

STATE OF NEW MEXICO
WATER QUALITY CONTROL COMMISSION



In the Matter of:)
PROPOSED AMENDMENT) No. WQCC 12-09 (R) and
TO 20.6.6 NMAC (Dairy Rule)) No. WQCC 13-08 (R)
)

**NEW MEXICO ENVIRONMENT DEPARTMENT'S
NOTICE OF INTENT TO PRESENT TECHNICAL REBUTTAL TESTIMONY**

The Ground Water Quality Bureau (“GWQB”) of the Resource Protection Division of the New Mexico Environment Department (“NMED” or “Department”), pursuant to Section 302.A and 302.B of the Procedural Order issued on October 3, 2014, hereby files this Notice of Intent to Present Technical Rebuttal Testimony at the Proposed Amendment to 20.6.6 NMAC (“Dairy Rule”) hearing scheduled to commence on December 9, 2014.

1. Entity Represented by the Technical Witness

The technical witness will testify for the GWQB of the Resource Protection Division of NMED.

2. Name and Qualifications of the Technical Rebuttal Witness

The Department will call the following witness at the hearing to present technical rebuttal testimony:

Jerry Schoeppner. Jerry Schoeppner is the Chief of the GWQB. He has worked in the GWQB for 11 years, and has worked for NMED since January 1993. Mr. Schoeppner has been in charge of implementing the Dairy Rule since the rule took effect in December 2011. Mr. Schoeppner holds a Bachelor of Science degree in Geology from New Mexico State University.

Mr. Schoeppner's qualifications and work background were provided with the Department's Notice of Intent to Provide Technical Testimony for its direct case, filed on October 17, 2014.

3. List and Description of Exhibits

The Department submits the following exhibit:

NMED Exhibit 3 Written Testimony of Jerry Schoeppner

4. Reservation of Rights

The Department reserves the right to call additional witnesses or introduce additional exhibits in response to the testimony and witnesses presented at the hearing. Additionally, the Department reserves the right to raise relevant objections to the evidence, witnesses, and exhibits offered by the parties.

Respectfully submitted,

GROUND WATER QUALITY BUREAU
NEW MEXICO ENVIRONMENT DEPARTMENT



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CERTIFICATE OF SERVICE

I hereby certify that on November 21, 2014, a copy of the Department's Notice of Intent to Present Technical Rebuttal Testimony was served on the following parties of record via e-mail and/or regular first-class mail:

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REBUTTAL TESTIMONY OF JERRY SCHOEPPNER

November 21, 2014

1 The New Mexico Environment Department (“Department” or “NMED”) wishes to
2 respond to several issues in the direct testimony submitted by the Dairy Industry Group for a
3 Clean Environment (“DIGCE”) and Amigos Bravos, Rio Grande Chapter of the Sierra Club,
4 Caballo Concerned Citizens, Lea County Concerned Citizens, and Rio Valle Concerned Citizens
5 (“the Coalition”), as discussed below.

I. DIGCE’s witness Charles W. Fiedler

A. Site-specific considerations for monitoring well networks are required.

8 The Department agrees with Mr. Fiedler’s testimony that a groundwater monitoring
9 network must be designed to take into account facility-specific conditions, and that it poses a
10 significant and unnecessary burden to petition the Commission for a variance to accept an
11 alternate monitoring well network that is proposed by the applicant and supported by the
12 Department in each instance. Fiedler Testimony, pp. 3-4, 6. The Department agrees with Mr.
13 Fiedler’s testimony where he compares establishing a monitoring network under 20.6.6 NMAC
14 (“Dairy Rule”) to establishing a monitoring network under 20.6.2 NMAC (“Part 2”). Fiedler
15 Testimony, p. 7. Under Part 2, the Department has the ability to approve a facility-specific
16 monitoring network. The Department supports a revision to the Dairy Rule to allow the

1 Department discretion to approve an alternate monitoring network based on site-specific
2 conditions and potential sources that exist at a dairy facility.

3 **B. Monitoring well networks must incorporate potential contamination sources.**

4 While the Department agrees with Mr. Fiedler's recommendation to allow the permittee
5 flexibility in locating groundwater monitoring wells based on a hydrogeological characterization
6 of a given facility, Fiedler Testimony, p. 11, the Department does not support the concept of a
7 monitoring network based on the facility as a whole (one upgradient well and two downgradient
8 wells to confirm the absence (or presence) of contamination from the proposed facility). Fiedler
9 Testimony, pp. 12, 17-18. This does not provide optimal monitoring coverage for potential
10 contamination sources at a facility. The Department agrees with Mr. Fiedler that an upgradient
11 well is necessary to establish background for a facility, Fiedler Testimony, p. 12, but asserts that
12 there should be no established minimum number of wells that all facilities must have. In fact,
13 based on factors such as the size of a dairy, volume of discharge, depth to groundwater, and the
14 number and size of potential contamination sources, a small dairy with limited sources may
15 require fewer monitoring wells to establish a monitoring well network that is protective of
16 groundwater than for others. Layout and the number and size of source areas differ from one
17 facility to another; therefore, the Department would need to approve a site-specific monitoring
18 well network for each site, taking into consideration the number, size and location of potential
19 contamination sources to allow for early detection of groundwater pollution.

20 Without early detection using monitoring wells positioned relative to source areas, the
21 costs of investigation, corrective action and abatement can increase substantially, and large
22 amounts of groundwater may be contaminated before it is detected. The appropriate monitoring
23 well network is dependent on site-specific conditions. The Department employs technical staff in

1 the Ground Water Quality Bureau (“GWQB”) who possess the requisite scientific expertise to
2 approve effective groundwater monitoring networks developed by a qualified professional and
3 submitted by an applicant. Vesting the Department with the ability to approve such networks
4 without petitioning the Commission for a variance will ease the Department’s administrative
5 burden while ensuring groundwater protection.

6 **C. NMED must have final approval of monitoring well network proposals.**

7 The Department agrees with Mr. Fiedler’s steps allowing a qualified professional to
8 collect data, complete an investigation and design a groundwater monitoring network based on
9 the hydrogeological investigation of a facility. Fiedler Testimony, p. 13. However, the
10 Department disagrees with Mr. Fiedler’s testimony that an outside qualified professional’s
11 assessment of the number of monitoring wells is sufficient. *Id.* The Department, as regulator of
12 the Dairy Rule, must have final approval of monitoring well networks proposed by the
13 permittee’s qualified professional, and the Department must be allowed to require modification
14 of the monitoring well network proposed by the applicant. Approval of monitoring networks is
15 standard for every regulatory entity that Mr. Fiedler discusses in his testimony; the Solid Waste
16 Bureau, Hazardous Waste Bureau, and U.S. Environmental Protection Agency; and this is the
17 process used by the Department for all non-dairy permitted facilities. Providing the Department
18 with discretion to approve an alternate monitoring network will streamline the administrative
19 process, reduce the administrative burdens on the Department and the Commission, and will be
20 consistent with the Department’s process for approving monitoring networks for all other
21 permitted industries including domestic waste facilities, industrial facilities, and mines. The
22 process will still retain the opportunity for the public to weigh in through the public comment
23 period for draft discharge permits provided in 20.6.2.3108 NMAC. It will also preserve the

1 opportunity for the permittee to request a variance from the Dairy Rule requirements as provided
2 in 20.6.6.18 NMAC.

3 **D. Existing monitoring wells may be approved if they effectively monitor**
4 **groundwater quality.**

5 The Department agrees with Mr. Fiedler's testimony that existing wells can be used in
6 the monitoring network for a facility, Fiedler Testimony, p. 14, but disagrees that all previously
7 installed wells should be accepted by the Department. The Department must have the ability to
8 evaluate each well and will only accept wells that meet the criteria that Mr. Fiedler outlines in his
9 testimony: they must be properly located and completed to effectively monitor groundwater
10 quality. This is standard practice for the Department with all other permitted facilities and
11 monitoring wells. If the Department is given the ability to work with the permittee to determine
12 monitoring well placement, this will eliminate the need for the permittee and NMED to schedule
13 a hearing before the Commission to request a variance to allow the use of existing monitoring
14 wells that may be a few feet outside of the location prescribed by the Dairy Rule, for example,
15 but still provide representative groundwater conditions downgradient of a potential source area.

16 **E. DIGCE's amendment to 20.6.6.23 NMAC will reduce the effectiveness of**
17 **groundwater monitoring.**

18 The Department does not agree with Mr. Fiedler's testimony that, if the Commission
19 accepts DIGCE's amendment to 20.6.6.23 NMAC, there will not be any reduction in the
20 effectiveness of groundwater monitoring or reduction in environmental liability compared to the
21 existing requirements. Fiedler Testimony, p. 20. DIGCE's proposed changes in 20.6.6.23 NMAC
22 would only monitor groundwater conditions upgradient and downgradient of a dairy facility, thus
23 failing to detect potential contamination as early as possible. DIGCE's proposed amendments for

1 a base minimum of three monitoring wells decreases the effectiveness of groundwater
2 monitoring and increases potential environmental liability by foreclosing the possibility of early
3 detection of potential contamination. By the time contamination is discovered in the wells
4 downgradient of the facility, larger areas of groundwater will be contaminated, eliminating the
5 ability to take swift corrective action measures.

6 **II. DIGCE's witness I. Keith Gordon**

7 Mr. Gordon provides testimony related to the single 60-mil synthetic liner that the Dairy
8 Rule prescribes for wastewater and combined wastewater/stormwater impoundments. In his
9 testimony, Mr. Gordon states that single geosynthetic liners may leak when deployed as an
10 independent unit, as opposed to one component of a liner system. Gordon Testimony, p. 3. He
11 also cites to compacted soil liners ("CSL") being used as secondary liners by the U.S.
12 Environmental Protection Agency, Gordon Testimony, p. 9, and as part of a composite liner
13 system by the Department's Solid Waste Bureau, Hazardous Waste Bureau and the New Mexico
14 Oil Conservation Division. Gordon Testimony, p.11.

15 The Department recognizes that double/composite liner systems provide maximum
16 protection of groundwater quality. A less substantial system has a higher potential to result in
17 groundwater contamination, which would require facilities to implement corrective action or
18 abatement. Installation of a double/composite liner system with leak detection and pump back
19 systems at the outset is the surest way to avoid the potential of future costs of corrective action or
20 abatement. Should the Commission choose to retain the current liner requirement in the Dairy
21 Rule, and in order to take appropriate measures to protect groundwater, the Department supports
22 having discretion to make decisions on liner requirements that are equally protective of
23 groundwater based on site-specific facility conditions. Providing more discretion to the

1 Department on liner requirements for dairy permits is consistent with the GWQB's method of
2 reviewing and approving other industrial and domestic waste discharge permits, and will
3 eliminate the Commission's burden of making a technical, site-specific determination that can be
4 made by NMED technical staff.

5 Although DIGCE advocates for an amendment allowing the use of compacted soil liners
6 to be the standard type of impoundment liner, Mr. Gordon's testimony acknowledges the fact
7 that CSLs may have a higher leakage rate than geosynthetic liners. Gordon Exhibit 3, Table 8.3
8 (showing that the leakage rate from an impoundment with a liquid depth of 10 feet for a clay
9 liner is 400 gal/acre/day versus a single geosynthetic liner which has a leakage rate of 10
10 gal/acre/day, when no holes are present). As a means of demonstrating that CSLs are protective
11 of groundwater quality, Mr. Gordon cites a single example of the use of compacted soil lined
12 impoundments at a facility, which fails to adequately support blanket use of CSLs. Gordon
13 Testimony, p. 6. No other examples of CSL impoundments are provided in Mr. Gordon's
14 testimony to demonstrate protection of groundwater resources from a CSL.

15 Based on the Department's experience administering dairy discharge permits, areas with
16 material appropriate for constructing CSLs are limited in the State. Still, the Department has
17 technical staff to determine if CSLs may be suitable in limited circumstances, and therefore
18 supports vesting NMED with discretion to determine in which situations such liners will
19 adequately prevent groundwater contamination.

20 The goal of liner systems, as Mr. Gordon accurately states, is to provide "environmental
21 protection; and more specifically stewardship of groundwater and surface water quality." Gordon
22 Testimony, p. 11. Protection of groundwater in New Mexico is crucial as 81% of New Mexico
23 residents' source of drinking water is groundwater. NMED Surface Water Quality Bureau, 2014-

1 2016 State of New Mexico Clean Water Act Section 303(d)/Section 305(b) Integrated Report, at
2 67 (2014). New Mexico does not protect groundwater based on use as Mr. Gordon states,
3 Gordon Testimony, p. 12; the Water Quality Act, NMSA 1978, Sections 74-6-1 to -17 (1967, as
4 amended through 2013) (“WQA”) protects *all* groundwater. NMSA 1978, § 74-6-4(E) (2009).
5 Mr. Gordon’s testimony fails to recognize that new liners need not be installed immediately at all
6 dairies. Rather, the chosen technology must be implemented when there are new or replacement
7 liners required based on the status of a particular dairy.

8 **III. DIGCE’s witness Mark Turnbough**

9 Mr. Turnbough concludes from his analysis that there is a significant increase in the
10 number of monitoring wells required under the Dairy Rule compared to Part 2. Turnbough
11 Testimony, pp. 8-10. The Department acknowledges that the Dairy Rule requires an increase in
12 the minimum number of monitoring wells under renewal of Dairy Rule permits compared to
13 what was required under Part 2 permits. There are several reasons why more monitoring wells
14 are required by the Dairy Rule, but most important is the fact that at the time of development of
15 the Dairy Rule, there were concerns about nitrate contamination. In order to provide early
16 detection of contamination from individual sources at a dairy facility so that corrective action can
17 be taken quickly, a more extensive monitoring network is required, leading to an increase in the
18 number of monitoring wells required to be installed at some facilities. Early detection of
19 contamination protects New Mexico’s groundwater resources, which is the intent of the Dairy
20 Rule. Early detection also saves the dairy industry money in the long run because corrective
21 action can be taken before large areas of groundwater have been contaminated which can trigger
22 costly abatement activity. While Mr. Turnbough’s testimony accurately indicates that the Dairy
23 Rule requires additional monitoring wells at dairies, his analysis does not take into account the

1 necessity to detect the individual sources of existing groundwater contamination at dairies
2 through the use of additional monitoring well data.

3 Mr. Turnbough also states that the cost of additional monitoring wells is very expensive.
4 Turnbough Testimony, p. 11. However, he fails to acknowledge that it is much cheaper to detect
5 groundwater contamination early and take corrective action to address it than it is to detect
6 contamination after it has spread and potentially impacted receptors such as drinking water
7 supplies.

8 Mr. Turnbough proposes accepting existing monitoring well configurations that were
9 approved under previous permits, renewals, or permit modifications. Turnbough Testimony, p.
10 14. The Department cannot make such a blanket commitment as some existing monitoring wells
11 may not have been located or constructed properly. The Department must assess monitoring well
12 networks based on well completion data, location of wells and site-specific hydrologic
13 conditions.

14 Finally, the Department agrees with Mr. Turnbough's recommendation to establish
15 provisions for a monitoring well network based on site-specific considerations. Turnbough
16 Testimony, p. 14. The Department supports adding language in the Dairy Rule that would give
17 the Department discretion to approve an alternate, facility-specific monitoring network or system
18 that is equally protective of groundwater and addresses the potential sources of contamination
19 that exist at a particular facility. This recommendation eases the burden on the Department in
20 administering Dairy Rule discharge permits. It will allow the Department to issue discharge
21 permits more efficiently, without the need to prepare for an onerous hearing before the
22 Commission when the Department supports a monitoring well network that differs from the

1 prescriptive Dairy Rule requirements, yet provides for adequate monitoring and detection of
2 groundwater contamination.

3 **IV. Coalition Witness Kathy J. Martin**

4 Generally, Ms. Martin describes the various types and methods used for flow metering
5 and backflow prevention in her testimony submitted with the Coalition's NOI in WQCC 12-
6 09(R). *See e.g.* Martin 12-09 Testimony, pp. 4-5; pp. 6-8. The Department agrees with Ms.
7 Martin that there is a misunderstanding of terminology regarding field calibration of flow meters.
8 Martin 12-09 Testimony, p. 9. The Department agrees that some kind of validation of flow meter
9 performance should be required and is willing to work with the parties to determine what this
10 should be. However, the Department recognizes that Ms. Martin's testimony generally fails to
11 consider the administrative and practical burdens of implementing and enforcing the Dairy Rule
12 as written.

13 **V. Coalition Witness William C. Olson**

14 Mr. Olson equates DIGCE's proposed changes to monitoring well placement in 20.6.6.23
15 NMAC with pollution by rule up to the boundary of the facility. Olson Testimony, p. 23. While
16 the Department believes that a site-specific monitoring well network is the best method to detect
17 any groundwater contamination, the Department disagrees with Mr. Olson's characterization. By
18 his reasoning, monitoring wells are the only protective measure for groundwater, and every other
19 protective measure in the Dairy Rule is ineffective. Monitoring wells monitor for contamination
20 and the effectiveness of the actual pollution prevention devices such as impoundment liners,
21 nutrient management plans, and effective management of wastewater.

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23

1 **VI. CONCLUSION**

2 In conclusion, the Department has been administering the Dairy Rule since it took effect
3 on December 31, 2011. Since that time the Department has identified administrative burdens that
4 make effective implementation of the Dairy Rule very challenging. My testimony identifies a
5 few of the burdens that the Department faces with the current rule. In order to more effectively
6 manage permitting and enforcement of the Dairy Rule, the Department recommends that changes
7 be made to vest the Department with more discretion in some areas. In addition to the technical
8 information provided by the parties, the Department requests that the Commission consider these
9 practical considerations in its decision.

10 By way of update to the pre-filed written testimony I provided in the Department's
11 Notice of Intent to Present Technical Testimony filed on October 17, 2014, I have included in
12 my rebuttal testimony updated statistics on the number of final discharge permits issued and the
13 number of variance petitions received. As of November 21, 2014, the Department has issued a
14 total of 27 final permits, and 12 variance petitions have been filed.

15 This concludes my rebuttal testimony.

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Respectfully submitted,

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