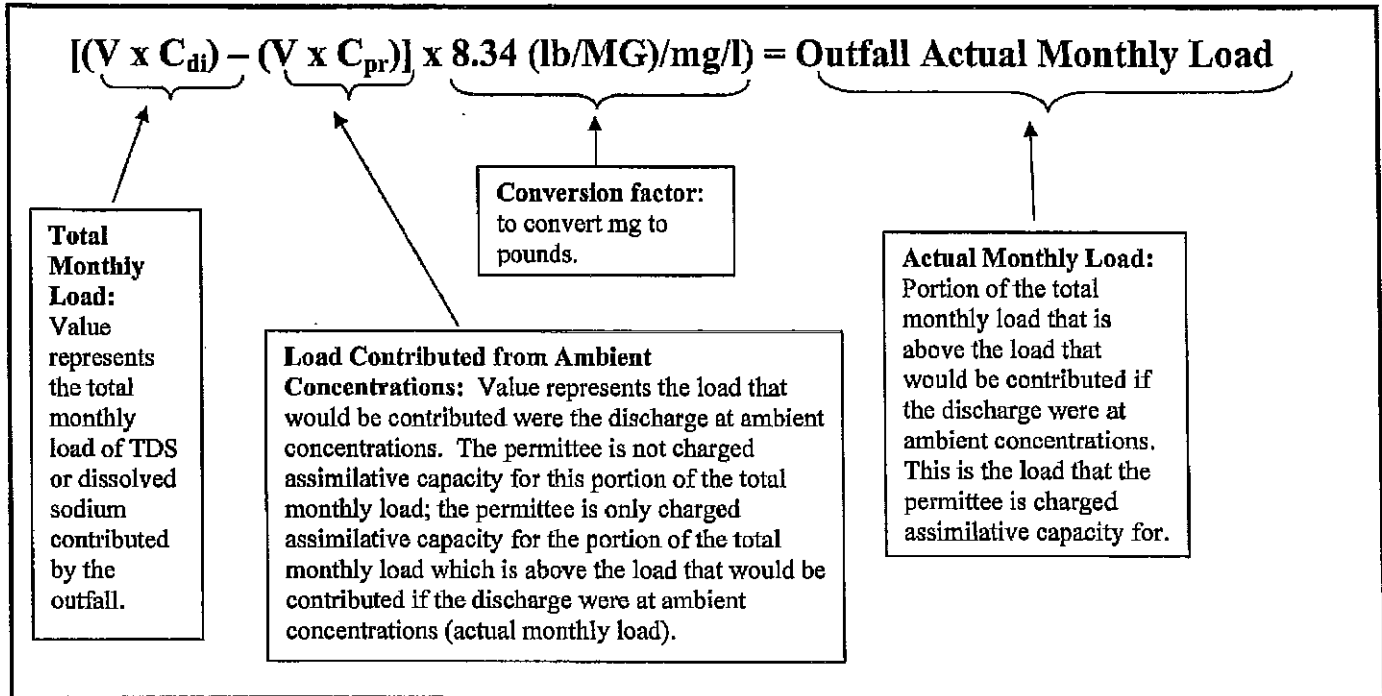
Other Permit Requirements

Documentation submitted in support of this permit by the permittee was based upon water quality representative of water quality from the Wall, Gates, Anderson and Werner coal seams in the surrounding geographical area. Therefore, the permit requires that the produced water being discharged by this facility originate in the Wall, Gates, Anderson and Werner coal seams.

There shall be no discharge of floating solids or visible foam in other than trace amounts, nor shall the discharge cause formation of visible deposits of iron, hydrocarbons or any other constituent on the bottom or shoreline of the receiving water. In addition, erosion control measures will be implemented to prevent significant damage to or erosion of the receiving water channel at the point of discharge.

The discharge of wastewater and the effluent limits that are established in this permit have been reviewed to ensure that the levels of water quality necessary to protect the designated uses of the receiving waters are maintained and protected. An antidegradation review has been conducted and verifies that the permit conditions, including the effluent limitations established, provide a level of protection to the receiving water consistent with the antidegradation provisions of Wyoming surface water quality standards.

Figure 1. Diagram of Actual Monthly Load Equation



Self monitoring of effluent quality and quantity is required on a regular basis with reporting of results semiannually. The permit is scheduled to expire on December 31, 2010. This expiration date was determined through review of the watershed permitting schedule which the WDEQ is implementing in order to synchronize the permitting and expiration of facilities within the same watershed. This holistic approach will provide for more efficient permitting of point-source discharges.

Jason Thomas (New)
Water Quality Division
Department of Environmental Quality
December 20, 2002
Draft revised March 20, 2003

Dena Egenhoff (Renewal)
Water Quality Division
Department of Environmental Quality
Drafted: January 7, 2008

Jennifer Zygmunt (major modification)
Water Quality Division
Department of Environmental Quality
March 31, 2005

Jennifer Zygmunt (major modification)
Water Quality Division
Department of Environmental Quality
November 7, 2005

Bob Alexander (major modification)
Water Quality Division
Department of Environmental Quality
Drafted -- January 9, 2007

AUTHORIZATION TO DISCHARGE UNDER THE
WYOMING POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, (hereinafter referred to as "the Act"), and the Wyoming Environmental Quality Act,

Lance Oil and Gas Company, Inc.

is authorized to discharge from the wastewater treatment facilities serving the

Elcheta Road Unit

located in

the SWNE, SWSW, SWNW, NENE, NWSW, and SESE of Section 23, the SWNE, NESW, and SWNW of Section 25, the NWNW, SWNE of Section 24 in Township 53 North, Range 76 West, the NWSW of Section 30, and the SWSW of Section 31 in Township 53 North, Range 75 West, all in Campbell County,


to receiving waters named

on-channel reservoirs (class 3B) located on named and unnamed ephemeral tributaries (class 3B) to Wild Horse Creek (class 3B) which is tributary to the Powder River (class 2ABWW). One outfall will discharge treated effluent directly to Wild Horse Creek (class 3B).

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II and III hereof.

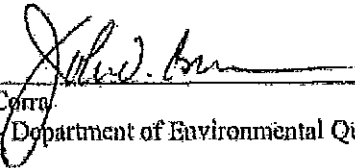
This permit shall become effective on the date of signature by the Director of the Department of Environmental Quality.

This permit and the authorization to discharge shall expire December 31, 2010 at midnight.


John F. Wagner
Administrator - Water Quality

Date

3/24/08


John V. Corra
Director (Department of Environmental Quality

Date

3/26/08

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Effective immediately and lasting through December 31, 2010, the quality of effluent discharged by the permittee shall, at a minimum, meet the limitations set forth below. The permittee is authorized to discharge from outfall(s) serial numbers 001-013.

1a. Such discharges shall be limited as specified below for outfalls 001-013:

Effluent Limits

<u>Effluent Characteristic</u>	<u>Daily Maximum Outfall</u>
Chlorides, mg/l	150
Dissolved Iron, µg/l	1000
pH, standard units	6.5 – 9.0
Specific Conductance, micromhos/cm	2560
Dissolved Copper, µg/l	6
Total Recoverable Arsenic, µg/l	8.4
Total Recoverable Barium, µg/l	1800

Note: 1) 'Dissolved' value for metals refers to the amount that will pass through a 0.45 µm membrane filter prior to acidification to 1.5-2.0 with Nitric Acid.

2) 'Total' value for metals refers to the total recoverable amount of that metal in the water column.

The permittee is required to contain all effluent from outfalls 001-012 in a series of on-channel reservoirs at this facility, unless prior written authorization is granted by the WYPDES program for a reservoir release, in association with use of assimilative capacity credits for the Powder River Basin. In the event that such an authorization for release is granted for this facility, the authorization letter will specify the release volume, duration and individual reservoir(s) covered. In the absence of such written authorization for release, the following containment requirements will apply at the reservoir(s): the permittee will be required to contain all produced water within a series of on-channel reservoir(s) during "dry" operating conditions. The permittee is authorized to release discharge from upstream on-channel reservoir(s) only. Water released from the upstream reservoir(s) will be allowed to cascade down to the lowermost on-channel reservoir, identified as follows: "Rick's", "Boone", "N & S Lacy", "004", "Chad", "Rick's Little", "James", "Ty", "Jason", "Ryan", "Bull Pen", and "Willow Tree". This permit prohibits discharge of effluent from the lowermost reservoir except during periods of time in which natural precipitation causes the lowermost reservoir to overtop and spill. Intentional or draw-down type releases from the lowermost reservoir will constitute a violation of this permit. Discharge from the reservoir(s) is limited by the permit to natural overtopping

and shall not extend beyond a 48 hour period following commencement of natural overtopping. It is the responsibility of the permittee to adequately demonstrate the circumstances in which reservoir discharges occurred, if requested to do so by the WYPDES Program.

1b. Additional Effluent Limits Applicable to Outfall 013 only:

Such discharges shall be limited as specified below for outfall 013 (Direct-discharging Outfall):

<u>Effluent Characteristic</u>	<u>Daily Maximum Outfall</u>
Sodium Adsorption Ratio, calculated as unadjusted ratio	*SAR < 7.10 x EC - 2.48
Sulfate, mg/l	3,000

1c. Actual Monthly Load Limits—013 only: The permittee must discharge effluent from outfall 013 at concentrations for total dissolved solids and dissolved sodium and at such flow rates so as not to exceed the actual monthly load limits established below:

Actual Monthly Load Limits

<u>Effluent Characteristic</u>	<u>Actual Monthly Load (lb)from outfall 013</u>
Dissolved Sodium, lb/mo. (January)	47,553
Dissolved Sodium, lb/mo. (February)	54,193
Dissolved Sodium, lb/mo. (March)	52,909
Dissolved Sodium, lb/mo. (April)	35,882
Dissolved Sodium, lb/mo. (May)	124,249
Dissolved Sodium, lb/mo. (June)	161,062
Dissolved Sodium, lb/mo. (July)	89,338
Dissolved Sodium, lb/mo. (August)	0
Dissolved Sodium, lb/mo. (September)	0
Dissolved Sodium, lb/mo. (October)	86,048
Dissolved Sodium, lb/mo. (November)	58,069
Dissolved Sodium, lb/mo. (December)	41,633
Total Dissolved Solids, lb/mo. (January)	739,934
Total Dissolved Solids, lb/mo. (February)	696,347
Total Dissolved Solids, lb/mo. (March)	282,543

Effluent Characteristic	Actual Monthly Load (lb)from outfall 013
Total Dissolved Solids, lb/mo. (April)	432,049
Total Dissolved Solids, lb/mo. (May)	876,901
Total Dissolved Solids, lb/mo. (June)	868,714
Total Dissolved Solids, lb/mo. (July)	265,262
Total Dissolved Solids, lb/mo. (August)	0
Total Dissolved Solids, lb/mo. (September)	0
Total Dissolved Solids, lb/mo. (October)	408,363
Total Dissolved Solids, lb/mo. (November)	745,751
Total Dissolved Solids, lb/mo. (December)	464,038

For outfall 013, in order to meet the total maximum monthly load limits for TDS and dissolved sodium established above, the effluent must be treated prior to discharge. Any storage of concentrated waste generated from the treatment unit(s) must occur outside of any waters of the state. In addition, the construction and operation of a treatment unit at this facility will require acquisition of a permit to construct in accordance with Chapter 3 of the Wyoming Water Quality Rules and Regulations. Prior to addition of any chemicals to the treatment, pre-treatment, or post-treatment processes (flocculants, surfactants, anti-scalants, sterilants, etc.), written authorization must be obtained from the WYPDES Program. Addition of chemicals to the treatment process without prior written authorization from the WYPDES program will constitute a violation of this permit.

1d. Additional Permit Requirements Applicable to All Permitted Outfalls (001-013):

Reservoir and/or discharge water is to be released at a rate which does not cause significant erosion to the channel or receiving lands.

The pH shall not be less than 6.5 standard units nor greater than 9.0 standard units in any single grab sample.

The produced water being discharged at this facility will originate from the Wall, Gates, Anderson, and Werner coal seams.

The permittee may, if so desired, discharge produced water from any authorized well to any permitted outfall, as long as all permit limits and requirements can be met.

Information gathered from the water quality monitoring stations may result in modification of the permit to protect existing uses on the tributary and the mainstem.

There shall be no discharge of floating solids or visible foam in other than trace amounts, nor shall the discharge cause formation of a visible sheen or visible hydrocarbon deposits on the bottom or shoreline of the receiving water.

All waters shall be discharged in a manner to prevent erosion, scouring, or damage to stream banks, stream beds, ditches, or other waters of the state at the point of discharge. In addition, there shall be no deposition of substances in quantities which could result in significant aesthetic degradation, or degradation of habitat for aquatic life, plant life or wildlife; or which could adversely affect public water supplies or those intended for agricultural or industrial use.

2. Discharges shall be monitored by the permittee as specified below:

a. **Monitoring of the Initial Discharge**

Note: The initial monitoring requirement described below will not apply to outfalls which have already undergone sampling for these parameters under previous permit coverage.

Within 60 days of commencement of discharge, a sample shall be collected from each outfall *that has not previously been sampled for initial monitoring*, and analyzed for the constituents specified below, at the required detection limits and chemical states. Within 120 days of commencement of discharge, a summary report on the produced water must be submitted to the Wyoming Department of Environmental Quality and the U.S. EPA Region 8 at the addresses listed below. This summary report must include the results and detection limits for each of the constituents. In addition, the report must include written notification of the established location of the discharge point (refer to Part I.B.11). This notification must include a confirmation that the location of the established discharge point(s) is within 1,510 feet of the location of the identified discharge point(s), is within the same drainage, and discharges to the same landowner's property as identified on the original application form. The legal description and location in decimal degrees of the established discharge point(s) must also be provided. After receiving the monitoring results for the initial discharge, the effluent limits and monitoring requirements established in this permit may be modified.

Parameter* (See notes following the table on chemical states)	Required Detection Limits and Required Units
Alkalinity, Total	1 mg/l as CaCO ₃
Aluminum, Dissolved	50 µg/l
Arsenic, Total Recoverable	1 µg/l
Barium, Total Recoverable	100 µg/l
Bicarbonate	10 mg/l
Cadmium, Dissolved	5 µg/l
Calcium, Dissolved	50 µg/l, report as mg/l
Chloride	5 mg/l
Copper, Dissolved	10 µg/l
Dissolved Solids, Total	5 mg/l
Fluoride, Dissolved	100 µg/l
Hardness, Total	10 mg/l as CaCO ₃
Iron, Dissolved	50 µg/l
Lead, Dissolved	2 µg/l
Magnesium, Dissolved	100 µg/l, report as mg/l

Parameter* (See notes following the table on chemical states)	Required Detection Limits and Required Units
Manganese, Dissolved	50 µg/l
Mercury, Dissolved	1 µg/l
pH	to 0.1 pH unit
Radium 226, Total Recoverable	0.2 pCi/l
Selenium, Total Recoverable	5 µg/l
Sodium Adsorption Ratio	Calculated as unadjusted ratio
Sodium, Dissolved	100 µg/l, report as mg/l
Specific Conductance	5 micromhos/cm
Sulfate	10 mg/l
Zinc, Dissolved	50 µg/l

DISSOLVED: Volume is based on the dissolved amount which is the amount that will pass through a 0.45 µm membrane filter prior to acidification to pH 1.5 - 2.0 with nitric acid.

Initial monitoring reports are to be sent to the following addresses:

Planning and Targeting Program, 8ENF-PT
Office of Enforcement, Compliance, and Environmental Justice
U.S. EPA Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

and

Wyoming Department of Environmental Quality
Water Quality Division
Herschler Building, 4 West
122 West 25th Street
Cheyenne, WY 82002

b. **Routine monitoring End of Pipe – (001-012)**

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies. The first routine monitoring for the time frame during which the monitoring of initial discharge occurs will, at a minimum, consist of flow measurements for the duration of the six-month monitoring time frame. Monitoring will be based on semi-annual time frames, from January through June, and from July through December.

Parameter	Measurement Frequency	Sample Type	Report Frequency
Bicarbonate (mg/l)	Annually	Grab	Annually
Dissolved Calcium (mg/l)	Monthly	Grab	Semi-annually

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>	<u>Report Frequency</u>
Chloride (mg/l)	Annually	Grab	Annually
Dissolved Iron (µg/l)	Annually	Grab	Annually
Dissolved Magnesium (mg/l)	Monthly	Grab	Semi-annually
pH (standard units)	Once Every Six Months	Grab	Semi-annually
Dissolved Sodium (mg/l)	Monthly	Grab	Semi-annually
Sodium Adsorption Ratio (unadjusted)	Monthly	Calculated	Semi-annually
Specific Conductance (micromhos/cm)	Monthly	Grab	Semi-annually
Total Alkalinity (mg/l)	Annually	Grab	Annually
Total Recoverable Arsenic (µg/l)	Annually	Grab	Annually
Total Recoverable Barium (µg/l)	Semi-annually	Grab	Semi-Annually
Total Flow -- (MGD)	Monthly	Continuous	Semi-annually
Dissolved Copper (µg/l)	Annually	Grab	Annually

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At the outfall of the final treatment unit which is located out of the natural drainage and prior to admixture with diluent waters.

c. Routine Monitoring End of Pipe—Effluent Limits (013 only)

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected and reported at the indicated frequencies. The first routine monitoring for the time frame during which the monitoring of initial discharge occurs will, at a minimum, consist of flow measurements for the duration of the six-month monitoring time frame. Monitoring for constituents with a "once every month" reporting frequency will be based on semi-annual time frames, from January through June, and from July through December.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>	<u>Report Frequency</u>
Bicarbonate (mg/l)	Annually	Grab	Annually
Dissolved Calcium (mg/l)	Monthly	Grab	Semi-annually
Chloride (mg/l)	Annually	Grab	Annually
Dissolved Iron (µg/l)	Annually	Grab	Annually
Dissolved Magnesium (mg/l)	Monthly	Grab	Semi-annually

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>	<u>Report Frequency</u>
pH (standard units)	Once Every Six Months	Grab	Semi-annually
Dissolved Sodium (mg/l)	Monthly	Grab	Monthly
Sodium Adsorption Ratio (unadjusted)	Monthly	Calculated	Semi-annually
Specific Conductance (micromhos/cm)	Monthly	Grab	Semi-annually
Total Alkalinity (mg/l)	Annually	Grab	Annually
Total Recoverable Arsenic (µg/l)	Annually	Grab	Annually
Total Recoverable Barium (µg/l)	Annually	Grab	Annually
Total Flow – (MGD)*	Monthly	Continuous	Monthly
Total Dissolved Solids (mg/l)	Monthly	Grab	Monthly
Sulfate (mg/l)	Monthly	Grab	Semi-annually
Dissolved Copper (µg/l)	Annually	Grab	Annually

*Total flow at the outfall will be measured continuously and the data will be compiled by the permittee in order to report the following values on a monthly basis:

- a. a **monthly average value** (average of all flow readings for a given month),
- b. a **daily maximum value** (highest single flow reading for that month).
- c. the **total monthly flow volume**, in million gallons (MG) for the outfall, calculated using the following method:
 - 1) The permittee will determine the daily flow volume, in million gallons (MG), by calculating the average daily flow rate in MGD. This value will be used to represent the volume of effluent discharged from each outfall for that day.
 - 2) The average daily flow volume for each day of the month will be summed for each outfall, to calculate the total monthly flow volume for each outfall.
- d. **Routine Monitoring End of Pipe—Total Actual Load Limit Monitoring (013 only)**

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected and reported at the indicated frequencies.

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>	<u>Report Frequency</u>
Total Dissolved Solids actual load (lb/mo.), 013	Monthly	Calculated	Monthly

<u>Parameter</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>	<u>Report Frequency</u>
Dissolved Sodium actual load (lb/mo.), 013	Monthly	Calculated	Monthly

*The permittee will calculate the actual monthly loads from 013 for TDS and dissolved sodium using the following formula:

$$[(V \times C_{dt}) - (V \times C_{pr})] \times 8.34 \text{ (lb/MG)/mg/l} = \text{Outfall Actual Monthly Load (lb)}$$

where:

V = total volume, in million gallons (MG) discharged from the outfall for the given month. This permit requires that flow be monitored continuously at the outfall. The daily flow volumes (as represented from the average daily flow rates in MGD) from the outfall will be summed to determine the total monthly flow volume for the outfall.

C_{dt} = concentration, in mg/l, of TDS or dissolved sodium in the discharge. The permittee is required to monitor once monthly at each outfall for the given parameter. **C_{dt}** will represent this monthly sampled concentration.

C_{pr} = ambient concentration of TDS or dissolved sodium of Powder River, in mg/l. The permittee will choose the appropriate value, based on the month and constituent, for **C_{pr}** from the following table:

Month	C _{pr} Values	
	Total Dissolved Solids (mg/l)	Dissolved Sodium (mg/l)
January	1,345	212
February	1,444	194
March	1,359	186
April	1,161	166
May	956	202
June	860	160
July	1,369	180
August	1,524	250
September	1,524	237
October	1,388	224
November	1,446	213
December	1,482	211

Actual monthly loads from 013 must be equal to or less than the actual monthly load limits established in Part I.A.1.b of the permit; actual monthly loads from outfall 013 that are greater than the actual monthly load limits established in Part I.A.1.b of the permit will constitute a violation of this permit.

b. Irrigation Monitoring Points (IMP1-IMP9)

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies when water discharged from the outfalls reaches the irrigation monitoring point. Monitoring will be based on monthly time frames and reported semi-annually.

Parameter	Measurement Frequency	Sample Type
Dissolved Calcium, mg/l	Monthly	Grab
Dissolved Magnesium, mg/l	Monthly	Grab
Dissolved Sodium, mg/l	Monthly	Grab
Sodium Adsorption Ratio, unit less	Monthly	Calculated
Sodium Adsorption Ratio, calculated limit	Monthly	Calculated
Specific Conductance, µmhos/cm	Monthly	Grab
Bicarbonate, mg/l as CaCO ₃	Monthly	Grab
Flow, MGD	Monthly	Instantaneous

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the irrigation monitoring points which are located as described in Table 1 of the permit below.

The permit requires daily monitoring on Wild Horse Creek below the outfalls in order to determine whether effluent discharged from the outfalls reaches an established irrigation monitoring point (IMP1-IMP9 listed in Table 1 of the permit below). Daily monitoring is necessary because the permit establishes different sampling and analysis requirements based on whether the effluent reaches an irrigation monitoring point(s). Once effluent flow at an irrigation monitoring point(s) has been documented within a sampling month, then weekly monitoring of flow at the IMP is required for the remainder of that calendar month. At the beginning of each calendar month, the monitoring frequency will revert to daily until such time as effluent flow occurs at the irrigation monitoring point(s) and a sample is collected to represent effluent quality for irrigation monitoring point constituents. Results are to be reported twice-yearly and if no effluent from this facility reaches irrigation monitoring point(s) during an entire sampling month, then "no discharge" is to be reported for the IMP(s) that month. The IMP is not a compliance point. It is intended only as a location to gather downstream water quality data.

Data collected at location IMP1-IMP9 will be evaluated by WDEQ on an ongoing basis in order to determine if effluent from this facility conforms to the following chemical characteristics at the IMP location:

$$EC < 2,800 \text{ micromhos/cm } (= 2.80 \text{ dS/m})$$

and

$$*SAR < 7.10 \times EC - 2.48$$

(*where "SAR" represents sodium adsorption ratio, and "EC" represents specific conductance of the IMP sample in dS/m).

In the event that effluent from this facility is contributing to flow at station IMP1-IMP9, and the IMP sample is exceeding one or more of the instream water chemistry thresholds listed above, during four or more sampling months in any calendar year, then WDEQ may re-open the permit to adjust the outfall effluent limits for EC and/or SAR accordingly.

d. Water Quality Monitoring Stations (TRIB, UPR and DPR)

For the duration of the permit, at a minimum, samples for the constituents described below shall be collected at the indicated frequencies. Monitoring will be based on monthly time frames, and reported semiannually.

Parameter	Measurement Frequency	Sample Type
Dissolved Calcium (mg/l)	Monthly	Grab
Dissolved Magnesium (mg/l)	Monthly	Grab
Dissolved Sodium (mg/l)	Monthly	Grab
Sodium Adsorption Ratio (calculated as unadjusted ratio)	Monthly	Calculated
Specific Conductance (micromhos/cm)	Monthly	Grab
Flow* (MGD)	Monthly	Instantaneous

*The permittee is only required to monitor and report flow at the tributary monitoring station on Wild Horse Creek (TRIB1). The permittee is not required to monitor or report flow data at the mainstem water quality monitoring stations (UPR and DPR), see Table 1, Part I.B.13 of the permit below for water quality monitoring station location descriptions.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: designated water quality monitoring stations identified as TRIB1, UPR, and DPR in Table 1, Part I.B.13. Established water quality monitoring stations on the mainstem are to be located outside the mixing zone with the tributary and the mainstem. Monthly water quality samples are to be collected at all three water quality monitoring stations when effluent from this CBM facility reaches the TRIB1 station on Wild Horse Creek. If flow occurs at the TRIB1 station during a given monthly monitoring period, but this CBM facility did not contribute to that flow, the permittee will report "did not contribute" in the discharge monitoring reports for that monthly monitoring period. Under such circumstances, sampling is not required at the three water quality monitoring stations, and it will be the responsibility of the permittee to demonstrate that the effluent from this facility did not contribute to the flow occurring at

the TRIB1 station. If no flow at all occurs at the TRIB1 station for an entire monthly monitoring period, then "no flow" is to be reported and samples need not be collected at the three water quality monitoring stations for that monthly monitoring period.

At the designated water quality monitoring stations, monitoring will be required for calcium, magnesium, sodium, sodium adsorption ratio and specific conductance. Information gathered from the water quality monitoring stations may result in modification of the permit to protect existing uses on the tributary and mainstem.

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and approval by the permit issuing authority.

2. Reporting

Results of initial monitoring, including the date the discharge began, shall be summarized on a Monitoring Report Form for Monitoring of Initial Discharge and submitted to the state water pollution control agency at the address below postmarked no later than 120 days after the commencement of discharge.

Results of routine end of pipe, irrigation monitoring report and water quality station monitoring shall be summarized and reported on a Discharge Monitoring Report Form (DMR) at the required frequencies. If the discharge is intermittent, the date the discharge began and ended must be included. The information submitted on the first DMR shall contain a summary of flow measurements and any additional monitoring conducted subsequent to the submittal of the initial monitoring report. If required, whole effluent toxicity testing (biomonitoring) results must be reported on the most recent version of EPA Region VIII's Guidance for Whole Effluent Reporting. Monitoring reports must be submitted to the state water pollution control agency at the following address postmarked no later than the 15th day of the second month following the completed reporting period. The first report following issuance of this permit is due on April 15th, 2008.

Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the Signatory Requirements contained in Part II.A.11.

Wyoming Department of Environmental Quality
Water Quality Division
Herschler Building, 4 West
122 West 25th Street
Cheyenne, WY 82002
Telephone: (307) 777-7781

If no discharge occurs during the reporting period, "no discharge" shall be reported. If discharge is intermittent during the reporting period, sampling shall be done while the facility is discharging.

3. Definitions

- a. The "monthly average" shall be determined by calculating the arithmetic mean (geometric mean in the case of fecal coliform) of all composite and/or grab samples collected during a calendar month.
- b. The "weekly average" shall be determined by calculating the arithmetic mean (geometric mean in the case of fecal coliform) of all composite and/or grab samples collected during any week.
- c. The "daily maximum" shall be determined by the analysis of a single grab or composite sample.
- d. "MGD", for monitoring requirements, is defined as million gallons per day.
- e. "Net" value, if noted under Effluent Characteristics, is calculated on the basis of the net increase of the individual parameter over the quantity of that same parameter present in the intake water measured prior to any contamination or use in the process of this facility. Any contaminants contained in any intake water obtained from underground wells shall not be adjusted for as described above and, therefore, shall be considered as process input to the final effluent. Limitations in which "net" is not noted are calculated on the basis of gross measurements of each parameter in the discharge, irrespective of the quantity of those parameters in the intake waters.
- f. A "composite" sample, for monitoring requirements, is defined as a minimum of four grab samples collected at equally spaced two hour intervals and proportioned according to flow.
- g. An "instantaneous" measurement for monitoring requirements is defined as a single reading, measurement, or observation.
- h. A "pollutant" is any substance or substances which, if allowed to enter surface waters of the state, causes or threatens to cause pollution as defined in the Wyoming Environmental Quality Act, Section 35-11-103.
- i. "Total Flow" is the total volume of water discharged, measured on a continuous basis and reported as a total volume for each month during a reporting period. The accuracy of flow measurement must comply with Part III.A.1.

4. Test Procedures

Test procedures for the analysis of pollutants, collection of samples, sample

containers, sample preservation, and holding times, shall conform to regulations published pursuant to 40 CFR, Part 136, unless other test procedures have been specified in this permit.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The exact place, date and time of sampling;
- b. The dates and times the analyses were performed;
- c. The person(s) who performed the analyses and collected the samples;
- d. The analytical techniques or methods used; and
- e. The results of all required analyses including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine the results.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form. Such increased frequency shall also be indicated.

7. Records Retention

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the administrator at any time. Data collected on site, copies of Discharge Monitoring Reports and a copy of this WYPDES permit must be maintained on site during the duration of activity at the permitted location.

8. Penalties for Tampering

The Act provides that any person who falsifies, tampers with or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or both.

9. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.

10. Facility Identification

All facilities discharging produced water shall be clearly identified with an all-weather sign posted at each outfall and flow monitoring locations (points of compliance). This sign shall, as a minimum, convey the following information:

- a. The name of the company, corporation, person(s) who holds the discharge permit, and the WYPDES permit number;
- b. The contact name and phone number of the person responsible for the records associated with the permit;
- c. The name of the facility (lease, well number, etc.) and the outfall number as identified by the discharge permit.

11. Identification and Establishment of Discharge Points

According to 40 CFR 122.21(k)(1), the permittee shall identify the expected location of each discharge point on the appropriate WYPDES permit application form. The location of the discharge point must be identified to within an accuracy of 15 seconds. This equates to a distance of 1,510 feet.

Public notice is not required if the location of the established discharge point is within 1,510 feet of the location of the discharge point originally identified on the permit application. In addition, the discharge must be within the same drainage and must discharge to the same landowner's property as identified on the original application form. If the three previously stated requirements are not satisfied, modification of the discharge point location(s) constitutes a major modification of the permit as defined in Part I.B. 12. The permittee shall provide written notification of the establishment of each discharge point in accordance with Part I.A.2.a above.

12. Location of Discharge Points and Irrigation Monitoring Points

As of the date of permit issuance, authorized points of discharge were as follows:

SEE TABLE 1 FOR A LIST OF OUTFALL LOCATIONS

13. Location of water quality monitoring stations

As of the date of issuance, authorized water quality monitoring stations were as follows:

SEE TABLE 1 FOR A LIST OF WATER QUALITY STATIONS

Table 1: WY0049697 - Echeta Road Unit

Out-fall	Qtr/Qtr	SEC-TION	TWP (N)	RNG (W)	LATITUDE	LONGITUDE	Drainage / Description	Groundwater approval required prior to Discharge?	Reservoir Bond to WDEQ Required prior to Discharge?
*001	SWNE	23	53	76	44.55763	-105.96898	Powder River (2ABWW) via Wild Horse Creek (3B) via Wyo Draw (3B) via on-channel "Rick's Reservoir" (3B)	NO	Yes
*002	SWNE	25	53	76	44.54475	-105.94647	Powder River (2ABWW) via Wild Horse Creek (3B) via Wilson Draw (3B) via on-channel "Boone Reservoir" (3B)	NO	Yes
*003	NESW	25	53	76	44.54227	-105.95105	Powder River (2ABWW) via Wild Horse Creek (3B) via South Lacy Draw (3B) via on-channel "N & S Lacy Reservoir" (3B)	NO	Yes
*004	SWNW	25	53	76	44.54502	-105.95673	Powder River (2ABWW) via Wild Horse Creek (3B) via Wilson Draw (3B) via on-channel "004" (3B)	NO	Yes
*005	SWSW	31	53	75	44.52275	-105.93703	Powder River (2ABWW) via Wild Horse Creek (3B) via Chad Draw (3B) via on-channel "Chad Reservoir" (3B)	NO	Yes
*006	SWSW	23	53	76	44.55149	-105.97762	Powder River (2ABWW) via Wild Horse Creek (3B) via Mose Draw (3B) via on-channel "Willow Tree Reservoir" and "Floyd 14-23-5376"(3B)	Yes for "Floyd 14-23-5376" only	Yes
*007	SWNW	23	53	76	44.55962	-105.97792	Powder River (2ABWW) via Wild Horse Creek (3B) via Croton Draw (3B) via on-channel "Rick's Little Reservoir" (3B)	NO	Yes
*008	NWSW	30	53	75	44.54058	-105.93491	Powder River (2ABWW) via Wild Horse Creek (3B) via Well Draw (3B) via on-channel "James Reservoir" (3B)	NO	Yes
*009	NWNW	24	53	76	44.56275	-105.95845	Powder River (2ABWW) via Wild Horse Creek (3B) via T.F. Draw (3B) via on-channel "Ty Reservoir" (3B)	NO	Yes
*010	NENE	23	53	76	44.56370	-105.96133	Powder River (2ABWW) via Wild Horse Creek (3B) via R.F. Draw (3B) via on-channel "Jason Reservoir" (3B)	NO	Yes
*011	SWNE	24	53	76	44.55883	-105.94642	Powder River (2ABWW) via Wild Horse Creek (3B) via J.F. Draw (3B) via on-channel "Ryan Reservoir" (3B)	NO	Yes
012	SESE	23	53	76	44.55012	-105.96324	Powder River (2ABWW) via Wild Horse Creek (3B) via an unnamed, ephemeral tributary (3B) via on-channel "Bull Pen Reservoir" (3B)	NO	Yes
*013	NWSW	23	53	76	44.55543	-105.97798	Powder River (2ABWW) via Wild Horse Creek (3B)	NO	N/A
TRIB1	SESE	16	54	77	44.65044	-106.12215	Tributary monitoring station on Wild Horse Creek	N/A	N/A
UPR	SWSE	16	54	77	44.65036	-106.12838	Upstream Powder River monitoring station (above Wild Horse Creek)	N/A	N/A
DPR	NWSE	34	55	77	44.89895	-106.11294	Downstream Powder River monitoring location (below Wild Horse Creek)	N/A	N/A
IMP1	NWNE	23	53	76	44.56312	-105.96572	Irrigation monitoring point serving outfall 009,010, & 011	N/A	N/A
IMP2	NWSW	23	53	76	44.55405	-105.97611	Irrigation monitoring point serving outfall 006	N/A	N/A
IMP3	NESW	23	53	76	44.55580	-105.97258	Irrigation monitoring point serving outfall 001 and 012	N/A	N/A
IMP4	SWNW	23	53	76	44.55951	-105.97890	Irrigation monitoring point serving outfall 007	N/A	N/A

IMP6	NWSW	23	53	76	44.55540	-105.97899	Irrigation monitoring point serving outfall 013	N/A	N/A
IMP6	SENE	28	53	76	44.54573	-105.96240	Irrigation monitoring point serving outfall 002 & 004	N/A	N/A
IMP7	NWSW	25	53	76	44.54171	-105.95401	Irrigation monitoring point serving outfall 003	N/A	N/A
IMP8	SWSW	25	53	76	44.53845	-105.95535	Irrigation monitoring point serving outfall 008	N/A	N/A
IMP9	SESE	38	53	76	44.52174	-105.93863	Irrigation monitoring point serving outfall 005	N/A	N/A

**Note: The asterisk denotes outfalls for which WDEQ has field-verified the latitude and longitude locations. These are considered to be the most accurate location data available for these outfalls, and will supersede latitude and longitude values presented in the application.*

Requests for modification of the above list will be processed as follows. If the requested modification satisfies the definition of a minor permit modification as defined in 40 CFR 122.63 modifications will not be required to be advertised in a public notice. A minor modification constitutes a correction of a typographical error, increase in monitoring and/or reporting, revision to an interim compliance schedule date, change in ownership, revision of a construction schedule for a new source discharger, deletion of permitted outfalls, and/or the incorporation of an approved local pretreatment program.

A request for a minor modification must be initiated by the permittee by completing the form titled National Pollutant Discharge Elimination System Permit Modification Application For Coal Bed Methane. Incomplete application forms will be returned to the applicant.

The outfalls listed in Table 1 (Part I.B.12) may be moved from the established location without submittal of a permit modification application provided all of the following conditions are satisfied:

1. The new outfall location is within 2640 feet of the established outfall location.
2. The new outfall location is within the same drainage or immediate permitted receiving waterbody.
3. There is no change in the affected landowners.
4. Notification of the change in outfall location must be provided to the WYPDES Permits Section on a form provided by the WQD Administrator within 10 days of the outfall location change. The form must be provided in duplicate and legible maps showing the previous and new outfall location must be attached to the form.

Moving an outfall location without satisfying the four above listed conditions will be considered a violation of this permit and subject to full enforcement authority of the WQD.

An outfall relocation as described above will not be allowed if the new outfall location is less than one mile from the confluence of a Class 2 waterbody and the dissolved iron and/or total radium 226 effluent limits established in the permit for the outfall are based upon Class 3 standards.

C. RESERVOIR / IMPOUNDMENT REQUIREMENTS

1. Groundwater Monitoring Beneath Impoundments:

Table 1 of the permit above identifies which outfalls (if any) are designed to discharge into impoundments that are subject to groundwater monitoring requirements established in the latest version of the Water Quality Division guideline "*Compliance Monitoring for Groundwater Protection Beneath Unlined Coalbed Methane Produced Water Impoundments.*" These specified outfalls are not authorized to discharge until a written groundwater compliance approval has been granted by the Groundwater Pollution Control Program of the Water Quality Division. A groundwater compliance approval will consist of either a final approved groundwater compliance monitoring plan, or written authorization for an exemption thereof. Once an impoundment has been granted a written groundwater compliance approval, the contributing outfall(s) to that reservoir may commence discharge.

2. Reclamation Performance Bonds for On-Channel Reservoirs:

Table 1 of the permit above also identifies which outfalls (if any) are designed to discharge into impoundments that are subject to WDEQ bonding requirements, as set forth in the latest version of the Water Quality Division guideline "*Implementation Guidance for Reclamation and Bonding of On-Channel Reservoirs That Store Coalbed Natural Gas Produced Water.*" These specified outfalls are not authorized to discharge until the associated reservoir reclamation bond is approved by WDEQ. Once the reservoir reclamation bond is approved by WDEQ, the contributing outfall(s) to that reservoir may commence discharge.

Any discharge into an above-listed impoundment which has not been secured by the required WDEQ-approved bond, or which has not been granted the required groundwater compliance approval, will constitute a violation of this permit, and may result in enforcement action from the Water Quality Division.

PART II

A. MANAGEMENT REQUIREMENTS

1. Changes

The permittee shall give notice to the administrator of the Water Quality Division as soon as possible of any physical alterations or additions to the permitted facility. Notice is required when:

- a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR 122.29 (b); or
- b. The alteration or addition could change the nature or increase the quantity of pollutants discharged.

2. Noncompliance Notification

- a. The permittee shall give advance notice of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- b. The permittee shall report any noncompliance which may endanger health or the environment as soon as possible, but no later than 24 hours from the time the permittee first became aware of the circumstances. The report shall be made to the Water Quality Division, Wyoming Department of Environmental Quality at (307) 777-7781.
- c. For any incidence of noncompliance, including noncompliance related to non-toxic pollutants or non-hazardous substances, a written submission shall be provided within five (5) days of the time that the permittee becomes aware of the noncompliance circumstance.

The written submission shall contain:

- (1) A description of the noncompliance and its cause;
 - (2) The period of noncompliance, including exact dates and times;
 - (3) The estimated time noncompliance is expected to continue if it has not been corrected; and
 - (4) Steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance.
- d. The following occurrences of unanticipated noncompliance shall be reported by telephone to the Water Quality Division, Watershed Management Section, NPDES Program (307) 777-7781 as soon as possible, but no later than 24 hours from the time the permittee first

became aware of the circumstances.

- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit;
 - (2) Any upset which exceeds any effluent limitation in the permit; or
 - (3) Violation of a maximum daily discharge limitation for any toxic pollutants or hazardous substances, or any pollutants specifically identified as the method to control a toxic pollutant or hazardous substance listed in the permit.
- e. The administrator of the Water Quality Division may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Quality Division, NPDES Program (307) 777-7781.
- f. Reports shall be submitted to the Wyoming Department of Environmental Quality at the address in Part I under Reporting and to the Planning and Targeting Program, 8ENF-PT, Office of Enforcement, Compliance, and Environmental Justice, U.S. EPA Region 8, 1595 Wynkoop Street, Denver, CO 80202-1129.
- g. The permittee shall report all instances of noncompliance that have not been specifically addressed in any part of this permit at the time the monitoring reports are due.

3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of the permit. However, the permittee shall operate, as a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance.

4. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the state resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. Bypass of Treatment Facilities

- a. Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

- b. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs c. and d. of this section. Return of removed substances to the discharge stream shall not be considered a bypass under the provisions of this paragraph.
- c. Notice:
 - (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice at least 60 days before the date of the bypass.
 - (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required under Part II.A.2.
- d. Prohibition of bypass.
 - (1) Bypass is prohibited and the administrator of the Water Quality Division may take enforcement action against a permittee for a bypass, unless:
 - (a) The bypass was unavoidable to prevent loss of life, personal injury or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (c) The permittee submitted notices as required under paragraph c. of this section.
- e. The administrator of the Water Quality Division may approve an anticipated bypass, after considering its adverse effects, if the administrator determines that it will meet the three conditions listed above in paragraph d. (1) of this section.

6. Upset Conditions

- a. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improper designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or

improper operation.

- b. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of paragraph c. of this section are met.
- c. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that:
 - (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
 - (2) The permitted facility was at the time being properly operated;
 - (3) The permittee submitted notice of the upset as required under Part II.A.2; and
 - (4) The permittee complied with any remedial measures required under Part II.A.4.
- d. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

7. Removed Substances

Solids, sludges, filter backwash or other pollutants removed in the course of treatment or control of wastewaters or intake waters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the state.

8. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

- a. In accordance with a schedule of compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities; or
- b. If such alternative power source as described in paragraph a. above is not in existence and no date for its implementation appears in Part I, take such precautions as are necessary to maintain and operate the facility under its control in a manner that will minimize upsets and insure stable operation until power is restored.

9. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the federal act and the Wyoming Environmental Quality Act and is grounds for enforcement action; for permit

termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give the administrator of the Water Quality Division advance notice of any planned changes at the permitted facility or of any activity which may result in permit noncompliance.

10. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

11. Signatory Requirements

All applications, reports or information submitted to the administrator of the Water Quality Division shall be signed and certified.

a. All permit applications shall be signed as follows:

- (1) For a corporation: by a responsible corporate officer;
- (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;
- (3) For a municipality, state, federal or other public agency: by either a principal executive officer or ranking elected official.

b. All reports required by the permit and other information requested by the administrator of the Water Quality Division shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- (1) The authorization is made in writing by a person described above and submitted to the administrator of the Water Quality Division; and
- (2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility or an individual or position having overall responsibility for environmental matters for the company. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

c. If an authorization under paragraph II.A.11.b. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph II.A.11.b must be submitted to the administrator of the Water Quality Division prior to or together with any reports, information or applications to be signed by an authorized representative.

- d. Any person signing a document under this section shall make the following certification:

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

B. RESPONSIBILITIES

1. Inspection and Entry

If requested, the permittee shall provide written certification from the surface landowner(s), if different than the permittee, that the administrator or the administrator's authorized agent has access to all physical locations associated with this permit including well heads, discharge points, reservoirs, monitoring locations, and any waters of the state.

The permittee shall allow the administrator of the Water Quality Division or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and
- d. Sample or monitor, at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the federal act, any substances or parameters at any location.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the regional administrator of the Environmental Protection Agency and the administrator of the Water Quality Division. The administrator of the Water Quality Division shall then provide written notification to the new owner

or controller of the date in which they assume legal responsibility of the permit. The permit may be modified or revoked and reissued to change the name of the permittee and incorporate such other requirements as described in the federal act.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the federal act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Wyoming Department of Environmental Quality and the regional administrator of the Environmental Protection Agency. As required by the federal act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the federal act.

4. Toxic Pollutants

The permittee shall comply with effluent standards or prohibitions established under Section 307 (a) of the federal act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Changes in Discharge of Toxic Substances

Notification shall be provided to the administrator of the Water Quality Division as soon as the permittee knows of, or has reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 µg/l);
 - (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21 (g) (7); or
 - (4) The level established by the director of the Environmental Protection Agency in accordance with 40 CFR 122.44 (f).
- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- (1) Five hundred micrograms per liter (500 µg/l);
- (2) One milligram per liter (1 mg/l) for antimony;
- (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21 (g) (7); or
- (4) The level established by the director of the Environmental Protection Agency in accordance with 40 CFR 122.44 (f).

6. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. As long as the conditions related to the provisions of "Bypass of Treatment Facilities" (Part II.A.5), "Upset Conditions" (Part II.A.6), and "Power Failures" (Part II.A.8) are satisfied then they shall not be considered as noncompliance.

7. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

8. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the federal act.

9. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable state or federal law or regulation. In addition, issuance of this permit does not substitute for any other permits required under the Clean Water Act or any other federal, state, or local law.

10. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights nor any infringement of federal, state or local laws or regulations.

11. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application should be submitted at least 180 days before the expiration date of this permit.

12. Duty to Provide Information

The permittee shall furnish to the administrator of the Water Quality Division, within a reasonable time, any information which the administrator may request to determine whether cause exists for modifying, revoking and reissuing or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the administrator, upon request, copies of records required by this permit to be kept.

13. Other Information

When the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or any report to the administrator of the Water Quality Division, it shall promptly submit such facts or information.

14. Permit Action

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

15. Permit Fees

Once this permit has been issued, the permittee will be assessed a \$100.00 per-year permit fee by the Water Quality Division. The fee year runs from January 1st through December 31st. This permit fee will continue to be assessed for as long as the permit is active, regardless of whether discharge actually occurs. This fee is not pro-rated. If the permit is active during any portion of the fee year, the full fee will be billed to the permittee for that fee year. In the event that this permit is transferred from one permittee to another, each party will be billed the full permit fee for the fee year in which the permit transfer was finalized.

PART III

A. OTHER REQUIREMENTS

1. Flow Measurement

At the request of the administrator of the Water Quality Division, the permittee must be able to show proof of the accuracy of any flow measuring device used in obtaining data submitted in the monitoring report. The flow measuring device must indicate values of within plus or minus ten (10) percent of the actual flow being measured.

2. 208(b) Plans

This permit may be modified, suspended or revoked to comply with the provisions of any 208(b) plan certified by the Governor of the State of Wyoming.

3. Reopener Provision

This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limitations (and compliance schedule, if necessary) or other appropriate requirements if one or more of the following events occurs:

- a. The state water quality standards of the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit;
- b. A total maximum daily load (TMDL) and/or watershed management plan is developed and approved by the state and/or the Environmental Protection Agency which specifies a wasteload allocation for incorporation in this permit;
- c. A revision to the current water quality management plan is approved and adopted which calls for different effluent limitations than contained in this permit;
- d. Downstream impairment is observed and the permitted facility is contributing to the impairment;
- e. The limits established by the permit no longer attain and/or maintain applicable water quality standards;
- f. The permit does not control or limit a pollutant that has the potential to cause or contribute to a violation of a state water quality standard.
- g. If new applicable effluent guidelines and/or standards have been promulgated and the standards are more stringent than the effluent limits established by the permit.

- h. In order to protect water quality standards in neighboring states, effluent limits may be incorporated into this permit or existing limits may be modified to ensure that the appropriate criteria, water quality standards and assimilative capacity are attained.
- i. If new, additional or more stringent permit conditions are necessary for control of erosion downstream of the discharges to ensure protection of water quality standards.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended or revoked in whole or in part during its term for cause including, but not limited to, the following:

- a. Violation of any terms or conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or
- d. If necessary to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b) (2) (C) and (D), 304 (b) (2) and 307 (a) (2) of the federal act, if the effluent standard or limitation so issued or approved:
 - (1) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) Controls any pollutant not limited in the permit.

5. Toxicity Limitation - Reopener Provision

This permit may be reopened and modified (following proper administrative procedures) to include a new compliance date, additional or modified numerical limitations, a new or different compliance schedule, a change in the whole effluent protocol or any other conditions related to the control of toxicants if one or more of the following events occur:

- a. Toxicity was detected late in the life of the permit near or past the deadline for compliance;
- b. The TRE results indicate that compliance with the toxic limits will require an implementation schedule past the date for compliance and the permit issuing authority agrees with the conclusion;
- c. The TRE results indicate that the toxicant(s) represent pollutant(s) that

may be controlled with specific numerical limits and the permit issuing authority agrees that numerical controls are the most appropriate course of action;

- d. Following the implementation of numerical controls on toxicants, the permit issuing authority agrees that a modified whole effluent protocol is necessary to compensate for those toxicants that are controlled numerically;
- e. The TRE reveals other unique conditions or characteristics which, in the opinion of the permit issuing authority, justify the incorporation of unanticipated special conditions in the permit.

6. Severability

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit, shall not be affected thereby.

7. Penalties for Falsification of Reports

The federal act provides that any person who knowingly makes any false statement, representation or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation or by imprisonment for not more than two years per violation or both.

Exhibit 3

Patrick J. Crank
Speight, McCue & Crank, P.C.
2515 Warren Avenue, Suite 505
Cheyenne, WY 82001
Phone: (307) 634-2994
Fax: (307) 635-7135

Counsel for Lance Oil and Gas Company, Inc.

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

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

Docket No. 08-3802

AFFIDAVIT OF TERRY H. BROWN, PH.D.

Terry H. Brown, Ph.D., having been duly sworn, hereby states and alleges as follows:

1. This Affidavit is presented in support of Lance Oil & Gas, Inc.'s Motion for Summary Judgment and Memoranda in support thereof.
2. Your Affiant is a certified soil scientist and the Principal Scientist with Poudre Valley Environmental Services, Inc. and is a duly qualified expert witness, whose specific qualifications are listed in Lance Oil & Gas, Inc.'s Designation of Expert Witnesses. The expert report your Affiant prepared in this matter is attached hereto as Exhibit 1, and is incorporated herein by reference as if fully set forth. Your Affiant's expert qualifications are a Bachelor of Science degree in Forest Management from Washington State University, a Master of Science degree in Soils from Washington State University, and a Ph.D. of Soil Chemistry from the University of Idaho.
3. Your Affiant has worked in the Coal Mining Industry for 7 years with North American Coal Corporation in North Dakota and with Mobil Oil Corporation near Gillette, Wyoming. Your Affiant has worked for 3 years with the U.S. Department of the Interior - Office of Surface Mining in Denver, Colorado. Your Affiant has worked for 14 years with the University of Wyoming Research Corporation doing applied research in environmental studies and much of this work dealt with problems in coal and minerals mining industry and with coal bed natural gas development in the

Powder River Basin. Your Affiant has provided consulting services in the area of environmental sciences for the past 5 years and currently has minerals industry projects in Alaska, Turkey, South America, Republic of Congo, Dominican Republic, and Indonesia. Your Affiant currently has coal mining projects in Alaska and Washing. Your Affiant has coal bed natural gas projects in the Powder River Basin. Your Affiant has been funded by the U.S. Department of Energy to research using saline/sodic waters for beneficial use in the Power River Basin.

4. Your Affiant has over 45 publications in the soils and environmental science areas.

5. With regard to WYPDES Permit No. WY0049697, issued to Lance Oil & Gas, Inc.:

A. The reported or measured data for EC and SAR show compliance with the end of pipe EC limit of 2560 $\mu\text{mhos/cm}$ (2.56 dS/m) and the resulting SAR values using the revised Ag Use Equation ($\text{SAR} < (6.67 \times \text{EC}) - 3.33$. (2006 Hansen Formula).

B. The plant community evaluation completed for the Section 20 and Supplement for Wild Horse Creek demonstrated that smooth bromegrass was the most salt sensitive forage found in the study area. The plant salt tolerance level for smooth bromegrass is 5 dS/m as determined by the Bridger Plant Materials Center.

C. The effluent limits established for discharge from Outfall 013 are very conservative. First, the limit was derived using a soil salinity value at the low end of the range of values rather than the average value. Second, sampling at the end of pipe does not consider changes in water chemistry as it flows from the outfall to the irrigation measuring point (IMP). And, third, the quantity of water discharged from the Outfall is very low currently at about 200 gal/min with a maximum of 350 gal/min.

D. Air photos and photographs taken along Wild Horse Creek and its tributaries show no evidence of existing structures supporting artificially irrigated lands. However, the series of debris/log dams located in the drainage may cause uncontrolled flooding of surrounding bottomlands. Naturally irrigated lands may exist in limited areas adjacent to the stream. Pursuant to the deposition of Kenneth Clabaugh taken on June 29, 2009, Mr. Clabaugh has admitted that no artificial irrigation, i.e., sprinkler systems, spreader dikes, headgates, etc., have been used on the Clabaugh Ranch. Therefore, it is appears the bottomland in the Clabaugh Ranch is not protected as defined by Chapter 1, § 20 of the Water Quality Rules and Regulations of the WDEQ.

E. Naturally irrigated bottomlands are likely characterized with high EC values due to the presence of near-surface alluvial aquifers. The alluvial ground waters found in many of the bottomlands in Wyoming are characterized with high EC values.

F. Vegetation associated with the bottomlands of Wild Horse Creek within the Clabaugh Ranch appear to be pasture grasses used for grazing as noted in the Appeal submitted by the Attorney for Clabaugh Ranch and notes taken by Mr. Fehringer while collecting soil samples from unknown locations on the Clabaugh Ranch.

G. The vegetation community associated with the grazing pasture present along Wild Horse Creek in the Clabaugh Ranch area is likely characterized with plant species that are moderate to very tolerant to high salt levels with salt tolerance threshold levels ranging from 5 dS/m to 10 dS/m.

H. The soils present along Wild Horse Creek on the Clabaugh Ranch are mapped as the Haverdad-Boruff Complex, 0 to 6 %. This soil complex is very similar to the Haverdad-Boruff Complex, 0 to 3% slope identified for soils along Wild Horse Creek in the Section 20 evaluation conducted by KC Harvey. Therefore, the soils should compare well with regard to chemical and physical conditions. As noted in the discharge permit, WYPDES Permit No. WY0049697, the average EC for the soils located upstream of the Clabaugh Ranch is 4.22 $\mu\text{mhos/cm}$. Therefore, soils found in the bottomland areas on the Clabaugh Ranch are likely characterized with similar EC values to those evaluated for the Section 20 analysis.

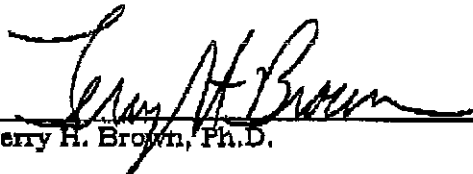
I. Assuming that vegetation is being irrigated on the Clabaugh Ranch, there appears to be no scientific basis for establishing a discharge limit for EC at 1.5 dS/m. This is true whether or not a low salt threshold plant is currently irrigated. Under natural conditions, the soils are likely characterized with EC values near 4 dS/m. If plants with threshold EC values of 1.33 dS/m are growing in the bottomland areas growth rates would be expected to be much lower than their 100% yield capacity. Irrigating with water characterized with an EC of 1.5 dS/m is not expected to improve existing conditions for plant growth.

J. Water discharged from Outfall 013 is used for irrigation in a nearby field during the growing season. The alfalfa crop grown on this site appears to be very productive as significant yields are achieved using the CBNG produced water. The salt tolerance for alfalfa is 4 dS/m as determined by the Bridger Plant Materials Center. Alfalfa is considered to be less tolerant to salt than smooth brome grass. Your Affiant believes, based on the alfalfa production that is being irrigated with the treated water from Outfall 013, that the soil in the area of Outfall 013 and the Clabaugh Ranch will not be harmed by irrigation with coalbed methane discharge water within the effluent limits of the Lance permit.

6. This Affidavit contains your Affiant's opinions and conclusions, which are based on your Affiant's background, education, and experience, together with your Affiant's review of deposition testimony, deposition exhibits, affidavits, and other documents provided in this matter.

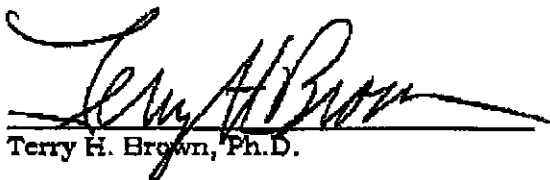
FURTHER YOUR AFFLIANT SAITH NOT.

Dated this 17th day of July, 2009.


Terry H. Brown, Ph.D.


STATE OF Colorado |
COUNTY OF Larimer | ss

I, Terry H. Brown, Ph.D., being duly sworn, depose and say as follows: I have read the foregoing Affidavit of Terry H. Brown, Ph.D., know the contents thereof, and that the facts set forth therein are true to the best of my knowledge, belief, and information.


Terry H. Brown, Ph.D.

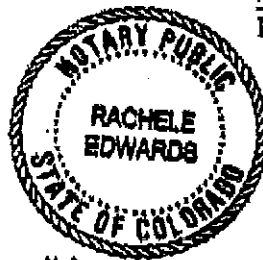
SUBSCRIBED and sworn to before me, a Notary Public, by Terry H. Brown Ph.D. on this 17 day of July, 2009.

Witness my hand and official seal.


Notary Public

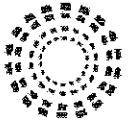
My Commission Expires:

Aug 29, 2009



My Comm. Exp. 08-28-09

Exhibit 1



Report: Evaluation of the Appeal to the Renewal of WYPDES Permit No. WY0049697 submitted by Clabaugh Ranch

My name is Terry H. Brown, Ph.D. CPSS and this document represents my statements with regard to my evaluation of the Appeal to the Renewal of WYPDES Permit No. WY0049697 submitted by Clabaugh Ranch. I am a Principal Scientist with Poudre Valley Environmental Sciences, Inc and am an Owner. I have a Bachelor of Science degree in Forest Management (Watershed Management) from Washington State University, a Master of Science degree in Soils from Washington State University and a Ph.D. of Soil Chemistry from the University of Idaho. I am a Certified Professional Soil Scientist. I have worked in the Coal Mining Industry for 7 years with North American Coal Corporation in North Dakota and with Mobil Oil Corporation near Gillette, Wyoming. I have spent 3 years with the USDOJ – Office of Surface Mining in Denver, Colorado and have spent 14 years with the University of Wyoming Research Corporation doing applied research in environmental sciences. Much of this work dealt with problems in the coal and minerals mining industry and with coal bed natural gas development in the Powder River Basin. I have provided consulting services in the area of environmental sciences for the past 5 years and currently have projects in the Minerals industry in Alaska, Turkey, South America, Republic of Congo, Dominican Republic and Indonesia, coal mining in Alaska and Washington, and Coalbed Natural Gas work in the Powder River Basin. In addition, I have been funded by the US Department of Energy to research various aspects of using saline/sodic waters for beneficial use in the Powder River Basin. I have over 45 publications in the soils and environmental science area.

Scope of Work

I was contacted by Mr. Patrick Crank, Esq. about providing expert witness support with regard to the appeal filed by the Clabaugh Ranch to prevent the issuance of Lance Oil and Gas Company, Inc WYPDES Permit renewal No WY0049697, as written, for Outfall 013 that will discharge into Wild Horse Creek . The scope of work associated with this evaluation is to determine if the basis for the appeal is legitimate, and if not, to provide technical support for the issuance of the discharge permit demonstrating the protection of downstream agricultural uses in the Wild Horse Creek drainage. This report constitutes an evaluation of existing



conditions based on available information and my understanding of the circumstances that currently exist in the Wild Horse Creek watershed, and the potential impact of CBNG produced water discharged at Outfall 013 on downstream Ag Use. The report is based on the review of documents listed in this report and on my knowledge and experience using CBNG produced water for beneficial uses in the Powder River Basin.

Summary of Opinions

1. The reported or measured data for EC and SAR show compliance with the end of pipe EC limit of 2560 $\mu\text{mhos/cm}$ (2.56 dS/m) and the resulting SAR values using the revised Ag Use Equation ($\text{SAR} < (6.67 \times \text{EC}) - 3.33$).
2. The plant community evaluation completed for the Section 20 and Supplement for Wild Horse Creek demonstrated that smooth brome grass was the most salt sensitive forage found in the study area. The plant salt tolerance level for smooth brome grass is 5 dS/m as determined by the Bridger Plant Materials Center.
3. The effluent limits established for discharge from Outfall 013 are very conservative. First, the limit was derived using a soil salinity value at the low end of the range of values rather than the average value. Second, sampling at the end of pipe does not consider changes in water chemistry as it flows from the outfall to the irrigation measuring point (IMP). And, thirdly, the quantity of water discharged from the Outfall is very low currently at about 200 gal/min with a maximum of 350 gal/min.
4. Air photos and photographs taken along Wild Horse Creek and its tributaries show no evidence of existing structures supporting artificially irrigated lands. However, the series of debris/log dams located in the drainage may cause uncontrolled flooding of surrounding bottomlands. Naturally irrigated lands likely exist in limited areas adjacent to the stream. Therefore, it is unclear whether the bottomland in the Clabaugh Ranch is protected as defined by Chapter 1. § 20 of the Water Quality Rules and Regulations of the WDEQ.



5. Naturally irrigated bottomlands are likely characterized with high EC values due to the presence of near-surface alluvial aquifers. The alluvial ground waters found in many of the bottomlands in Wyoming are characterized with high EC values.
6. Vegetation associated with the bottomlands of Wild Horse Creek within the Clabaugh Ranch appear to be pasture grasses used for grazing as noted in the Appeal submitted by the Attorney for Clabaugh Ranch and notes taken by Mr. Fehringer while collecting soil samples from unknown locations on the Clabaugh Ranch.
7. The vegetation community associated with the grazing pasture present along Wild Horse Creek in the Clabaugh Ranch area is likely characterized with plant species that are moderate to very tolerant to high salt levels with salt tolerance threshold levels ranging from 5 dS/m to 10 dS/m.
8. The soils present along Wild Horse Creek on the Clabaugh Ranch are mapped as the Haverdad-Boruff Complex, 0 to 6 %. This soil complex is very similar to the Haverdad-Boruff Complex, 0 to 3% slope identified for soils along Wild Horse Creek in the Section 20 evaluation conducted by KC Harvey. Therefore, the soils should compare well with regard to chemical and physical conditions. As noted in the discharge permit (WYPDES Permit No. WY0049697), the average EC for the soils located upstream of the Clabaugh Ranch is 4.22 $\mu\text{mhos/cm}$. Therefore, soils found in the bottomland areas on the Clabaugh Ranch are likely characterized with similar EC values to those evaluated for the Section 20 analysis.
9. Assuming that vegetation is being irrigated on the Clabaugh Ranch, there appears to be no scientific basis for establishing a discharge limit for EC at 1.5 dS/m. This is true whether or not a low salt threshold plant is currently irrigated. Under natural conditions, the soils are likely characterized with EC values near 4 dS/m. If plants with threshold EC values of 1.33 dS/m are growing in the bottomland areas growth rates would be expected to be much lower than their 100% yield capacity. Irrigating with water characterized with an EC of 1.5 dS/m is not expected to improve existing conditions for plant growth.
10. The detailed monitoring program committed to by Lance Oil and Gas Company through its Water Management Plan and the approved Renewal for the discharge permit provides



a good basis for the detailed program suggested by Hendrickx and Buchanan, the consultants hired by the Wyoming Environmental Council.

11. Water discharged from Outfall 013 is used for irrigation in a nearby field during the growing season. The alfalfa crop grown on this site appears to be very productive as significant yields are achieved using the CBNG produced water.

Report – Review of Available Information and the Basis for Opinions

Introduction

On March 24, 2008 the Water Quality Division of the Department of Environmental Quality issued a renewal of WYPDES Permit No. WY0049697 to Lance Oil and Gas Company, Inc for discharge of CBNG produced water into Wild Horse Creek. The permit was designated as an Option 2 permit allowing produced water to discharge immediately to a Class 2 or 3 receiving stream, which is a tributary to a Class 2AB Perennial Water of the State. In this case, Wild Horse Creek flows into the Powder River. Limits to this permit are established at the end of pipe and are protective for all designated uses defined in Chapter 1 of WWQRR.

As noted in the permit, outfalls 001 through 012 are required to be contained in on-channel reservoirs. The permit provides that all produced water will be contained in a series of on-channel reservoirs during dry operating conditions. The permit prohibits discharge of effluent from the lower most reservoirs except during periods of time when natural precipitation causes the lower most reservoir to overtop and spill. The only direct discharge authorized by the permit is at Outfall 013, which discharges into the Wild Horse Creek drainage during the winter months (outside of the growing season). The permit requires monitoring for EC and SAR at the established irrigation monitoring point (IMP) and at the discharge point that has an end of pipe limit for EC at 2560 $\mu\text{mhos/cm}$ (2.56 dS/m), which is protective of the agricultural uses in the Wild Horse Creek drainage as determined by the WDEQ-WQD based on the Section 20 analysis performed by KC Harvey, LLC in November 2005 and the Supplement submitted in July 2007. As noted in the Permit Renewal, Lance Oil and Gas Company, Inc is obligated to protect irrigated agricultural lands from negative impact resulting from the discharge of CBNG produced



water. The above noted criteria were determined by the WDEQ-WQD to provide such protection.

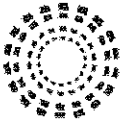
In May 2008, the Clabaugh Ranch filed an appeal from the issuance of the WYPDES permit requesting a hearing before the Environmental Quality Council. Clabaugh Ranch has suggested that Lance Oil and Gas Company must comply with an EC of 1.5 dS/m and a corresponding SAR of 7, which they believe is required to protect the most sensitive vegetation identified downstream of Outfall 013. Lance Oil and Gas Company does not agree with this assessment.

Irrigation Water Suitability Assessment

Based on the Section 20 and Supplement completed by KC Harvey, the permit established an EC effluent limit for Outfall 013 of 2560 $\mu\text{mhos/cm}$ (2.56 dS/m) and corresponding SAR values based on the Ag Use Equation: $\text{SAR} < (7.10 \times \text{EC}) - 2.48$ where EC represents the EC of outfall sample in dS/m. Since the issuance of the permit, the equation has been corrected to the following form: $\text{SAR} < (6.67 \times \text{EC}) - 3.33$. A comparison of the calculated values using the new equation and the actual reported or measured values in the field are provided in Table 1. The data show compliance with the end of pipe limit for EC of 2560 $\mu\text{mhos/cm}$ (2.56 dS/m) and the resulted SAR values are lower compared to the limits determined using the formula describing the Ag Use Equation. Thus the water is determined suitable for irrigating agricultural lands as defined by Chapter 1. § 20 of the Water Quality Rules and Regulations of the DEQ.

Table 1. EC and SAR Data Collected from Outfall 013 comparing measured SAR Values to Calculated Values using the Ag Use Equation.

Month	Reported or Measured EC ($\mu\text{mhos/cm}$)	Reported or Measured SAR	Calculated SAR (using the revised Ag Use Equation)
September	1460	5.2	6.4
October	2330	8.3	12.2
November	2420	7.9	12.8
December	2160	8.9	11.1



The suitability of the CBNG produced water discharged from Outfall 013 was clearly established in the Section 20 and Supplement completed by KC Harvey for the Wild Horse Creek watershed. The plant community evaluation determined that smooth bromegrass was the most salt sensitive forage plant found in the study. Smooth bromegrass is expected to produce 100 % yields in soils with an average root zone EC up to 5.0 dS/m (Bridger Plant Materials Center, 1996). Therefore, based on the soil-water EC relationship, dividing 5.0 dS/m by 1.5 yields an EC effluent limit of 3.3 dS/m for discharged water. Based on the Ag Use Equation described above for irrigation water exhibiting an EC of 3.3 dS/m, an SAR level of 19 or less would result in no reduction in soil infiltration (i.e., no impact to soil structure and hydraulic function). As noted in Table 1, the measured EC and SAR values of the produced water discharged at Outflow 013 (measured water quality) ranged from 1.5 dS/m to 2.4 dS/m for EC and 5.2 to 8.9 for SAR. Comparing these values to the EC effluent limit of 2.56 dS/m and the resulting SAR values using the Ag Use Equation shows the data easily comply with the default limits for EC and SAR. The measured EC values at the Outfall are below the limit established using the most sensitive plant species located in the vicinity of Wild Horse Creek.

Assuming that vegetation is being irrigated on the Clabaugh Ranch, there appears to be no scientific basis for establishing a discharge limit for EC at 1.5 dS/m. This is true whether or not a low EC threshold plant is currently irrigated. The soils present on the Clabaugh Ranch are likely very similar to those described in the Section 20 and Supplement completed by KC Harvey as the bottomland soils in both areas are mapped as the same soil complex by the NRCS. In addition, samples were collected within a ¼ mile of the Clabaugh Ranch property line during the Section 20 analysis completed by KC Harvey supporting this claim. Therefore, the average EC of 4.2 dS/m for soils present in the Section 20 is likely close to the values for soils on the Clabaugh Ranch. If plants, which are characterized with threshold EC values of 1.33 dS/m are currently growing on these “saline” irrigated areas of the Ranch, they are likely growing at rates much lower than the 100% yield capacity. In other words, the growth of the salt intolerant crop is suffering greatly by soil conditions existing on the Ranch prior to any irrigation. Proper management would suggest that crops characterized with threshold EC values near 4.2 dS/m should be planted to maximize forage production in lieu of the more salt intolerant species. The use of irrigation water of 1.3 dS/m or 1.5 dS/m instead of the EC limit for effluent of 2.56 dS/m will not significantly improve the growing conditions for the plant characterized with a threshold



EC of 1.33 dS/m. The use of an effluent of limit of 1.5 dS/m provides an undo restriction on Lance Oil and Gas Company without improving conditions for plant growth.

Conservative Nature of Effluent Limits Established for Discharge at Outfall 013

The effluent limits established for discharge from Outfall 013 are very conservative. First, the specific conductance limit established for discharged water by the WDEQ/WQD was determined utilizing conservative methods. The effluent limit was derived using soil salinity data at the low end of the range of values rather than the average value. Secondly, the requirement to monitor water quality at the Outfall instead of the IMP provides a high level of conservatism for protecting irrigated land from impact associated with the discharge of CBNG produced water. Sampling at “end of pipe” does not consider changes in water chemistry as it flows from the outfall to the Irrigation Measuring Point (IMP). Another important consideration often missed when evaluating discharge of produced water is the very small amount of CBNG produced water discharged from Outfall 013. The expected maximum discharge from Outfall 013 is 350 gal/min with current flows near 200 gal/min. These flow rates are low resulting in minimal stream flow.

It is important to understand that the chemistry of produced water measured at the IMP is different from that discharging at Outfall 013. As the treated water flows from the outfall, it reacts with the near surface soil environment, weathering the soil materials and mixing with surface waters, if present. The relative low pH buffer capacity of the water allows pH changes as the water reacts with soils as it migrates downstream. The calcite in the soil may dissolve the quantity dependent on pH conditions and on the CO₂ (g) levels of the soil system, providing a source of Ca that will lower the SAR values of the water. The dissolution of other minerals will also likely provide cations such as Ca and Mg to the system further lowering the SAR values. The weathering process may increase or decrease the salt levels of the water, dependent on the solution chemistry changes occurring along the flow path. The water will reflect the nature of the soils it interacts with. It is obvious that water at the end of pipe does not represent the water used for irrigation at the downstream locations.

Data collected from another site located in the Powder River Basin demonstrates this conclusion. Samples collected at the IMP were characterized by lower SAR values compared to samples collected at the outfall at the same time (samples collected within 30 minutes of each other)



during sampling events conducted in May and June 2003 (Personnel Communication – Throne Ranch POD). The samples collected in May were characterized with a SAR value of 10 at the outfall and a SAR of 8 at the IMP. Similar results were found during the June sampling at the same site with SAR values of 13.8 and 7.1 at the outfall and IMP, respectively. These weathering reactions have been shown by a number of investigators to significantly change the character of the water from high SAR, sodic conditions to low SAR, non-sodic conditions. It should be noted that irrigation water applied to a soil will also significantly change due to the soil weathering processes occurring during irrigation. The initial character of CBNG produced water changes soon after it interacts with soil materials.

The conservatism used by the WDEQ-WQD to develop effluent limits for discharged water provides more than adequate protection for down-stream agricultural uses while preventing contamination of waters of the State.

Irrigation Activities Downstream of Outfall 013

An important consideration with respect to applying irrigation use protection limits to downstream areas is whether or not artificial or natural irrigation occurs in such areas. Air photos and photographs taken along Wild Horse Creek and its tributaries on the Clabaugh Ranch show no evidence of existing structures supporting artificially irrigated lands. However, I have been told that a series of “trash/log” dams located on the channel may spread water onto adjacent bottomlands during low-gradient flow. The structures appear to result in uncontrolled flooding of adjacent lands. It is likely that the uncontrolled flooding resulting from the debris dams would promote the establishment of undesirable plant species. In addition, naturally irrigated lands do appear to exist in limited areas adjacent to the stream. However, the acreage involved is indefinite and therefore, it is unknown whether the area is protected as defined by Chapter 1. § 20 of the Water Quality Rules and Regulations of the DEQ.

Although Section 20 of the Wyoming Water Quality Rules and Regulations may or may not apply to the Clabaugh Ranch Property, the CBNG produced water entering and flowing through the Clabaugh Ranch will meet the requirements of the Wyoming Water Quality Rules and Regulations including the irrigation use protection provisions. The existing soil conditions



expected on low lying areas adjacent to Wild Horse Creek on the Clabaugh Ranch should closely resemble those described in the Section 20 for sites located upstream, unless the soils on the Clabaugh Ranch have been poorly managed due to the placement of debris dams or by other means. Therefore, it is evident that plants existing on these sites, if irrigated, would be protected by the effluent limits specified in the WYPDES Permit issued for Outfall 013.

Salt Tolerances of Grasses Growing on the Clabaugh Ranch Downstream of Outfall 013

If irrigated lands are found to exist on the Clabaugh Ranch, the most sensitive plant species occupying a meaningful portion of the cropland should be used to establish the EC threshold values to establish effluent limits for the discharged CBNG produced water. Correspondance received by Lance Oil and Gas Company from the Clabaugh Ranch Attorney indicated that the most salt sensitive vegetation existing on the Clabaugh Ranch downstream of Outfall 013 was characterized with a salt tolerance threshold EC level of 1330 $\mu\text{mhos/cm}$ and a corresponding SAR of 6. However, the Clabaugh Ranch would accept an EC of 1500 $\mu\text{mhos/cm}$ (1.5 dS/m) and a SAR of 7. It's not apparent which plant species found on Clabaugh Ranch land is characterized with such a salt tolerant threshold level and whether or not the site is either artificially or naturally irrigated. Information collected during the Section 20 and Supplement evaluations indicates that the vegetation irrigated via Wild Horse Creek water is dominated by grasses with much higher salinity tolerance thresholds. As a note, the soil salinity tolerance threshold of a plant is the maximum soil salinity level at which plant yield is not reduced.

Vegetation associated with the bottomlands of Wild Horse Creek within the Clabaugh Ranch appears to be pasture grasses used for grazing as noted in the Appeal submitted by the Attorney for Clabaugh Ranch and notes taken by Mr. Fehringer describing existing vegetation associated with soil samples collected at unknown locations on the Clabaugh Ranch. The plant species present are likely similar to species identified in the Section 20 analysis in 2005 and the Supplement completed in 2007 for the Wild Horse Creek Watershed completed by KC Harvey. The Section 20 and Supplement evaluations noted that the dominant vegetation species found in irrigated areas included western wheatgrass (*Pascopyrum smithii*), crested wheat grass (*Agropyron cristatum*), slender wheatgrass (*Agropyron trachycaulum*), and smooth brome grass (*Bromus inermis*). Western wheatgrass and crested wheatgrass have salinity tolerance threshold levels of 6.0 dS/m, while the threshold levels for slender wheatgrass and smooth brome grass are



10 dS/m and 5.0 dS/m, respectively (Bridger Plant Materials Center, 1996). The exact vegetation species present in the Clabaugh Ranch pastures along Wild Horse Creek are not currently known. However, the grass species expected to be present are likely characterized with soil salinity tolerance levels in the 5 dS/m to 10 dS/m range.

In summary, the vegetation community associated with the grazing pasture present along Wild Horse Creek in the Clabaugh Ranch area is likely characterized with plant species that are moderate to very tolerant to high salt levels with salt tolerance levels ranging from 5 dS/m to 10 dS/m.

Characteristics of Soils Established on the Clabaugh Ranch

The soils present along Wild Horse Creek on the Clabaugh Ranch are mapped as the Haverdad-Boruff Complex, 0 to 6% slope. This soil complex is very similar to the Haverdad-Boruff Complex, 0 to 3% slope identified for soils along Wild Horse Creek in the Section 20 evaluation conducted by KC Harvey. Soil samples were collected within a ¼ of the Clabaugh Ranch property line during the evaluation. The only difference is the steeper slope designation for the Clabaugh Ranch complex. As a result, the soils should compare well with regard to chemical and physical conditions unless management practices were different. As noted in the discharge permit (WYPDES Permit No. WY0049697), the average EC for these soils located upstream of the Clabaugh Ranch is 4.22 µmhos/cm. Therefore, soils found at similar positions in the landscape on the Clabaugh Ranch are likely characterized with similar EC values.

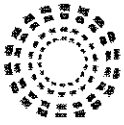
Soils data provided to Lance Oil and Gas Company by the Clabaugh Ranch appear to demonstrate the existence of similar soil conditions. The location of sample collection is not known; however, the soil samples were collected from a number of sites associated with grass cover by Neal Fehringer in November 2007. Data from thirteen (13) sites were evaluated for samples collected from two depth intervals: 0 to 6 inches and 6 inches to 24 inches with the exception of sampling site KC-1, which was sampled to the 6 inch depth. The EC and SAR values associated with these samples points for the 0 to 6 inch depth interval ranged from 1.7 to 20.3 mmhos/cm (dS/m) and from 0.7 to 45.1, respectively. Samples collected from the 6 to 24 inch depth interval ranged from 2.8 to 17.2 mmhos/cm (dS/m) and from 3.9 to 34.2 for EC and SAR, respectively. Soils characterized with high EC and SAR were collected from salty areas as



noted on the data Check In Sheets received from Energy Laboratories. Soils with these characteristics are likely associated with near surface alluvial aquifers, which often wick salts to the surface. This author has found such conditions existing in the Horse Creek drainage. The water in the alluvial aquifers was characterized with high salt levels that resulted in elevated EC values in the lower to mid horizons of soil profiles due to salt wicking from the water table below. As the water table becomes closer to the surface, the salt levels move to higher levels in the soil profile. The EC values found in the soils were often several times higher compared to the alluvial groundwater source. Since the EC of the water in the alluvial aquifer is likely much higher compared to the CBNG produced water, the produced water likely had limited influence on the salt levels found in the soils.

Irrigation Management and Monitoring

As described in the Transcripts of the Conference Call Meeting addressing the rulemaking with regard to Section 20, Chapter 1 of the Wyoming Water Rules and Regulations, Hendrickx and Buchanan (Consultants) questioned the scientific validity associated with Tier 2 evaluations for determining the quality of water previously impacting an irrigation site. The consulting scientists concluded that the Tier 2 approach of determining previous quality of irrigation water by taking the average EC of soils found on a site and dividing the value by 1.5 is not a scientifically valid approach; however, they indicated that the way it works out in practice seems to be quite reasonable. They also have identified the sampling method as a major issue with Tier 2 evaluations. They believe that the sampling procedure could allow “false” results dependent on who does the sampling. The Consultants suggest that 2 different scientists would likely find significant differences in results caused by problems acquiring representative samples. The Consultants also indicated that the sampling should include the use of an electromagnetic induction system to survey the watersheds to determine the existence of high vs low soil salt areas. Therefore, high salt soils would not be mixed or sampled with low salt soils masking the extremes. The differences in salt levels would likely result from the presence of different soil types or due to different management practices. Therefore, this type of survey may help a sampling program.



However, the application of good soil evaluation techniques during the sampling program will likely provide the basis for acquisition of good composite samples. Soil profiles that do not match are not composited but rather are treated as different soils and sampled separately. An irrigated field may exist on one landscape but may consist of several soils or variations of the same soil due to management differences and therefore are sampled separately. Many of these differences can be identified in the field using standard techniques. The bottom line is that soil evaluations used during Section 20 evaluations are usually based on soil profile evaluations and land management practices and therefore, sampling has not become an issue.

The Consultants indicated that without good management and monitoring, implementation of the results of Tier 1, Tier 2 and Tier 3 evaluations could lead to problems for irrigated fields. They are saying that even using the Tier 1 levels as guidance for effluent limits could cause problems to soils and the environment without implementing good management practices including a good monitoring program. The discussions documented in the transcripts of the conference call suggest that the Consultants believe that the implementation of a good management plan followed by frequent monitoring would be the best formula for the development of a successful Ag Use Protection Policy or Plan.

Another comment that was made by the Consultants is that the policy is restrictive compared to what the science would support. This statement relates to the fact that CBNG produced water can be used for beneficial uses such as irrigation without damage to soils if scientific principles are used to develop appropriate management plans. Following the implementation of a management plan based on good science, a detailed monitoring program should be used to verify success and to provide a basis for modification of the plan if a problem is observed. The combination of these basic ideals will lead to the successful beneficial use of CBNG produced water.

The baseline work conducted by KC Harvey during the Section 20 evaluation of the Wild Horse Creek watershed was based on good science and a good sampling program conducted by capable scientists. The results of using the 1.5 factor recommended by the USDA for projecting potential impact of an irrigation water on a soil, provide a good approximation for an allowable EC value for irrigation water required to prevent deterioration of irrigated agricultural lands. Therefore,



the established effluent limits dictated in the Renewal Discharge Permit protects irrigation use and allows the beneficial use of the water resources.

It should also be noted that Lance Oil and Gas Company has committed to a detailed monitoring plan as outlined in the Water Management Plan developed by Western Water Consultants and as required in the Approved Renewal of the WYPDES Permit Number WY0049697. For example, water quality monitoring will include sampling at Outfall 013, the IMP and at a point downstream in Wild Horse Creek at frequencies dictated in the discharge permit. Monthly load limits for TDS and dissolved sodium will be determined to assure compliance with the Powder River Assimilative Capacity Policy. Monitoring will also be conducted to assure that erosion and sedimentation are controlled at the discharge and in stream channels receiving discharge. In addition, wetland riparian areas affected by CBNG produced water will be inspected on a monthly basis for the first year followed by annual inspections once initial issues have been resolved. This monitoring program provides a good basis for the detailed program suggested by the Consultants.

The addition of a monitoring plan that includes frequent monitoring of irrigated lands could be used to assure successful use of the CBNG produced water for beneficial use. With the addition of a meaningful soil sampling, the overall monitoring program would provide assurances that the effluent discharged at Outfall 013 will support agriculture through beneficial use as irrigation water while protecting agricultural uses in the Wild Horse Creek drainage and assure compliance with the Powder River Assimilation Capacity Policy. However, a soil sampling program would require coordination with other producers discharging “raw” water in the Wild Horse Creek watershed. The issue of concern is how to demonstrate individual responsibility for impact to irrigated lands.

Conclusions

Discussions presented in this report show that the appeal from the issuance of WYPDES permit No. WY0049697 submitted by Clabaugh Ranch is not supported with good scientific basis. The Section 20 evaluation (2005) and Supplement (2007) conducted by KC Harvey appear to provide a thorough examination of the soils and vegetation conditions existing at irrigation areas downstream of Outfall 013. Sampling procedures and data analysis used provided the



information required to determine effluent limits to protect downstream agricultural uses. A demonstration of compliance with the effluent limits was accomplished by Lance Oil and Gas Company with the monitoring program conducted for the end of pipe discharges. Measured effluent EC values and the resulting SAR values calculated using the revised Ag Use Equation easily meet the established limits. In addition, the detailed monitoring program committed to by Lance Oil and Gas Company provides additional assurances that downstream agricultural use is protected.

The Clabaugh Ranch has claimed that the effluent limits established for the end of pipe discharge from Outfall 013 should be changed to meet the threshold limits of vegetation on pastureland on the Ranch. The Clabaugh Ranch determined that an effluent limit of 1.5 dS/m with a corresponding SAR of 7 should be used. Several conditions provide a strong indication that the effluent limits proposed by Clabaugh Ranch for Outfall 013 are not appropriate and are not expected to improve existing conditions for plant growth in irrigated areas. Several conclusions support this finding: (1) the soils described in the Section 20 evaluation conducted by KC Harvey appear to be very similar to those present in the bottomlands of the Clabaugh Ranch. Therefore, the EC and SAR characteristics of the soils are expected to be very similar; and (2) the vegetation found on the bottomlands in the Clabaugh Ranch is also expected to be similar to that described in the Section 20 evaluation. It appears that the soil and vegetation conditions expected to exist on the Clabaugh Ranch are addressed in an appropriate manner in the Section 20 and Supplement analysis completed by KC Harvey.

The existence of artificial or natural irrigation on the Clabaugh Ranch is questionable. However, in my opinion, if irrigated lands are present on the Clabaugh Ranch, the effluent limits developed by the WDEQ-WQD, based on the Section 20 and Supplement conducted by KC Harvey, will provide protection for the vegetation communities from CBNG produced water discharged from Outfall 013. This finding is based on implementation of good management practices on the Clabaugh Ranch. This conclusion is supported by the fact that the water discharged from Outfall 013 is currently used to successfully irrigate alfalfa during the growing season at a nearby field. Alfalfa production appears to be very good.

Hourly Rate

Regular preparation of materials \$150/hr



Total Hours	68
Total Cost	\$10,200
Trial/Deposition	\$175/hr

Documents Reviewed

1. May 18, 2008, Petition filed in Docket 08-3802
2. April 8, 2009, Transcript of Conference Call Meeting Proceedings before the Environmental Quality Council regarding Chapter 1, Section 20 Rulemaking - Docket No. 08-3101
3. CLABAUGH_PROD-01863 to 01889, Laboratory Analytical Report dated December 24, 2007
4. LANCE-00001 to 00246
5. LANCE-01350 to 01445
6. LANCE-03454 to 03492
7. LANCE-03494 to 05078
8. LANCE-05947 to 06126
9. LANCE-06211 to 06479
10. LANCE-06729 to 06888
11. February 3, 2009, letter from Patrick Crank to Tom Toner
12. March 5, 2009, letter from Tom Toner to Patrick Crank
13. March 12, 2009, letter from Patrick Crank to Tom Toner
14. April 2, 2009, letter from Patrick Crank to Tom Toner
15. April 9, 2009, letter from Tom Toner to Patrick Crank
16. May 5, 2009, letter from Patrick Crank to Tom Toner
17. Renewal of WYPDES Permit No. WY0049697 (Signed March 2008)
18. Bridger Plant Materials Center. 1996. Technical Note 26: Plant materials for saline-alkaline soils. USDA- NRCS Bridger Plant Materials Center, Bridger, MT.
19. Personnel Communication – data collected from Throne Ranch POD

Publications: Previous 10 years

Brown, T.H., and A.E. Bland. 1999. The technical feasibility of using PFBC ash to ameliorate acid spoil materials. *In* Conference Proceedings, 15th International Conference on Fluidized Bed Combustion. Savannah, Georgia. May 13-16, 1999.

Wheaton, John R., Warren P. Phillips, and Terry H. Brown. 2000. Water budget for a coal-mine-pit lake in southeastern Montana. *In* Conference Proceedings, 2000 Billings Land Reclamation Symposium. Billings, Montana. July 24-28, 2000.

Phillips, Warren P., John R. Wheaton, and Terry H. Brown. 2000. Geochemical modeling of a coal-mine-pit lake in southeastern Montana. *In* Conference Proceedings, 2000 Billings Land Reclamation Symposium. Billings, Montana. July 24-28, 2000.

Brown, T.H., B.D. Musslewhite and B.A. Buchanan. 2001. Sodicity: A reassessment of the influence of sodic/saline conditions on mine land reclamation. *In* Conference Proceedings, 2001



American Society for Surface Mining and Reclamation. Albuquerque, New Mexico. June 2-8, 2001. pp. 365–371.

Brown, T.H., L.R. Woormer, B.D. Musslewhite, and T.C. Ramsey. 2001. Threshold limits for Se in the coal mining areas of New Mexico. *In* Conference Proceedings, 2001 American Society for Surface Mining and Reclamation. Albuquerque, New Mexico. June 2-8, 2001. pp 379-390.

Musslewhite, B.D., T.H. Brown, B.A. Buchanan, and T.C. Ramsey. 2001. Weathering characteristics of spoil materials at La Plata Mine, Northwestern New Mexico. An eight year study. *In* Conference Proceedings, 2001 American Society for Surface Mining and Reclamation. Albuquerque, New Mexico. June 2-8, 2001.

Jin, S., Drever, J.I., Brown, T.H., and Colberg P.S.J. 2002. Effects of copper on sulfidogenesis in metal-contaminated and metal-free sediments. Society of Environmental Toxicology and Chemistry North America 23rd Annual Meeting, Nov. 16-20, 2002. p.p. 315 Salt Lake City, Utah, USA

Environmental Regulations in Petroleum Exploration and Refining Industries. Short Training Course, China National Petroleum Company, January 21-23, 2003, Beijing, China

Jin, S., T. Brown, S. Affi, and J. Warmer. 2003. Studies of biodegradation of petroleum-impacted soils under arid conditions by using a respirometer. American Society for Microbiology 103 rd General Meeting, May 19-21, 2003. p.p. 521. Washington D.C., USA

Paul Fallgren, Song Jin, Terry Brown. 2003. Low Bioavailability and inhibitory effects of urea addition in the biodegradation of petroleum-contaminated soil in an arid region. Virtual presentation. Society of Environmental Toxicology and Chemistry Asia/Pacific Conference. September 28- October 1, 2003. Christchurch, New Zealand.

Jin, S., P. Barnes, M. Heaston, and T. Brown. 2004. Influences of Substrates on Biodegradation of Nitroaromatic Compounds. Invited Platform Presentation. March 16, 2004. The 14th West Coast Conference on Water, Soil and Sediments, San Diego, California

Jin, S. and T.H. Brown, Innovative Bioremediation of Petroleum Contaminants Bioremediation of Groundwater and Soils, 2004 International Petroleum Environmental Conference, Oct 12-15, 2004. Albuquerque, New Mexico

Jin, S., P. H. Fallgren and T. H. Brown. 2005. Aerated Sewage Sludge as Inoculation for Treatment of Acid Mine Drainage, Selected for platform presentation at the 15th Annual AEHS Meeting and West Coast Conference on Soils, Sediments and Water, March 14-17, 2005, San Diego, California

Musslewhite, B.D., T.H. Brown, G.W. Wendt, and C. Johnston. 2005. Weathering characteristics of saline and sodic minesoils in the southwestern United States. p.765-768. *In* Proc. 2005 National Meeting of Am. Soc. Mining and Reclam. Breckinridge, CO. 19-24 June 2005. ASMR, Lexington, KY



Musslewhite, B.D., J. Vinson, C. Johnston, T.H. Brown, G.W. Wendt, and G.F. Vance. 2006. Salinity and sodicity interactions of weathered minesoils in northwestern New Mexico and Northeastern Arizona. In: Proceedings Billings Land Reclamation Symposium, Billings, MT. June 5 – 8, 2006. ASMR, Lexington, KY.

Brown, T.H. 2008. Agricultural Application of Untreated of Untreated CBM Waters. In: Report, Produced Water Management and Beneficial Use. Colorado Energy Research Institute, Golden, Colorado. Pp 216-287.

Musslewhite, Brent D., Terry H. Brown, Gary W. Wendt, Christopher R. Johnston, George F. Vance. 2009. Simulated Weathering of Saline and Sodic Minesoils from the Four Corners Region, USA. *Arid Land Research and Management*, 23:1, 67-84.

Musslewhite, Brent D., Joe R. Vinson, Christopher R. Johnston, Terry H. Brown, Gary W. Wendt, and George F. Vance. 2009. Salinity and Sodicity of Weathered Minesoils in Northwestern New Mexico and Northeastern Arizona. *J. Environ. Qual.* 38:1266-1273.

Depositions/Trial Experience - Last Four (4) Years (May 2005 to May 2009)

1. Deposition as expert witness – Case No. 05 CV – 108 WDM. Paxton Resources, L.L.C. vs Williams, Porter, Day & Neville, P.C., Kevin D. Huber, individually, and P. Craig Silva, individually. Date March 6, 2006

Terry H. Brown, Ph.D., CPSS
Principal Scientist
PVES, Inc.

Attachment A - Resume for Dr. Terry H. Brown

TERRY H. BROWN, Ph.D., CPSS

Principal Scientist

Contact Information:

Poudre Valley Environmental Sciences, Inc.

2835 Schooners Court

Loveland, Colorado 80538

Experience:

Poudre Valley Environmental Sciences, Inc. Fort Collins, Colorado. Principal Scientist, July 2004 to Present.
Environmental Consulting.

- geochemical modeling of CBM water interacting with soil/overburden layers located below storage reservoirs.
- reclamation of sodic soils impacted with sodic waters generated from CBNG produced waters
- using CBNG produced water for beneficial use – irrigation crop and rangelands. Modeling irrigation using CBNG produced water with FAO-SWS – US Soil Salinity Laboratory Model. Demonstrating salt transport in the soil based on soil chemistry, water budget, and water quality of irrigation water.
- soil and water quality issues
- bioremediation of hydrocarbon contaminated soils
- soil contamination characterization and clean-up; contaminate transport modeling
- geochemical modeling of CBM water interacting with soil/overburden layers.
- abatement of acid mine drainage, management of coalbed methane produced water.
- coal mine issues related to Se toxicity, salinity and sodicity chemistry, final pit impoundment development.
- Site assessment and due diligence of mine sites and other industrial impacts sites
- mineral mine compliance with Equator Principles, International Finance Corporation Environmental Guidelines and World Bank Environmental Guidelines. Current Projects – Veladero Project Argentina; San Cristobal Project Bolivia; Batu Hijau Simbawa Indonesia; Copley Project Turkey; .

Western Research Institute, Waste and Environmental Management Division, Laramie, Wyoming. November, 1990 to July 2004. Program Manager and Principal Scientist, November 1990 to July 2004. Soil Remediation - applied research and development program.

- project management and budget control for all projects as principal investigator
- mined land reclamation – reclamation using appropriate techniques and technologies
- mined land reclamation – using “waste materials” (fly ash, sewage sludge, paper mill sludge, etc.) to remediate mined lands; productivity studies; and metal contamination
- soil remediation - mercury and other heavy metals removal from soil materials
- bioremediation of petroleum hydrocarbon sites located in Egypt (microbial stimulation and bioaugmentation)
- land application of Na/HCO₃ produced water generated at CBM sites in the Powder River Basin
- acid mine drainage abatement and control – emphasis on reactions, methods of controlling reactions and treatment alternatives
- acid forming materials – amelioration techniques including liming (ag-lime, fly ash, etc.)
- fly ash (power plant) use – reclamation and agricultural uses; chemistry and geotechnical
- soil washing – methods to remove contaminants from the fine or clay fraction of the materials
- solution chemistry aspects of waste management
- interactions between fly ash materials and liner systems (clay and synthetic)

- other research areas include: colloid formation and mobility, selenium chemistry, mercury chemistry, lead chemistry, silicon chemistry, and soil salinity/sodicity. Currently using geochemical/water flow models such as EQ3/6, UNSATCHM/FAO-SWS; HYDRUS, MINTEQA2 and MYGRT.

U.S. Department of Interior, Office of Surface Mining, Technical Assistance Division, Denver, Colorado. August, 1987 to November, 1990. Soil Scientist, as a technical advisor for reclamation and enforcement activities in the western United States.

- soil and overburden chemistry – data evaluations to project postmining conditions of final reclamation and groundwater quality
- mined land reclamation – evaluations of methods for successful reclamation
- geochemistry of acid-forming materials (potential acidity and neutralization potential) – determining the potential for the development of AMD
- selenium chemistry – primarily related to reclamation and fly ash disposal and use
- saline/sodic soil conditions – relating to successful establishment of vegetation due to the osmotic effect and to deterioration of the physical conditions of the reclaimed sites
- geostatistical evaluations and sampling of regraded spoil materials – evaluating sampling adequacy for surface materials primarily in Texas where topsoil substitution is practiced.
- worked with state agencies in the western U.S. to develop regional QA/QC programs to improve the overburden, soils and water quality data being generated by commercial laboratories

Soil Scientist, Agriculture Consultant, Moscow, Idaho. October, 1986 to 1987.

- developed marketing strategies for an ag-lime product developed by the Nez Perce Tribe
- development of a detailed slide presentation, pamphlet materials, and radio interviews
- fieldwork was conducted for a research project evaluating the productivity of winter wheat on various erosional phases of the important soil series found in the Palouse area of northern Idaho.

University of Idaho, Soils Department, Moscow, Idaho. August, 1983 to September, 1986. Graduate Research Assistant.

- research - chemistry associated with the heavy use of fertilizers and the resulting soil acidity
- specific areas of study included: dissolution/sorption reactions, sorption kinetics, and redox reactions
- hydroponics experiments using growth chamber and greenhouse to assess silica/aluminum relationships and toxicity to plants

Mobil Oil Corporation (Mining Division) - Caballo Rojo Mine, Gillette, Wyoming. August, 1982 to August, 1983. Environmental Coordinator and Project Manager for environmental activities at the mine.

- topsoil removal and replacement
- vegetation establishment and maintenance (seeding, fertilization, etc.)
- erosion control
- baseline data development for soils and vegetation
- coordination of mine permitting activities
- compliance monitoring (i.e. groundwater and surface water quality, air quality, dust control, etc.)

Mobil Oil Corporation (Energy Minerals Division) - Denver, Colorado. April, 1980 to August, 1982.

Environmental Coordinator for compliance and permitting activities associated with the developmental of surface and underground coal mining operations.

- development of baseline data gathering programs necessary for completion of permit applications
- coordination of mine permitting activities which included environmental impact statement development with state and federal agencies

- evaluation of perspective projects and/or properties using environmental criteria to determine permitability, reclamation potential and cost.

North American Coal Corporation (Western Division) - Bismarck, North Dakota. January, 1978 to April, 1980.

Senior Environmental Control Specialist.

- responsible for acquisition and maintenance of permits relative to air and water quality and solid waste management, and other applicable permits
- establishing monitoring programs relating to air, water and solid waste disposal
- coordinating activities with governmental agencies and related organizations
- preparing water management plans for the mine sites including design of impoundments and diversions
- implementing water management plans directing equipment operations
- interpretation concerning soil and overburden materials providing guidance for topsoil and overburden removal operations

State of Washington, Department of Natural Resources, Omak, Washington. June, 1977 to January, 1978.

Employed as a Forest Soils/Vegetation Specialist.

- examining and describing the morphological features of soils in standard terminology
- identifying soil individuals that belong to tentative or established series
- developing criteria for new and proposed series
- correlating soil series with tree productivity using various tree site data

North Dakota State University, Soils Department, Fargo, North Dakota. July, 1976 to June, 1977. Research

Associate - Principal Investigator.

- correlation of physical and chemical characteristics of soils and overburden materials in the pre-mining condition to the post-mining condition.

Education:

BS - Forest Management (Watershed Management), Washington State University, 1974.

MS – Soil Chemistry, Washington State University, 1977.

Ph.D. - Soil Chemistry, University of Idaho, 1986.

Professional Organizations :

ARCPAC Certified Professional Soil Scientist # 1742

American Society for Surface Mining and Reclamation

Western Soil Science Society

American Chemical Society

Soil Science Society of America (American Society of Agronomy)

Selected Projects:

- Bioremediation - petroleum hydrocarbons (soils and ground water) in harsh environments – Egypt. Clients: BP, TechLink, Egyptian Government, U.S. Department of Energy.
- Use of CBM produced water (high SAR and EC) for irrigation in the semi-arid environments of Wyoming and Montana. Clients: Wolverine Corporation, Apache Corporation, ConocoPhillips, Marathon Oil., U.S. Department of Energy.
- In-situ remediation of AMD using bioremediation. Client: Kennecott Energy, U.S. Department of Energy.
- Development of synthetic soils using waste products from sewage treatment plants and paper mills for the reclamation of abandoned mines. Client: State of Montana, Environmental Quality, U.S. Department of Energy.

- Haz-Flote – removal of Hg from silt and clay particles. Client: U.S. Department of Energy
- Carbon Sequestration on reclaimed gold mines in Montana. Clients: State of Montana, Department of Environmental Quality, U.S. Department of Energy.
- Impact of fly ash and bottom ash materials from coal fired power plants on clay and synthetic liners. Client: Public Service Company of Colorado, U.S. Department of Energy.
- Environmental assessment, due diligence, and environmental oversight as part of an Independent Engineer Group (CAM and Associates) associated with the Veladero Project located in Argentina. Clients: Investment Banks including Import-Export Bank of the US, EDC-Canada and others.

Honors and Awards:

- Work Performance Awards - U.S. Department of Interior, Office of Surface Mining
- Co-Author - Best Paper Award at the 13th International Conference on Fluidized Bed Combustion, Orlando, Florida 1995.
- Presenter - 3rd Place Student Paper at the Western Soil Science Society Meetings, Reno, Nevada 1985.
- A University of Wyoming Research Corporations Distinguished Service Award from the UWRC Board of Directors. July 2004.