

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION**

TENTATIVE CEASE AND DESIST ORDER FOR

**FRED GOBEL
THE MORNING STAR PACKING COMPANY, LP
THE MORNING STAR TOMATO PACKING PLANT
COLUSA COUNTY**

**PROSECUTION TEAM'S TECHNICAL ANALYSIS
SUPPORTING THE PROPOSED CEASE AND DESIST ORDER**

I. Introduction

The Central Valley Water Board Prosecution Team recommends the Central Valley Water Board adopt a Cease and Desist Order (Order) to compel Fred Gobel and the Morning Star Packing Company, L.P. (collectively "Discharger") to comply with Waste Discharge Requirements Order R5-2013-0144 (2013 WDRs). Specifically, the Prosecution Team contends that the Discharger has committed multiple violations of the 2013 WDRs. Those alleged violations are summarized below and broken into ten different categories:

- Unpermitted expansion of the Cooling Pond and removal of 90.5 acres of land application area (LAA)
- Unpermitted expansion of the Settling Pond
- Unauthorized discharge of organic waste to the Cooling Pond
- Odor violations
- Dissolved oxygen violations
- BOD and nitrogen mass loading limit violations
- Groundwater pollution
- Solid waste management violations
- pH effluent limit violations
- Stormwater violations

The violations are described in detail in the Findings of the tentative Order. This analysis provides an overview of the eight main violations and the resulting threatened or actual water quality impacts, as well as a discussion of the remedies sought by the tentative Order.

II. Discharger, Facility, and Previous Enforcement

The Morning Star Packing Company, L.P. (Morning Star or Discharger) owns and operates a tomato processing facility (Facility) in Williams, California. According to its website, Morning Star accounts for over 25% of the California processing tomato production, supplying 40% of the United States ingredient tomato paste and diced tomato markets, with industrial sales of approximately \$350 million.¹ The Morning Star Company includes three separate tomato processing facilities, a trucking company, and farming operations. The Williams Facility operates during the tomato harvest season from approximately June to mid-October each year. Processing operations occur 24 hours per day, every day during the harvest season. The 2013 WDRs state that the Williams Facility includes 600 acres of cropland, while Fred Gobel² owns 95 acres of cropland³. The cropland is known as the "land application area" or "LAA".

The 2013 WDRs allow the discharge of up to 4.3 million gallons per day of tomato wastewater to the LAA. The WDRs state that groundwater has been degraded or polluted by the

¹The Morning Star Company Website <http://morningstarco.com/index.cgi?Page=About%20Us/Company%20History>

² Fred Gobel is named in the WDRs as a co-Permittee. However in the context of this discussion, the term "Discharger" applies only to Morning Star.

³ 2013 WDRs, Finding 19

discharge⁴, but treatment technologies, including biochemical oxygen demand (BOD) loading limits, nitrogen uptake by crops, and application of wastewater to 695 acres should result in compliance with the groundwater limitations. The 2013 WDRs include a BOD loading limit of 100 pounds per acre per day (lb/ac/day) and a total nitrogen loading limit based on the nitrogen demand of the specific crop.

The 2013 WDRs state that there are five wastewater streams⁵: tomato waste generated in the flume system, water softener reject, condensate from the evaporation process, boiler blowdown, and plant cleaning water. The tomato waste enters the Settling Pond. The water softener reject, condensate, and boiler blowdown wastes are directed to the Cooling Pond. Wastewater generated from sanitation or cleaning activities flows directly to the cropland. Water from both the Cooling Pond and Settling Pond is applied to the LAA.

This is not the first time the Discharger has been the subject of potential enforcement. In 2005, the Board issued Cease and Desist Order No. R5-2005-0003 (2005 CDO) to address discharges of wastewater to surface water, low dissolved oxygen in the Settling Pond, and potential groundwater degradation from over-application of nutrients and salts. The 2005 CDO also noted that only 180 acres of cropland received wastewater during the 2004 processing season.

The 2005 CDO required the Discharger, in part, to limit BOD loading to 100 lb/ac/day and to submit a Cropping Plan to ensure the use of available cropland is maximized. As recognized in the 2013 WDRs, the Discharger has a history of exceeding the 2005 CDO's BOD loading limit. The maximum daily BOD loading rates during the 2009, 2010, and 2011 processing seasons were as high as 700 lb/ac/day, while during the 2012 processing season, BOD loading rates were up to 220 lb/ac/day.⁶ The Discharger again exceeded the BOD loading rate in 2013, with a maximum daily loading rate of 221 lb/ac/day. The Discharger did not correctly calculate or report BOD loading in 2014 so Board staff could not determine compliance with the BOD loading limit for that processing season. In addition to the Discharger's historical noncompliance with the BOD loading limit, during the 2015 processing season, the BOD loading limit was exceeded on numerous days, with a maximum loading rate of 216 lb/ac/day.⁷ The 2005 CDO was rescinded after adoption of the 2013 WDRs.

III. Unpermitted Expansion of the Cooling Pond, Unpermitted Expansion of the Settling Pond, and Removal of LAA

A. Violations

The 2013 WDRs describe a 60-acre Cooling Pond, a 5-acre foot Settling Pond, and 695 acres of cropland available for wastewater disposal. However, in late 2015, Board staff determined

⁴ 2013 WDRs, Finding 59-62

⁵ 2013 WDRs, Finding 12

⁶ 2013 WDRs, Finding 25.

⁷ See Attachment E to August 2015 and September 2015 Self-Monitoring Reports.

that (a) the Discharger increased the size of the Cooling Pond from 60-acres to 100-acres in Spring of 2015 prior to the start of the processing season; (b) the Discharger permanently removed 90.5 acres of LAA in order to expand the Cooling Pond in Spring of 2015; and (c) the Discharger increased the size of the Settling Pond from 5 acre-feet to 10.16 acre-feet in the Spring of 2012 prior to the start of the processing season. These changes were made without the approval of the Water Board.

The 2013 WDRs and Standard Provisions contain the following requirements:

- Discharge Prohibition A.3 of the WDRs states: *“Discharge of waste at a location or in a manner different from that described in the Findings is prohibited.”*
- Discharge Specification D.3 of the WDRs states that *“Wastewater treatment, storage, and disposal shall not cause pollution or nuisance as defined by Water Code section 13050.”*
- Standard Provision A.4 of the 2013 WDRs states: *“Before making a material change in the character, location, or volume of discharge, the discharger shall file a new Report of Waste Discharge with the Regional Board.”*

The expansion of the ponds and the removal of the LAA is a serious violation of the 2013 WDRs. However, the Discharger asserts that the 2013 WDRs acknowledge⁸ that it planned to increase production by up to 65% and that this includes not just wastewater flow but also the expansion of the two ponds and reduction of the cropland. However, Finding 28 only discusses the increased production in terms of wastewater flow, and states the Discharger will be able to remain within the permitted flow limit but that it may have difficulty meeting the BOD and nitrogen loading limits. In addition, Finding 28 discusses the application of the maximum wastewater flow on 695 acres, and does not anticipate that 90.5 acres of cropland will be removed for the Cooling Pond expansion. Any specific reference to a planned Cooling Pond expansion, Settling Pond expansion, or reduction in cropland are noticeably absent in any of the 2013 WDR's findings, Anti-Degradation Analysis, and Information Sheet. Waste discharge requirements are typically written based on the information specifically provided by a discharger in a Report of Waste Discharge (ROWD) or addendum to that ROWD.⁹ The Prosecution Team understands that at no time during the permitting process did Morning Star representatives provide any specific information in its ROWD or in a supplemental addendum regarding planned expansions to the Cooling Pond or reductions in LAA acreage resulting from the removal of MS20A, MS20B, and MS21.¹⁰

Furthermore, it is not reasonable for a sophisticated company like Morning Star to assume that general references to future production expansion inherently include the Cooling Pond expansion nor is it reasonable for Morning Star to interpret the 2013 WDRs as impliedly authorizing or accounting for such modifications without first submitting that information to Board

⁸ 2013 WDRs Finding 28

⁹ Declaration of Lani Andam, December 22, 2015.

¹⁰ *Id.*

staff in a new ROWD or ROWD addendum. This is especially true where the expansion of the Cooling Pond results in a substantial modification of a recognized treatment and control measure that is included in the 2013 WDRs as part of a "suite of treatment or control methodologies that is expected to remedy groundwater pollution issues at the Facility over time."¹¹ Modification to the underlying assumption that 695 acres are available for effective treatment and control may also substantially modify the Board's conclusion that limited groundwater degradation is occurring in compliance with Resolution 68-16, particularly where the Discharger has not implemented alternative treatment or control measures to make up for a decrease in LAA acreage.

The Cooling Pond expansion and corresponding decrease in LAA acreage available for irrigation results in a discharge of waste in a manner different from that described in the findings of the 2013 WDRs and constitutes a material change triggering the requirement for the Discharger to submit a new ROWD with the Board for amended WDRs prior to instituting those changes.

It is clear that the Discharger knew during the 2013 WDRs permit process that it had already expanded the Settling Pond and was planning to expand the Cooling Pond and decrease the LAA, however, at no time during that process did it memorialize those intentions in an addendum to its ROWD and submit it to Board staff for inclusion in the 2013 WDRs. Permits are not drafted based on mere conjecture. The Discharger is a sophisticated company that should have known that such modifications needed to be, at the very least, communicated to Board staff in a ROWD or ROWD addendum and ultimately approved by the Board in amended WDRs.

This is not merely a "paper violation" or failure to notify the Board, but these modifications without the Board's approval has 1) deprived the Board of its ability to draft requirements and conditions to ensure that such material changes are protective of water quality; 2) resulted in BOD and nitrogen overloading on a smaller LAA; and 3) created actual groundwater quality issues, as discussed in further detail below. Despite expanding the Settling Pond in 2012 and making preparations for the Cooling Pond expansion as early as 2012, Morning Star never apprised Board permitting staff about the Settling Pond expansion, Cooling Pond expansion, or LAA reduction through the appropriate channels, which explains the notable absence of any specific references to these material changes in the 2013 WDRs. Board staff did not discover that these material changes had been made until its site inspection on 20 August 2015 in response to odor complaints from neighboring residents.

B. Tentative Order's Response to the Unpermitted Expansion of the Ponds and the Reduction in LAA

If adopted as proposed, the Order would require the Discharger to restore both the Settling Pond and Cooling Pond back to the size allowed by the 2013 WDRs and to restore the three LAA fields which had been removed for the Cooling Pond expansion (MS20A, MS20B, and

¹¹ Waste Discharge Requirements Order R5-2013-0144, Findings 60, 61, and 62, p. 12.

MS21). However, the Prosecution Team recognizes that there may be other remedies which would also result in the Discharger complying with the underlying premise of the 2013 WDRs, namely, ensuring that groundwater quality is not degraded beyond that allowed by State Water Board Resolution 68-16. The Discharger may propose that the expanded ponds and reduced LAA remain in place. If so, the Discharger would need to propose alternate methods to protect groundwater quality in lieu of what is being required by the tentative Order. The Prosecution Team expects that the proposal would include a reduced flow rate, would demonstrate how the Discharger would comply with the loading rates in the 2013 WDRs, and would demonstrate that additional seepage from the expanded ponds would not impact groundwater to a greater extent than envisioned in the 2013 WDRs. An alternate proposal should consider installation of wastewater treatment systems such as salinity source control, screening, aeration, and/or dissolved air flotation. (It is noted that these systems may also be necessary for the Discharger to meet its BOD and nitrogen loading rates). The Discharger would also need to commit to submittal of a comprehensive ROWD such that a complete analysis can be made of its operation, and new WDRs prepared for Board consideration prior to the 2017 processing season. Even though the tentative Order may be amended to allow the expanded ponds and continued use of the reduced LAA acreage in the short-term, there is no guarantee that amended WDRs would also allow this. A full Anti-degradation Analysis may find that additional actions are required for groundwater protection. The Prosecution Team is open to reviewing proposals from the Discharger and amending the proposed Order, as appropriate.

IV. Odor Complaints, Dissolved Oxygen Violations, Unauthorized Discharge of Organic Waste to the Cooling Pond

A. Violations

Discharge Specification D.3 of the 2013 WDRs states that “*Wastewater treatment, storage, and disposal shall not cause a condition of pollution or nuisance as defined by Water Code section 13050.*” Discharge Specification D.7 of the 2013 WDRs states that ““*Objectionable odors shall not be perceivable beyond the limits of the property where the waste is generated, treated, and/or discharged at an intensity that creates or threatens to create nuisance conditions.*”

The Discharger generates a high-strength waste which, if not managed properly, has the potential to cause odor conditions. Beginning on 7 August 2015, Board staff began receiving complaints about odors caused by the Discharger. Staff took several actions in response, including asking the Discharger to conduct daily odor monitoring at locations both on and off its property. The Discharger complied and submitted *Daily Update Assessment Reports* every day between 18 August and 14 October 2015. Attachment A to the tentative Order summarizes the complaints received as well as the Discharger's monitoring results. For the period of 6 August 2015 to 12 October 2015, off-site odors were reported for 47 of the 67 days, or a total of 70% of the time. The Discharger violated the 2013 WDRs by improperly managing its wastewater such that off-site odors were generated, causing nuisance conditions.

The 2013 WDRs requires that dissolved oxygen (DO) levels be measured weekly in both the Settling Pond and the Cooling Pond. This is a standard requirement for wastewater ponds, as low DO levels correlate to odors. Most WDRs require that a discharger maintain a DO over 1 mg/L. Discharge Specification D.8 of the 2013 WDRs requires that this Discharger maintain its DO over 1.0 mg/l for three consecutive weekly monitoring events. Between the period of the first odor complaint and the end of the 2015 processing season, the DO in the Settling Pond was less than 1.0 mg/L for 78% of the time. For the same period, the DO in the Cooling Pond was less than 1.0 mg/L for 59% of the time. These low DO values lend credence to the odor complaints. It is unknown whether the DO was similarly depressed in previous years, as staff's inspection on 20 August 2015 found that the Discharger was measuring DO in a manner that introduced oxygen into the water and improperly skewed the results. Because the Discharger does not have a Sampling and Analysis Plan for the collection of DO samples from either Pond, it is reasonable to assume that samples were collected inappropriately in previous years.

Finding 12 of the WDRs states that "*The Cooling Pond receives water softener reject, condensate from the evaporation process, and boiler blowdown.*" According to the WDRs, the Cooling Pond does *not* receive any wastewater containing organic matter¹². This is reflected in the fact that the only two constituents are monitored in the Cooling Pond: dissolved oxygen and pH. In contrast, the 2013 WDRs state that wastewater containing organic matter from tomato by-products is directed to the Settling Pond, and require that this pond also be monitored for BOD, fixed dissolved solids, and total nitrogen.

Board staff learned during the 2 November 2015 meeting with the Discharger that organic waste is routinely discharged to the Cooling Pond as part of the condensate. This was the first time that the Discharger had discussed this fact with staff. The discharge of organic matter helps to explain the depressed DO values in the pond, and are a probably one of the sources of the off-site odors¹³. The Discharger's failure to fully disclose all sources of waste into the Cooling Pond prevents the Board from fully assessing all impacts to water quality from the Discharger's activities¹⁴, and from fully regulating the discharge of waste.

As a result of the Prosecution Team's administrative subpoena, Board staff learned that between 7 August and 27 August 2015, the Discharger added 6,875 gallons of "ADOX 750 Chlorite" to the Settling Pond and 12,100 gallons to irrigation canals¹⁵ in an attempt to address the odor complaints. ADOX is a trade name for sodium chlorite; the product is typically used for water treatment but may also be used for odor control¹⁶. The 2013 WDRs contain a mass loading limit for fixed dissolved solids and state that groundwater has been degraded because

¹² Prosecution Team CDO Exhibit 115

¹³ The Discharger's *Response to the Morning Star Packing Company, LP NOV dated September 11, 2015* document dated 1 October 2015 states that new evaporators had been installed prior to the 2015 processing season and that they "discharged a condensate with higher than normal concentration of tomato paste" and that it has now re-routed that particular discharge to the Settling Pond. The Discharger also states that during an emergency shut-down, a large amount of organic material entered the Cooling Pond. .

¹⁴ Prosecution Team CDO Exhibit 115

¹⁵ Prosecution Team CDO Exhibit 113

¹⁶ Prosecution Team CDO Exhibit 95

of the discharge of salt in the wastewater. ADOX breaks down to salt. The addition of this large volume of ADOX is not discussed in the 2013 WDRs, and the addition of 12,100 gallons to the irrigation canals was at a location beyond the point at which the Discharger collects its effluent samples. Therefore, this salt loading was not calculated or reported by the Discharger, in violation of the WDRs.

B. Tentative Order's Response to the Odor Complaints, Dissolved Oxygen Violations, Unauthorized Discharge of Organic Waste to the Cooling Pond

The Discharger contends that there were a number of unusual circumstances which led to the odor complaints in 2015 and that prior to the 2016 season, it plans to capture more of the tomato product, install additional sprinkler irrigation, and install additional solids screenings, all of which should reduce odors¹⁷. However, given the number and duration of odor complaints, Board staff asserts that the Discharger should fully evaluate all potential sources of odors and propose specific improvements for each source. If adopted as proposed, the Order would require the Discharger to consider the need for treatment of the wastewater to reduce the organic loading (e.g., aerators, dissolved oxygen flotation units, cooling towers, better screening). The Discharger would also need to evaluate physical and chemical improvements to the Settling Pond and Cooling Pond to ensure that they continuously met the dissolved oxygen limitation.

The tentative Order requires the Discharger to conduct real-time odor monitoring and to take immediate actions if there are any off-site odors. The Board previously ordered the City of Escalon to conduct real-time odor monitoring in Cease and Desist Order R5-2014-0156, and the Western Regional Landfill voluntarily conducts real-time odor monitoring.¹⁸ Staff's evaluation of these two odor monitoring programs finds that the data has been useful to pinpoint the source of odors so that a discharger may make immediate modifications. The data has also been helpful in determining whether odors are coming from a source other than the discharger. Real-time odor monitoring is an appropriate action to evaluate whether the Discharger's improvements have resulted in compliance with the WDRs and the cessation of odors which have affected the surrounding community.

With respect to the unauthorized discharge of organic material into the Cooling Pond, the tentative Order prohibits such a discharge. To verify that no organic material has been discharged to the Cooling Pond, the tentative Order requires that the pond be monitored weekly for BOD, fixed dissolved solids, and total nitrogen. However, the Prosecution Team recognizes that there may be other remedies which would also result in the Discharger complying with the underlying premise of the 2013 WDRs, namely, ensuring that groundwater quality is not degraded beyond that allowed by State Water Board Resolution 68-16 and that nuisance conditions are not created by odors from the Facility. The Prosecution Team is open to

¹⁷ See Prosecution Team CDO Exhibit 55

¹⁸ See Prosecution Team CDO Exhibits 108-110

reviewing proposals from the Discharger, and revising the tentative Order as appropriate. It is expected that any such proposal would include monitoring and pre-treatment.

V. BOD and Nitrogen Mass Loading Limit Violations and Groundwater Pollution

A. Violations

The 2013 WDRs contain three mass loading limits: for BOD, nitrogen, and fixed dissolved solids. These limits are designed to protect the underlying groundwater.

The Discharger's wastewater contains elevated concentrations of BOD; this wastewater is applied to land. As described in Finding 58 of 2013 WDRs, "excessive BOD loading rates can deplete oxygen, resulting in anoxic conditions that can solubilize naturally occurring metals in soil" resulting in the dissolution of iron and manganese from the soil. To protect groundwater quality, the 2013 WDRs contain a BOD loading limit of 100 pounds/ac/day as a cycle average. As discussed in the "Introduction" section, the 2005 CDO also contained this limit.

The Discharger has historically violated the BOD limit, including during the 2015 processing season, when the maximum loading rate was 216 lb/ac/day. In its 1 October 2015 response to the Notice of Violation¹⁹, the Discharger states that between the 2014 and 2015 processing seasons, it reduced the volume of wash water flowing to the fields by 30% and "*While the flow was reduced, the concentration of the BOD increased from 600 mg/L average in 2014 to an average of approximately 1,769 to date in 2015. This resulted in a net increase of BOD produced by the facility which was applied on a smaller LAA (600 acres to 485 acres).*" For the 2015 season, the Discharger chose to conserve water and chose to reduce the LAA with expansion of the Cooling Pond. This resulted in numerous violations of the BOD loading limit and threatened or actual impacts to groundwater.

The 2013 WDRs also contain a nitrogen loading limit, which is simply the crop demand. The Discharger may not apply more nitrogen to the crop than it can use, otherwise excess nitrate may move through the soil profile into groundwater. Compliance with this limit is determined on a field-by-field basis. For the 2015 processing season, the Discharger exceeded the nitrogen effluent limit on LAA field MS6. The field was double cropped with oats and rice, and the Discharger stated that the crop demand was 225 lbs nitrogen/acre/year. However, the Discharger applied 319 lbs nitrogen/acre/year to the field, in violation of the WDRs.

The 2013 WDRs state that groundwater has already been polluted or degraded by the Discharger's application of wastewater to land. With respect to manganese, Finding 59 of the WDRs states that "*...current groundwater monitoring data indicate pollution as a result of the discharge. This Order requires the Discharger to implement improved source control by controlling BOD loading rates and does not allow any further degradation.*" However, the Discharger has not controlled its BOD loading rates to the extent required by the 2013 WDRs.

¹⁹ See Prosecution Team Exhibit 55

A review of the 2014 and 2015 groundwater data shows that the Discharger violated the manganese groundwater limitation in three of its monitoring wells.

With respect to total dissolved solids in the groundwater, Finding 58 of the WDRs states that groundwater has been degraded as a result of the discharge and the Order includes an effluent limit which does not allow the groundwater salinity to increase significantly over the current level. In addition, the 2013 WDRs include a "trigger level" which is set below the water quality objective. If the TDS concentration in a monitoring well exceeds the "trigger level" then the Discharger is required to submit a report evaluating the reasons for the increase in concentration and proposing measures to ensure that the water quality objective will not be exceeded. The trigger level was exceeded in 2014 for MW-9, but the Discharger did not submit the required report, in violation of the WDRs. It appears that the trigger level will also be exceeded in 2015 for this same well.

B. Tentative Order's Response to the BOD and Nitrogen Mass Loading Limit Violations and Groundwater Pollution

If adopted as proposed, the tentative Order would require that the Discharger submit a report documenting the changes it has made to ensure that it will consistently meet its BOD and nitrogen loading limits. It is noted that a month may pass between when the Discharger collects samples from Settling Pond Station 1 and when it receives the monitoring results. During that interim period while awaiting the sampling results that wastewater has already been applied to the fields. With the current practice, it is not possible for the Discharger to know whether it can and will comply with its loading limits while it is irrigating. Because the Discharger has violated its BOD loading limits for so many years, and because groundwater has been polluted as a result of the violations, the tentative Order requires that Discharger to propose a method to determine in real time whether overloading is occurring or has the potential to occur.

With respect to the manganese groundwater pollution, the tentative Order requires that the Discharger submit a report documenting the steps that it will take to prevent additional groundwater pollution, predicting how long it will take for manganese to return to compliance with the limit, and the steps the Discharger will take if concentrations do not begin to decline in a reasonable period.

With respect to the exceedance of the TDS groundwater trigger, the tentative Order requires that the Discharger submit the reports that are described in the 2013 WDRs.

VI. Solid Waste Management Violations

A. Violations

An inspection by Board staff in August of 2015 found that a significant volume of tomato solids were present in the irrigation ditches on the LAAs²⁰. This is a violation of Discharge

²⁰ See Prosecution Team CDO Exhibit 27

Specifications D.5 and G.2 of the WDRs. The tomato solids resulted in increased BOD loading to the fields and likely contributed to the odor complaints. The Discharger stated that its screening process had not been operating properly and it had fixed the issue²¹.

During the 2015 processing season, the Discharger reported that it generated 57 million tons of pomace and 52 million tons of wet waste²². The 2013 WDRs state that this material is hauled off-site²³, but that if the Discharger wishes to place it on the LAAs, it may only do so after it submits, and the Executive Officer approves, a report describing how the application will be conducted so that it does not cause nutrient overloading, nuisance odors, or promote vector breeding. The Discharger has not submitted such a report and therefore the WDRs do not allow it to apply the solid waste to land. However, the Discharger reported that it had applied 2,430 tons of pomace and wet waste to the LAAs, in violation of the WDRs.

During staff's 2 November 2015 meeting with the Discharger, staff learned that, for financial reasons, the Discharger had elected not to haul off the solid waste in 2015 and instead had begun composting the material to make silage. The WDRs do not envision nor allow the production of silage on the property. The Discharger neither submitted a ROWD nor discussed this change with staff prior to beginning operation. The silage operation is a violation of the WDRs.

Silage is used as a livestock feed; however, the leachate can impact water quality²⁴. The BOD of silage leachate ranges from 12,000 to 90,000 mg/l, as compared to the BOD of untreated domestic sewage which ranges from 300-400 mg/l. As discussed above, when waste with a high BOD strength is applied to land, it can promote reducing conditions which results in the movement of iron and manganese into groundwater. Waste with high BOD can also adversely affect surface water. Because the Discharger did not discuss silage production in its ROWD, the 2013 WDRs do not contain any specifications to prevent groundwater or surface water impacts from this activity.

B. Tentative Order's Response to the Solid Waste Management Violations

If the Order is adopted as proposed, the Discharger would be prohibited from discharging tomato solids into its irrigation ditches and would be required to conduct daily inspections to ensure that there are no solids in the ditches. The Order would also require the Discharger submit a report describing how it plans to apply solids to its LAAs in a manner that would prevent permit violations; solid waste cannot be applied until the Executive Officer approves the report.

With respect to silage, the Order would prohibit the generation of any additional silage and would require that all silage currently in place be removed by 1 August 2016. However, the

²¹ See Prosecution Team CDO Exhibit 35

²² See Prosecution Team CDO Exhibit 87

²³ 2013 WDRs Finding 32

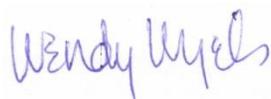
²⁴ Prosecution Team CDO Exhibit 114

Prosecution Team is open to evaluating other methods to comply with the underlying principles of the 2013 WDRs. The Discharger may propose a plan describing how it will generate and store silage in a manner that is protective of groundwater quality. If appropriate, the Prosecution Team could propose prohibitions and specifications to be included in the Order, as well as a requirement to submit a comprehensive ROWD describing this practice. Even though the Order could be revised to allow silage production in the short term, this would not guarantee that revised WDRs would allow silage production with the same conditions. A complete Anti-degradation Analysis may reveal that additional measures are required to ensure that groundwater is protected.

VII. Conclusion

For the reasons stated above in the Prosecution Team's Technical Analysis and the tentative Cease and Desist Order, the Central Valley Water Board should issue a Cease and Desist Order requiring the Discharger to comply with the provisions of Waste Discharge Requirements Order R5-2013-0144.

For the Prosecution Team:



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