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

Terri A. Lorenzon, Director
Environmental Quality Council

IN THE MATTER OF THE APPEAL)
OF WILLIAM P. MAYCOCK) Docket No. 05-3803
FROM WYPDES PERMIT NO. WY0053171)

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER

This matter came before the Environmental Quality Council (Council or EQC) for hearing on August 14 through 17, 2006, in Sheridan, Wyoming. Council members present at the hearing were Dennis M. Boal, presiding as Hearing Examiner, Richard C. Moore, P.E., and Jon Brady. Council member John Morris attended the hearing on August 14 and 15, and read the hearing transcript and reviewed the exhibits for August 16 and 17. Council member Sara M. Flitner read the hearing transcript and reviewed the exhibits for the entire hearing. Council members Mark Gordon and Wendy Hutchinson recused themselves from this matter pursuant to 40 C.F.R. 123.25 and Chapter I, Section 15 of the DEQ Rules of Practice and Procedure, 2004.

Terri A. Lorenzon, attorney for the EQC and Bridget Hill, Assistant Attorney General, were present to advise the EQC. William P. Maycock (Maycock) was represented by Tom C. Toner and Jay A. Gilbertz, of Yonkee & Toner; the Department of Environmental Quality (DEQ) was represented by Vicci Colgan and Michael Barrash, of the Wyoming Attorney General's Office; and Williams Production RMT Company (Williams) was represented by Jack D. Palma II, Mark R. Ruppert and Matthew J. Micheli, of Holland & Hart, LLP. The Council deliberated on this matter at a public meeting held on November 13, 2006 in Buffalo, Wyoming and reached a decision by a unanimous vote of a majority of those on the Council.

Williams filed a motion to reconsider the decision on November 14, 2006. The Council heard arguments on the motion on January 17, 2007. The Council deliberated on the motion at a public meeting held after argument was concluded.

FINDINGS OF FACT

1. William P. Maycock (Maycock) appealed the Department of Environmental Quality's (DEQ) decision to issue a permit to Williams Production RMT Company (Williams) to discharge a maximum of 1.25 million gallons per day of effluent (produced water) from William's Carr Draw-Maycock coal bed methane (CBM) wells into Barber Creek. The permit is WYPDES Permit # WY0053171 (Barber Creek Permit) and it was issued on July 5, 2005. The permit expires on December 31, 2007.
2. The WYPDES program is a state program that implements the federal National Pollution Discharge Elimination System (NPDES) permit program.

NPDES is part of the Clean Water Act, 33 U.S.C. §1342 (1987). Federal regulations for the NPDES permits are contained in 40 C.F.R. Parts 122, 123, 124, 125, 129, 133, 136 and Subchapter N (parts 400-471) and Wyoming regulations are contained in Chapter 2, Wyoming Water Quality Rules and Regulations, 2004. A WYPDES permit allows a discharge into the surface waters of the state of Wyoming.

3. Maycock is a lifelong rancher in northwest Campbell County. His ranch has been in the Maycock family since 1907 and it consists of approximately 11,000 deeded acres, one section of state grazing lease, and 720 acres of land leased from the Bureau of Land Management.
4. Maycock's operation is a cow-calf operation with 200-300 mother cows. During years of good moisture, it takes 25-30 acres of the ranch to run a cow and during years with poor moisture, 55-60 acres.
5. The Carr Draw-Maycock CBM facility is located in the SESE of Section 21, the NENW of Section 27, the SENE of Section 33, and the NESE of Section 34, all in Township 50 North, Range 75 West; and in the NWNW, NWSW, SWSW, and SESW of Section 2, the SESE of Section 3, the SENW of Section 11, and the NWSE of Section 10, all in Township 49 North, Range 75 West in Campbell County.
6. The Barber Creek Permit states that the produced water from the Carr Draw-Maycock facility will be discharged to 13 reservoirs in the Barber Creek watershed, which is a tributary to the Powder River. The effluent that will be discharged originates in the Big George, Werner, and Gates-Wall coal seams. At the hearing in this matter, Williams discussed discharging into two in-channel reservoirs only.
7. Barber Creek is an ephemeral creek that flows only in response to precipitation events, and the flow is typically only a few hours in duration. The first flows in Barber Creek since 1998 were in May and June of 2006.
8. Barber Creek crosses Maycock's ranch and travels about 8.5 to 9 stream miles from his east boundary to his west boundary. The South Prong enters Maycock's property from the south and has its confluence with Barber Creek on the Maycock Ranch about 4 miles from the west ranch boundary and about 1.25 miles from his south boundary.
9. Williams included 51 CBM wells in the Barber Creek Permit. At the time of this hearing, Williams had increased the number of wells to 75 wells, but kept the amount of effluent discharged to 1.25 million gallons per day. No wells are located on the Maycock Ranch.

10. The in-channel reservoirs are permitted through the Wyoming State Engineer's office, and they are built to contain the discharge from initial production from the wells and with enough freeboard to contain runoff produced from a 2-year, 24-hour rain event.
11. The Barber Creek Permit states that some segments of Barber Creek have a high potential for erosion and de-stabilization of the stream channel. The DEQ required Williams to submit an erosion control plan to DEQ for approval. Williams cannot discharge effluent from the reservoirs except in the event of a 2-year/24 hour storm event until the erosion control measures are approved and implemented.
12. Maycock's challenge to the Barber Creek permit was preceded by a dispute with Williams over access to the Maycock Ranch and Williams sued Maycock in state district court. One lawsuit resulted in a court determination that Barber Creek and the South Prong are not watercourses. A second lawsuit sought condemnation of an easement on Barber Creek.
13. By court order dated June 15, 2006, Williams received an easement to flow water across the Maycock Ranch. This easement includes a 20 foot wide flow easement for the length of Barber Creek across the Ranch. The easement also gives Williams the right to construct the channel for those portions of Barber Creek where the channel had filled in and to construct erosion control features.
14. The condemnation order provides that Williams can flow up to 10 cfs of CBM produced water in the channel and must restrict water to within 10 feet of the centerline of the channel. Williams must maintain the channel so these limitations are met.
15. Under the terms of the easement, Williams can discharge effluent at any time, and this ability is different from the authority to discharge given in the Barber Creek Permit. Williams did not supplement the Barber Creek Permit with the court order or the details of the easement and the reconstruction of the Barber Creek channel. Williams relies on the court order for its authority to discharge into the Barber Creek channel.
16. The Maycock Ranch has bottomlands along the Barber Creek drainage and these areas have been naturally irrigated by water that flows down Barber Creek and spreads out onto the land where the channel has been filled in. Almost all of the forage on the Maycock ranch comes from the bottomlands. Mr. Maycock estimated that the carrying capacity of the ranch would be reduced by 30-50% if the bottomland forage is lost.

17. In areas where the Barber Creek channel was defined, forage grasses grew in the bottom of the channel. Mr. Maycock estimated that the carrying capacity of the ranch would be reduced by 5-10% if this forage is lost.
18. Prior to submitting the Barber Creek Permit application, Williams submitted two applications for discharge permits. Permit #WY0051411 was for the discharge of 2.2 million gallons per day from 75 wells into Barber Creek. Permit #WY0051527 was for a discharge of .57 million gallons per day from 33 wells into Barber Creek. Williams' applications for these two permits indicated there was no downstream irrigation.
19. On July 15, 2004, Maycock objected to Permit #WY0051411 and Permit #WY0051527, and this objection alerted DEQ to the fact that there was downstream irrigation on Barber Creek. DEQ then began corresponding with Maycock about his concerns with discharges to Barber Creek. These two permits were eventually rejected and returned to Williams.
20. At the time the Barber Creek Permit was filed with DEQ, March 11, 2005, Williams did not have access to the Maycock Ranch to collect data. The Barber Creek Permit application does not mention the Maycock Ranch. A cover letter to the application briefly discusses the Maycock Ranch and states that Williams had no access to verify Maycock's statements about his ranch.
21. The Barber Creek permit application does indicate that there is irrigation on the Powder River Ranch. The Powder River Ranch is west, and downstream, of the Maycock Ranch, and it has a series of spreader dikes along Barber Creek. Approximately 315.3 acres of land on the Powder River Ranch is irrigated.
22. Where, as in the Barber Creek Permit, irrigation is identified in response to a question in the permit discharge application, the applicant is required to provide the following information: location and description of irrigated crop land, a description of irrigation practices, soil characteristics for each area where irrigation occurred, baseline soil parameters in all actively irrigated areas, a determination of the maximum sodium absorption ratio (SAR) and the specific conductance (EC) of water that can be applied to the least tolerant and most sensitive soil type and crop, location of points upstream from the first downstream points of irrigation diversion or use between the outfall and the main stem, an evaluation demonstrating compliance with Chapter 1, Section 20, of the DEQ water quality regulations, changes that must be made to protect downstream irrigation practices, a monitoring plan, and citation of references for all information provided.
23. Williams did not provide any information about irrigation on the Powder River Ranch in the permit application despite the fact that Williams had

access to Powder River Ranch, had collected data on the ranch, and had made improvements to the spreader dike system on the ranch.

24. Before the Barber Creek Permit was issued, Williams gained access to the Maycock Ranch and had consultants conducting field surveys on the soils, the vegetation, and the condition of the Barber Creek channel. This information was never submitted to DEQ for its evaluation of the permit application.
25. The Barber Creek Permit sets effluent limits for the produced water that will be discharged and sets the EC and SAR. The permit states:

Based on information available from the USDA George E. Brown Jr. Salinity Laboratory Salt Tolerance Database, the salinity threshold for these irrigated species ranges from 3,000 to 5,000 micromhos/cm. WDEQ has selected the more conservative end of this threshold range to establish the effluent limit for specific conductance in this permit. The effluent limit for SAR is derived from Figure 3 of the USDA 'Agricultural Salinity and Drainage' handbook, Hanson et al., 1999 revision. The SAR limit in this permit is intended to prevent a reduction in soil permeability within the downstream irrigated areas along Barber Creek. The effluent limits in this permit for specific conductance (3,000 micromhos/cm) and for SAR (18) are established at the end of pipe.

26. On the same day Williams filed the Barber Creek Permit application, Williams submitted a Water Management Plan for the Carr Draw Federal POD II project to the Bureau of Land Management. This Water Management Plan was not submitted or approved as a part of the NPDES application for the Barber Creek Permit.
27. The Water Management Plan, including text, 8 attachments and 1 exhibit (a map), contains information on the vegetative habitat, the reservoir water budget, and erosion control. The Water Management Plan discusses the existing, planned, and potential discharges. This Plan states the discharges will flow into two, enhanced containment reservoirs. The water budget states that the reservoirs can contain all the water that will be discharged from the wells in the Carr Draw project. The discharge plan is described as being "total containment".
28. The Water Management Plan contains plans for water crossings and plans for monitoring the discharges and the groundwater. The attachments provide detailed information in the hydrology of the Barber Creek watershed, including the design of the reservoirs, spillways, and outfalls.
29. The Barber Creek Permit was issued pursuant to the provisions of Chapter 2, Water Quality Rules and Regulations, Permit Discharges to Wyoming Surface Waters, 2004. Chapter I, Wyoming Water Quality Rules and Regulations,

Wyoming Surface Water Quality Standards, 2001 sets the effluent standards and narrative standards for protection of water quality.

30. Chapter I, Section 20, Agricultural Water Supply states:

All Wyoming surface waters which have the natural water quality potential for use as an agricultural water supply shall be maintained at a quality which allows continued use of such waters for agricultural purposes.

Degradation of such waters shall not be of such an extent to cause a measurable decrease in crop or livestock production. (emphasis added)

Unless otherwise demonstrated, all Wyoming surface waters have the natural water quality potential for use as an agricultural water supply.

31. The SAR and EC limits in the Barber Creek Permit are a source of controversy as Maycock argued the limits are not protective of existing water uses downstream of the discharges. Expert testimony supported Maycock's assertion that DEQ should have used a concentration factor when evaluating the EC in the water (EQ_w) and the EC in the soil (EC_e).
32. Maycock also argues that the EC and SAR limits are not protective because DEQ set the EC limit based on information from similar drainages provided in the *Three Horses Watershed Study*, Water Development Commission, December 2002. Although DEQ had gathered some information on the Maycock Ranch, DEQ did not use site specific data on the vegetation on the Maycock Ranch as it had not been submitted by the applicant. Maycock argues that the species used for establishing the SAR and EC limits are moderately tolerant of salinity while the species present on the Maycock Ranch are moderately sensitive to salinity.
33. Williams argued that site specific information on the Maycock Ranch was available at the hearing and the water quality analysis that has been done demonstrates that the EC and SAR limits are protective of the downstream water uses. Williams explains that the discharge water will be mixed with natural runoff and 99% of the time, the discharge water will stay within the channel. Williams presented expert testimony on the construction of the Barber Creek channel, and on the erosion control features of the design. Williams presented expert witness to discuss the soil, vegetation, and water.
34. The DEQ supervisor of coal bed methane discharge permits, the individual who reviewed the Barber Creek Permit and who signed the permit, testified concerning his review and analysis of the permit application. This witness testified that there was confusion due to the fact that Williams identified only

the Powder River Ranch as having filed an application for irrigation rights in the lower Barber Creek drainage.

35. Because DEQ was in contact with Mr. Maycock and asking him for information on the agricultural uses of the water from Barber Creek on his land, and because the witness believed the Powder River Ranch was Maycock's Ranch, DEQ did not ask Williams for additional information on irrigation practices and agricultural use on the Powder River Ranch.
36. DEQ did not learn that Williams had gathered data on the Maycock Ranch, the Powder River Ranch, and land above Maycock's ranch during the time the permit application was being reviewed.
37. DEQ's witness testified that the SAR and EC limits were set conservatively, and these limits were not significantly different than the limits proposed by Maycock in the hearing. He also testified that DEQ recognized the importance of the concentration factor and DEQ has changed the permit review process. The concentration factor is now being used to set the EC and SAR limits in discharge permits.
38. The DEQ calculations of the SAR limits for this permit did not consider that the SAR limit is related to the EC limit. If the EC of the water declines without a corresponding decline in SAR, there may be damage to the infiltration properties of the soils. DEQ's stated goal was to set the SAR and EC to prevent a reduction in infiltration.
39. An outfall is that point where effluent is discharged pursuant to the permit. The permit contains a list of locations where compliance will be measured and one point where compliance is measured in this permit is at the outfall.
40. The evidence showed that only one outfall is currently discharging under the Barber Creek Permit and this outfall is above the Maycock Ranch. The water from the coal bed methane wells comes out of a pipe and runs down a man made rock pathway about 520 feet to a point where it flows into a drainage leading to a containment reservoir.
41. The original outfall in the Barber Creek permit was set at the end of the rock pathway. The rock pathway is used to treat the discharged water so the water will meet the effluent limits.
42. Water quality tests showed that as the water flowed down this pathway, the water quality changed, and by the time the water reached the end of the rock pathway, the SAR of the water exceeded the permit limit of 18. In response to this development, Williams moved the point where they measured for compliance with the discharge parameters to a point 260 feet down the pathway where the effluent standard for SAR could be met.

43. Testimony from DEQ's witness supported the change of location for the outfall as CBM permits allow a variance of 1510 feet for establishment of an outfall relative to the location that is indicated in a permit. This ability to change the outfall location is derived from federal NPDES regulations, 40 CFR 122.21 (k)(1). DEQ did review this change and found no problem with the change.
44. DEQ's witness was asked if the permit, without the Water Management Plan incorporated into the permit, adequately protects the agricultural interests of Mr. Maycock. The witness said "no".
45. This witness also testified that the Barber Creek Permit was not complete.
46. The Barber Creek Permit states that an irrigation monitoring point (IMP) will be established before the first downstream point of irrigation diversion/use on Barber Creek. The IMP does not establish effluent limits. Maycock argues that an irrigation compliance (ICP), with effluent limits, should be required. DEQ's witness testified that different companies may discharge into one drainage and it has proved to be impossible for DEQ to determine which company was responsible for violations of water quality standards at an ICP. For this reason, DEQ discontinued use of the ICP in discharge permits.
47. Evidence at the hearing demonstrated that Williams is the only producer discharging into the Barber Creek drainage above Maycock's Ranch and an ICP above the confluence of the South Prong and Barber Creek and below the outfall would not present the enforcement problems that have been experienced where there are multiple operators discharging into a drainage.
48. The Barber Creek Permit recognizes that erosion may be a problem on the Barber Creek drainage, but the permit was issued without the erosion control measures in it. The erosion control measures were to be submitted to and approved by DEQ after the permit was issued. There is no evidence that DEQ approved the erosion control measures.
49. The evidence showed that undiluted, produced water may flow onto the Maycock Ranch lands.
50. Because the data and information presented in the Water Management Plan was not part of the permit application, the public was not afforded an opportunity to comment on the Water Management Plan.
51. DEQ can only enforce the provisions of the Barber Creek Permit as it was issued. The Water Management Plan is not a part of the permit and the state cannot enforce any of the commitments made in that document.

52. The court order that established the easement for discharge into Barber Creek is not part of the permit. The Barber Creek Permit is a discharge permit that does not contain necessary information about the discharge. The elements of the discharge into Barber Creek are contained in the court order, a document outside of the permit.
53. The burden to submit the information necessary to support a discharge permit is on the applicant for the permit.
54. Williams could have applied for a modification of the Barber Creek Permit to correct the deficiencies in the permit application and to incorporate the Water Management Plan and the data pertaining to the construction of the stream channel and the discharge into that channel. Public notice of the modification would have been required and all information pertinent to this permit would have been available for public review.
55. The lead person for facilities engineering for Williams testified that Williams did not supplement the application or apply for a permit modification because Williams did not want the issuance of the permit to be delayed.
56. Throughout the proceedings in this case, Williams argued that the permit was complete as it was issued and modification was not necessary.
57. Motions for Summary Judgment and for Partial Summary Judgment were argued to the Council on August 6, 2006 in Cheyenne, Wyoming. These motions were taken under advisement.
58. On November 14, 2006, Williams filed a Motion for Clarification in this case. Williams argued that total containment was not an issue at the hearing; therefore, there is no reason to revoke the discharge permit. As the discharge down Barber Creek was the issue at the hearing, the Council could prohibit discharge directly into Barber Creek, but modify its decision to allow discharge into the containment reservoirs.
59. Briefs were submitted in support of and in opposition to the motion and oral arguments were heard at a public meeting

CONCLUSIONS OF LAW

1. The EQC has jurisdiction over the subject matter and the parties to this proceeding.
2. The Environmental Quality Act, Wyo. Stat. § 35-11-112(b)(iv) grants the EQC authority to conduct hearings in cases contesting permits, and Wyo. Stat. § 35-11-112(c)(ii) provides authority to modify permits. The EQC conducts de novo hearings pursuant to the DEQ Rules of Practice and Procedure, the Wyoming Rules of Evidence, and the Wyoming Rules of Civil Procedure.

3. The EQC is not bound to accept testimony from the witnesses as conclusive evidence. It is the EQC's duty to determine the witnesses' credibility and apply the appropriate weight to their testimony.
4. Chapter 1 and Chapter 2 of the Water Quality Rules and Regulations clearly require permit applicants to address the impact of discharges on crop and livestock production.
5. Chapter 2, Section 5(b)(iii), Water Quality Rules and Regulations, states:

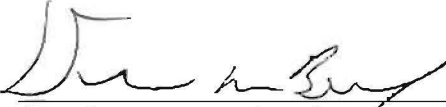
The director shall not process or issue a permit before receiving a complete application for a permit and all requirements of this section have been met. An application for a permit is complete when it has been submitted to the department, and includes all of the information required in Section 5(a)(v) and Appendices A through M of these regulations and any applicable federal effluent guidelines of 40 C.F.R. Parts 405-411, 413 through 433, 434, 436, 437, 439, 440, 442 through 447, 454, 455, 457 through 461, 463 through 469 and 471, such that the administrator deems that adequate information has been provided to make a determination in accordance with Section 5(b)(i). The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity.
6. Chapter 2, Section 15 sets forth the extensive public participation requirements for draft discharge permits and for major modifications of existing permits. The permit application that was available to the public for comment pursuant to Chapter 2, Section 15, of the Water Quality Rules and Regulations, was not complete and the process for public notice and public comment was therefore faulty.
7. The Barber Creek Permit application did not provide information on crop and livestock production on the Maycock Ranch or on the Powder River Ranch, and Williams did not supplement the application when information on the soils, vegetation, or use of water on the Maycock Ranch was available. The permit application was not complete and Williams did not seek to supplement the application or modify the permit after it was issued.
8. The standards for SAR and EC should be evaluated according to the current DEQ procedures, including use of a concentration factor.
9. The Barber Creek Permit cannot rely on documents, such as the Water Management Plan, that are outside the permit process and beyond the ability of the DEQ to enforce. Similarly, if a court order sets conditions on the easement for the Barber Creek channel, Williams should include those conditions necessary for a complete permit in the permit.

10. DEQ has the authority to regulate discharges to surface waters of the state and it cannot meet its responsibilities when critical parts of a discharge plan are not within its jurisdiction. DEQ must have the ability to enforce the permit requirements.
11. Supplementing the Barber Creek Permit with the expert analysis provided at the hearing and the information available through the Water Management Plan does not cure the problems with the Permit. The law requires the permit be complete when it is issued.
12. The Barber Creek Permit should be revoked and DEQ should review the permit together with the information produced in this hearing process. DEQ should evaluate the permit in light of the evidence produced in this hearing.
13. The Motions for Summary Judgment and for Partial Summary Judgment should be denied.
14. The Motion for Clarification should be denied as the decision to revoke the permit is based on concerns about the direct discharges into Barber Creek as well as concerns with the effluent standards and the process of having information required in the permit in documents outside the permit. The Barber Creek Permit application was not complete when filed or issued and the problem can only be corrected by having the permit application supplemented, filed again, and reviewed by DEQ and the public.
15. The Motion for Clarification failed on a vote of the Council members at a public meeting held on January 17, 2007.

ORDER

The Environmental Quality Council having considered the evidence and arguments submitted in this matter and having determined that the Barber Creek Permit, WPDES Permit No. WY0053171 should be revoked for the reasons stated herein, hereby denies the Motion for Summary Judgment, the Motion for Partial Summary Judgment, and the Motion for Clarification, and hereby revokes WPDES Permit No. WY0053171

It is so ordered this 3rd day of April 2007.


Dennis Boal, Hearing Examiner
Environmental Quality Council