Response to Comments

On

Tentative Waste Discharge Requirements

For

Michael Vander Dussen, DBA
Double Diamond Dairy
Merced County

Item XX

Central Valley Regional Water Quality Control Board Meeting
5 February 2009

Commenter	Date Comments Received	Response Located on Pages:
The Source Group, Inc. (on behalf of Michael Vander Dussen)	30 May 2008	A 1-2
The Law Office of Thomas H. Terpstra (on behalf of Michael Vander Dussen)	30 June 2008	B 1-2
Environmental Law Foundation (on behalf of Environmental Law Foundation, AGUA, and California Sportfishing Alliance)	2 July 2008	C 1-4

Commenter A

Comments by The Source Group, Inc.
Received 30 May 2008

1. Comment: Remove Specification B.9, which requires a routine sanitation and manure management plan for the dairy.

Response: The requirement for a routine sanitation and manure management plan is included in the tentative Waste Discharge Requirements for Michael Vander Dussen, DBA Double Diamond Dairy, Merced County ("Tentative Order"), because it was a mitigation measure from the Double Diamond Dairy Final Environmental Impact Report (Final EIR) prepared to meet the requirements of the California Environmental Quality Act (CEQA). Site-specific mitigation measures identified in CEQA environmental documents must be incorporated in the orders of the Central Valley Regional Water Quality Control Board (Central Valley Water Board) if they relate to waste management.

2. Comment: Remove Specification B.10, which requires manure buildup underneath watering stations to be removed weekly.

Response: The requirement for the weekly removal of manure buildup underneath watering stations is included in the Tentative Order because it was a mitigation measure from the Double Diamond Dairy Final EIR. Site-specific mitigation measures identified in CEQA environmental documents must be incorporated in Central Valley Water Board orders if they relate to waste management.

3. Comment: Remove Specification B.18, which requires the Discharger to conduct inflow metering to estimate application rates from the storage ponds to the cropland.

Response: Specification B.18 was updated in response to comments received from The Source Group, Inc. on behalf of Michael Vander Dussen on the Administrative Draft of the Tentative Order. The language in the Administrative Draft of the Tentative Order stated:

> **"The Discharger will continue to conduct inflow metering to estimate application rates from the storage ponds to the cropland."**

This language was removed prior to the release of the Public Review Draft and, therefore, no additional changes to the language are needed.

4. Comment: Remove F.1.d, which requires a Best Practical Treatment or Control (BPTC) Technical Evaluation of the wastewater lagoons and settling ponds. Instead it is recommended that groundwater monitoring wells be used to monitor the ponds.

Response: The requirement for a BPTC Technical Evaluation will remain in the Tentative Order but has been revised based on comments received from other parties. The Technical Evaluation is an evaluation of groundwater monitoring data to determine if there is an impact to groundwater from the existing wastewater lagoons and settling ponds at Double Diamond Dairy. An "impact" is defined as a measurably significant increase in certain constituents in the groundwater over time. Determination of "measurably significant increase" will be based on a statistical analysis of groundwater monitoring data. If the results of the BPTC Technical Evaluation demonstrate that the lagoons and/or ponds are impacting groundwater, a BPTC Work Plan proposing a liner design for the lagoons and/or ponds that is protective of groundwater quality will need to be submitted and implemented.

5. Comment: In Table 2 of the Monitoring and Reporting Program (MRP), remove the requirement to analyze quarterly for potassium and total dissolved solids in wastewater; and to analyze twice per year for total dissolved solids in manure since these constituents are not required in the General Order for Existing Milk Cow Dairies.

Response: Groundwater data from the Double Diamond Dairy currently indicates elevated concentration of some constituents in the groundwater. As a result, additional parameters have been added to the suite in order to obtain a full picture of the conditions at Double Diamond Dairy. When the General Order was adopted, staff anticipated that if monitoring indicated that the groundwater had high levels of constituents of concern, a revised suite of parameters would be developed on an individual basis in order to obtain an accurate picture of the groundwater conditions at a specific dairy. This approach taken in the current Tentative Order is therefore not inconsistent with the General Order and the requested change will not be made.

6. Comment: In Table 4 of the MRP, remove the requirement to sample the domestic and agricultural supply wells.

Response: The MRP permits a reduction in monitoring of the domestic and agricultural supply wells after one year. At this time Regional Board staff does not have one year's worth of data (two sampling events) for all of the 29 agricultural supply wells and 6 domestic supply wells. If the Discharger

has this information and submits it, staff will reduce the requirement prior to the Central Valley Water Board meeting.

7. Comment: In Table 4 of the MRP, remove the requirement that monitoring wells be sampled at times of expected highest and lowest water table levels, and the requirement to analyze for total dissolved solids, fecal coliform, phosphorus, and potassium.

Response: The MRP permits reduction of the constituents sampled after two rounds of samplings have been completed. The requirement to analyze for total dissolved solids, fecal coliform, phosphorus, and potassium were added to the suite of constituents because groundwater data from the Double Diamond Dairy indicates the facility may be contributing to an increase of these constituents in the groundwater. The additional parameters are needed to accurately characterize the groundwater conditions. The requirement for analyzing these parameters at times of expected highest and lowest water table levels is included in the Tentative Order to provide the Board with data from the most extreme groundwater conditions. The requested changes to the MRP will not be made.

8. Comment: The Annual Report, the Groundwater Report and the Storm Water Report should all be submitted at the same time.

Response: The time table as laid out in the Tentative Order provides staff with more timely data that better matches the crop and storm water schedule; therefore, the January and June due dates will remain as they are.

Commenter B

Comments by Law Office of Thomas H. Terpstra
Received 30 June 2008

1. Comment: It is recommended that the Interim Groundwater Limitations be changed to Groundwater Protection Standards that include a statistical analysis of groundwater monitoring data from eight independent sampling events. The results of the analysis would then be used to develop groundwater protection standards based on a comparison between current data and a historical statistical assessment.

Response: Interim or final groundwater limitations are a legal requirement for all individual Waste Discharge Requirements for dairies. The Tentative Order does include the BPTC Technical Evaluation requirement to determine if groundwater has been impacted from the wastewater lagoons and settling ponds while Interim Limitations are in place. The BPTC Technical Evaluation will be based on groundwater monitoring and will support development of final groundwater limits.

2. Comment: The Groundwater Monitoring section of the MRP shows that the Discharger shall sample 2 domestic wells and 29 agricultural wells. It also states that the Discharger shall sample the six monitoring wells. These numbers should be changed to 23 agricultural supply wells and four monitoring wells. In addition, the following language should be removed: "Two of the six monitoring wells will be installed within six months of the date of this Order."

Response: Central Valley Water Board staff received updated information from the Source Group, Inc, indicating that there are 29 agricultural wells at the facility. We were informed that 6 of the 29 wells are on rented property; however, the Discharger does operate them. Since solid manure and liquid wastewater are applied to the rented land, the Discharger will be required to sample those wells. In addition, please note that the updated information we received included documentation that there are more than two domestic wells at the Double Diamond Dairy. According to the information received, there are actually six domestic wells at the facility. All six domestic wells are required to be sampled under the Tentative Order. Please note that Tentative Order will be updated to reflect this change.

In regards to the language about the installation of two new monitoring wells, please be aware that this language came from the Administrative Draft of the Tentative Order and not the Public Review Draft of the Tentative Order. This language was removed prior to the release of the Public

Review Draft based on comments received from The Source Group, Inc., on behalf of Michael Vander Dussen.

In addition, the following language has been added to page 6 of the MRP to clarify that the Discharger is responsible for submitting data for the Guilherme Brasil Dairy Monitoring Well #1:

> **"In addition, the Discharger shall provide data from the Guilherme Brasil Dairy monitoring well (MW-1). This monitoring, including the monitoring of Guilherme Brasil Dairy MW-1, shall be conducted at the frequency and for the parameters specified in Table 4 below."**

Commenter C

Comments by the Environmental Law Foundation
Received 2 July 2008

1. Comment: The Tentative Order does not protect existing beneficial uses for groundwater. The Tentative Order allows ongoing degradation of the groundwater despite ample evidence that groundwater is already being degraded. The Order explanation that "final groundwater limitations will be developed based on the results of the BPTC evaluation" is a backwards approach to protecting water quality. The Regional Board should set final limits on groundwater levels in order to maintain and protect beneficial uses, and not to accommodate use of less stringent technology controls.

Response: The Tentative Order does not permit degradation of the groundwater; to the contrary, the Tentative Order prohibits degradation. Specification B.1 of the Tentative Order states as follows:

> **The collection, treatment, storage, discharge, or disposal of wastes at the facility shall not result in: (1) discharge of waste constituents in a manner which could cause degradation of surface water or groundwater, (2) contamination or pollution of surface water or groundwater, (3) a condition of nuisance, (4) exceedance of water quality objectives, or (5) unreasonably affect beneficial uses (as defined by the California Water Code Section 13050).**

As pointed out in both the Tentative Order and the comments, the groundwater underlying the facility has already been adversely affected by upgradient sources and the Central Valley Water Board has no reliable baseline by which it can measure whether the groundwater is a "high quality water" as defined in the State Water Board's Antidegradation Policy (Resolution 68-16). Even if the groundwater is assumed to be a "high quality water," the Board does not currently have the data available to determine how much, if any, Double Diamond Dairy may be contributing to any degradation of the groundwater. Specifically, without such data, the Central Valley Water Board is unable to determine whether the existing construction of the three wastewater lagoons and settling ponds is protective of groundwater quality and constitutes the BPTC necessary to avoid a pollution or nuisance and to maintain the highest water quality consistent with the maximum benefit to the people of the state,

For this reason, the Tentative Order requires a BPTC Technical Evaluation to determine if the existing construction of the wastewater lagoons and settling ponds is protective of groundwater quality and preventive of degradation. As laid out in the Tentative Order, if the BPTC Technical Evaluation determines that the ponds and lagoons as currently constructed contribute to degradation of groundwater, the existing construction cannot be considered BPTC and the Discharger will be required to submit and implement a liner design for the wastewater lagoons and/or settling ponds that prevents further degradation.

While the BPTC Technical Evaluation is ongoing, the Tentative Order sets interim limits on constituent concentrations in the groundwater that reflect the current polluted background level of the groundwater. The Tentative Order sets out a time frame of two years for collection of quarterly groundwater data, with a BPTC Technical Evaluation to be completed within six months of collection of the last groundwater data, and requires a BPTC workplan to be developed within six months thereafter if the data indicate degradation due to the ponds and lagoons. The BPTC workplan will contain proposed improvements to the wastewater lagoons and settling ponds and a time frame for the implementation of the improvements.

Considering potential impact on groundwater not just from the lagoons and ponds, but more broadly, it should additionally be noted that the Tentative Order imposes significantly more stringent requirements on the Discharger than were previously imposed under the waiver of waste discharge requirements adopted by the Regional Water Board in 1982. For example, the Tentative Order prohibits discharges to surface water from the production area and prohibits discharges from land application areas unless, among other requirements, the dairy prepares and implements a Nutrient Management Plan. As a result, water quality is likely to be improved as impacts that may have occurred under previous regulation of the facility are reduced.

2. Comment: The mandatory groundwater monitoring as a means to protect water quality will take too long to make meaningful improvements to the area's groundwater. The approach of using monitoring to demonstrate that a particular discharger is responsible for violating water quality standards does nothing to protect groundwater in the near-term. A monitoring-based approach is both backward and unprotective of water quality.

Response: The Tentative Order does not rely on groundwater monitoring alone to assure adequate protection of groundwater quality. The Tentative

Order imposes the requirement of the BPTC Technical Evaluation, as discussed above, specifically to determine if the groundwater is being degraded as a result of wastewater lagoon and settling pond design. The BPTC Technical Evaluation requirement has been clarified and expanded in response to comments received. The BPTC Technical Evaluation of the wastewater lagoons and settling ponds is required to determine if there is an impact to groundwater. An impact is defined as a measurably significant increase in certain constituents in the groundwater over time. If the BPTC Technical Evaluation determines that the lagoons and/or ponds are impacting groundwater, a BPTC Work Plan proposing a liner design for the lagoons and/or ponds will need to be submitted and implemented.

3. Comment: The proposed Order does not apply Best Practicable Treatment or Control to the existing ponds. The Order only requires BPTC on all future construction and expansion of retention ponds. The Natural Resources Conservation Service (NRCS) standard cited requirements must apply to current facilities as well. The Order requires a BPTC Technical Evaluation to determine that the existing conditions are protective of groundwater when the Regional Board already knows, based on monitoring reports, that the groundwater is not being protected and BPTC is not being currently applied.

Response: While NRCS standards and other pond design requirements may provide more groundwater protection than the Title 27 requirements under which the Discharger's existing ponds and lagoons were constructed, it is impossible to determine if any given design is protective of groundwater quality without an evaluation of site-specific information such as depth to groundwater, existing groundwater quality beneath the facility, nature of the geologic material between the bottom of the retention pond and the first encountered groundwater, nature of the leachate from the retention pond, and proximity to supply wells. Such a site-specific approach is especially appropriate in a case such as Double Diamond Dairy's, where groundwater monitoring indicates that upgradient sources of pollution are significantly impacting groundwater quality and it is unclear to what extent the facility is contributing to the pollution. Accordingly, the Tentative Order sets more stringent requirements for pond expansion or new construction of ponds in the future, but permits the Discharger to carry out the BPTC Technical Study before implementing a more stringent pond design for the existing lagoons and ponds. The BPTC Technical Evaluation will determine if there is a measurably significant impact to the groundwater from the dairy lagoons and/or settling ponds and if additional steps are necessary to protect the groundwater. If so, the Discharger will be required to submit and implement a liner design for the wastewater lagoons and/or settling ponds. This approach is consistent with the General Order where regulated facilities are required to propose and implement upgrades to existing

ponds only when groundwater monitoring demonstrates that the existing pond has adversely impacted groundwater quality. (General Order Specification B.5.)

4. Comment: The dairy expanded the herd size by more than 15% and yet the Order does not mandate more stringent pollution requirements. The proposed Order should require the same BPTC required for future facilities for the current facilities at Double Diamond even more so because this is a permit for a facility lacking up-to-date pond retention technology and is expanding its herd size.

Response: Commenter is correct in pointing out that Double Diamond Dairy cannot be permitted under the General Order because it has expanded its herd size by more than 15%. Commenter is however misguided in its contention that the General Order "mandates that a dairy expanding its herd more than 15% must apply for an individual WDR in order to impose additional measures on expanding dischargers." The General Order must exclude any dairy facility expanding its herd more than 15% because such projects are subject to a separate CEQA analysis. Double Diamond Dairy is otherwise similarly situated to existing dairies permitted under the General Order which are required to comply with stricter pond liner requirements only if existing ponds are expanded, new ponds are added, or monitoring results indicate that existing ponds have adversely impacted groundwater quality.

Double Diamond Dairy is an existing facility that, while expanding its herd size, does not require enlargement of its ponds to manage the waste generated by the expanded size. The ponds at the facility were constructed in the summer of 1999. The Discharger started working with the county to expand the herd without any changes to the ponds in 2005. Central Valley Water Board staff commented on the Draft EIR and worked extensively with the Discharger's environmental consultant on groundwater and pond information. Because the Discharger had expanded beyond 15% of the mature cow number reported in October 2005 prior to the adoption of the General Order, the Discharger was not eligible for coverage under the General Order. However, as stated, the 15% expansion in herd size is being accommodated with no need to expand pond capacity; therefore, it is consistent with the Central Valley Water Board's approach in the General Order that Double Diamond Dairy will be required to make improvements to the pond design only if an impact to groundwater is established through the BPTC Technical Evaluation.

5. Comment: The Order states that "A Nutrient Management Plan that meets the requirements in Attachment C is consistent with Resolution 68-16." It is unclear how or why this is so. The Regional Board must explain

how the NMP in Attachment C is consistent with the State Antidegradation Policy.

Response: The University of California report titled "Managing Dairy Manure in the Central Valley of California" determined through both in-field studies and modeling simulations (ENVIRO-GRO) that 1.4 to 1.65 times the crop uptake was the lowest nitrogen application rate that would still allow good crop yields. Specifically the report states that, "investigations of the crop N recovery in several field experiments showed that the appropriate N loading rate that minimizes N leaching and maximizes N harvest is between 140 to 150% of the N harvested and computer models indicated a somewhat larger range of 140% to 165%." The report also indicated that a nitrogen "loading rate of 1.4 to 1.65 times the crop N harvest removal are practical and…achievable if the production field is properly managed." If a crop fails, all of the nitrogen applied is available as runoff or goes to groundwater. Therefore, an NMP incorporating the 1.4 to 1.65 standard is currently considered BPTC for control of nitrogen to groundwater and surface water. In addition, groundwater monitoring will be used to verify the effectiveness of the NMP.

6. Comment: The proposed Order fails to adequately protect groundwater during third party application of waste. The Order lacks any restriction on third party disposal of solid waste on land. The same requirements applicable to the discharger for land application and monitoring must apply to third parties in order for the Order to be protective of water quality.

Response: Third party application of waste occurs outside of the regulated facility and therefore is not within the scope of the Tentative Order. The Order does require the Discharger to track all solid manure leaving the facility and have the third party sign a manifest stating that they will apply the waste at agronomic rates. Additionally, application of solid dairy waste on agricultural land would be regulated under permits for agricultural discharges, such as the Coalition Group Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands, Order No. R5-2006-0053, as amended.

7. Comment: The Regional Board must also issue an NPDES permit along with the WDRs per the proposed CAFO Rule pursuant to the Clean Water Act and the Second Circuit's CAFO decision. The Regional Board should explain why it does not feel these permits are necessary in the Central Valley when they are in fact considered necessary in the rest of the State, and by the Federal Government. An NPDES permit should be a component of this Proposed Order.

Response: There is no requirement to issue an NPDES permit for all Confined Animal Feeding Operations (CAFOs). While CAFOs requiring

NPDES permits were defined expansively in the February 2003 Clean Water Act permitting requirements for CAFOs promulgated by the United States Environmental Protection Agency (USEPA), the Second Circuit Court of Appeals directed USEPA to revise the regulations in *Waterkeeper Alliance et al. v. EPA* ((2nd Cir. 2005) 399 F.3d 486). The revised regulations addressing *Waterkeeper Alliance* were proposed in June 2006 and March 2008 and the final revisions were published in the Federal Register on 20 November 2008 (Final CAFO Rule) and are effective 30 days thereafter.

Among other changes from the 2003 regulations, the Final CAFO Rule requires only those CAFOs that "discharge or propose to discharge" to apply for NPDES permits. The Discharger has been operating Double Diamond Dairy since 1999. In that time, the Discharger has not had any off-property discharges of waste that could trigger the requirement for an NPDES permit pursuant to the Clean Water Act. If the Discharger in the future discharges or proposes to discharge, as these terms are clarified in the Final CAFO Rule, it will be required to apply for an NPDES permit at that time. In any case, the Discharger was not required to apply for an NPDES permit before 27 February 2009, the date to which USEPA, in the course of revisions to its regulations, extended the deadline for submission of applications for an NPDES permit.

Moreover, even if the Central Valley Water Board could have required the Discharger to obtain an NPDES permit under the 2003 CAFO regulations or Final CAFO Rule, this duty is discretionary. As held in *Natural Resources Defense Council v. Costle* ((D.C. Cir. 1977) 568 F2d 1369, 1375) "the [permitting agency] has discretion either to issue a[n NPDES] permit or to leave the discharger subject to the total proscription of §301[the Clean Water Act's discharge prohibition]."

For the sake of clarification, it is noted that the Discharger currently has a General NPDES Permit for Discharges Associated with Industrial Activities, which is a separate category of NPDES permit than the permit that would be required under the CAFO regulations. This information has been added to the tentative WDRs. The Discharger has not had any violations of the NPDES permit for the facility.