

Central Valley Regional Water Quality Control Board  
4/5 October 2012 Board Meeting

**Prosecution Team's  
Response to Comments**

Tentative Cease and Desist Order  
for Clark Structural, LLC and Clark Pacific General Partnership  
Former Spreckels Sugar Facility  
Yolo County

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The following are the Central Valley Regional Water Quality Control Board (Central Valley Water Board) Prosecution Team responses to comments submitted by Designated Parties and Interested Persons regarding the tentative Cease and Desist Order (CDO) for Clark Structural, LLC and Clark Pacific General Partnership (collectively Clark Pacific). The first public comment deadline was 25 June 2012, in anticipation of a hearing at the August Board meeting. However, just prior to the meeting, one of the Designated Parties asked that the hearing be continued to October. The other parties did not object. Given the delay, Board staff revised the due dates in the tentative CDO and made other changes in an attempt to reach consensus. A revised CDO was then sent out for a second comment period.

This Response to Comments first addresses the comments received during the first comment period (June 2012), and then addresses the comments during the second comment period (August 2012).

*First Comment Period:*

Timely comments were received from the following Designated Parties and Interested Persons:

- Gregory Forest, Hefner Stark & Marois, on behalf of Clark Structural, LLC and Clark Pacific General Partnership
- Brenda Cedarblade, Historic Nelson Ranch
- Ozone Process Consultants, Inc.
- Gerald "Ted" Wilson
- Donald B. Mooney, Law Offices of Donald B. Mooney, on behalf of Brenda Cedarblade
- Pamela S. Nieberg

*Second Comment Period:*

Timely comments were received from the following Designated Parties and Interested Persons:

- Gregory Forest, Hefner Stark & Marois, on behalf of Clark Structural, LLC and Clark Pacific General Partnership
- Donald B. Mooney, Law Offices of Donald B. Mooney, on behalf of Brenda Cedarblade and Ted Wilson

All written comments are included in the agenda package provided to each Board member. Mr. Forest and Ms. Cedarblade have each submitted videos and photos; these files have been placed on CDs which have been provided to each Board member. All documents are also available for public review on the Water Board's website.

Comments are arranged and responded to by issue topic:

*Response to comments received in June*

- Agreement with need for a CDO
- An Administrative Civil Liability should be considered
- The PCC removal schedule should be accelerated
- Best Management Practices are inadequate
- Removal of PCC has resulted in contamination of the neighboring property
- Neighbors should be notified
- Groundwater and surface water pollution

*Response to comments received in August*

- Requests to make the CDO more flexible

According to the 26 June 2012 email circulated by the Advisory Team, rebuttal evidence was to be submitted by noon on 12 July 2012. Rebuttal evidence was submitted timely by the Prosecution Team, Clark Pacific, and Ozone Consultants. A summary of the rebuttal evidence is provided at the end of this Response to Comments. Rebuttal evidence was considered by Board staff when revisions were made to the tentative CDO in August. In addition, the Prosecution Team's evidence list is attached to this document.

**Introduction:**

Prior to 2000, sugar beets were one of the main crops grown in the Central Valley. The Water Board issued permits to regulate the waste generated from sugar beet processing activities at a number of facilities, including plants in Woodland, Tracy, Courtland, and Manteca. All four of these facilities have now closed. This proposed Cease and Desist Order addresses clean-up activities at the former sugar beet processor in Woodland.

Spreckels Sugar Company operated the Woodland facility from 1937 through 2000. The processing operation generated both a liquid and a solid waste stream. Wastewater was discharged to ponds and cropland; these areas have now been remediated and closed to the satisfaction of the Board.

This Order applies to the solid waste, known as precipitated calcium carbonate (PCC or lime), which was created during the juice-purification step of sugar beet processing. In order to remove natural impurities, raw sugar juice was first mixed with a suspension of calcium hydroxide, and then carbon dioxide was bubbled through the liquid. Calcium carbonate then precipitated out of the liquid, trapping impurities such as sulfate, phosphate, citrate, and

oxalate<sup>1</sup>. At the Woodland facility, the PCC was discharged to large piles. Beginning in approximately 1997, an outside party was contracted to remove the PCC for beneficial reuse. To date, over 1.1 million tons of PCC has been removed. As of May 2012, approximately 212,000 tons remain.

Precipitated calcium carbonate has a number of beneficial uses. Farmers use PCC as a fertilizer, as a soil conditioner to raise the pH of acidic soils, and to reduce the impact of root rot. It is used at dairies to prevent mastitis, and used at many confined animal facilities to control flies. PCC is also used at biomass power generating plants to control combustion emissions. Historically, market demand has driven the removal of PCC at the Woodland facility.

In 2003, when Spreckels Sugar Company was the facility owner and operator, the Board adopted updated Waste Discharge Requirements. The WDRs required Spreckels to remove the PCC piles by December 2006. However, Spreckels sold the property to Sugarland Farms soon after the WDRs were adopted, and in 2006 Sugarland Farms asked Board staff for an additional five years to remove the PCC. Staff responded that the WDRs would not be revised, but that enforcement action would not be considered if 50,000 tons of PCC was removed each year, and that the site was closed by 2011. Sugarland Farms continued removing PCC, until early 2008, when Clark Pacific took control of the property. Clark Pacific has been removing PCC piles at an average rate of 35,500 tons/year. The removal rate was slowed due to the need to work with the US Fish and Wildlife Service to relocate almost 100 elderberry bushes which had restricted access to the main PCC hill.

Clark Pacific General Partnership operates a design-build pre-cast concrete manufacturing business. It has outgrown its West Sacramento facility and bought the former sugar beet facility because it has a large outdoor area in which the pre-cast material can be stored. Clark Pacific is now responsible for completing the remedial actions associated with the PCC waste.

As shown in the Evidence List for this case, Water Board staff has received numerous complaints from the neighbor (Ms. Cedarblade) who lives immediately adjacent to the facility. The majority of the complaints are about PCC dust blowing onto her property and into her house. The Yolo County Environmental Health Department and the Yolo Solano Air Quality Management District have also received complaints from the same individual and have also conducted inspections. Three of these inspection reports were provided by Clark Pacific and are included in the Evidence List. Neither Water Board staff nor the County agencies have documented PCC dust blowing onto Ms. Cedarblade's property.

Prosecution staff prepared this proposed Order because the PCC removal schedule in the 2003 WDRs expired prior to Clark Pacific assuming control of the property. It is appropriate to (a) impose a new removal schedule, and (b) to require that the Discharger implement - and monitor - best management practices to ensure that PCC dust does not leave the property.

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<sup>1</sup> [http://en.wikipedia.org/wiki/Sugar\\_beet#Processing](http://en.wikipedia.org/wiki/Sugar_beet#Processing)

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*Comments and Issues in response to the original CDO (proposed for consideration at the August Board meeting):*

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**Issue No. 1: Agreement with the Cease and Desist Order**

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**Comment No. 1:** Clark Pacific has expressed agreement with the draft Order and as of late June did not request any changes. Ms. Cedarblade supports the CDO but would like additional measures implemented.

**Prosecution Team Response:** We appreciate that the two Designated Parties generally support the concept of a CDO. As discussed below, the Prosecution Team is proposing several changes to the CDO in response to other comments.

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**Issue No. 2: The Board should adopt an Administrative Civil Liability**

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**Comment No. 1:** Clark Pacific has not complied with the time schedule in the WDRs to remove the PCC. Therefore, they should be penalized for their negligent operations and the Board should issue an Administrative Civil Liability (ACL). (Nieberg, Mooney, Ozone)

**Prosecution Team Response:** The PCC removal schedule in the 2003 WDRs was negotiated with a former owner, Spreckels Sugar Company, and the PCC was to have been removed two years before Clark Pacific assumed control of the property (in 2007). The five year extension to the removal schedule was negotiated with another former owner, Sugarland Farms, and not with Clark Pacific. Given the changes in ownership, the Prosecution Team does not believe it appropriate to prepare an ACL for Clark Pacific's violation of the WDRs. However, the proposed Cease and Desist Order contains a specific schedule for removal of the remaining PCC, and the Prosecution Team fully expects Clark Pacific to comply with it or be subject to an ACL.

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**Issue No. 3: The removal of PCC should be accelerated**

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**Comment No. 1:** Further lime removal should be accelerated to reduce the potential for exposure of the neighbors (Nieberg, Cedarblade, Ozone)

**Prosecution Team Response:** The draft CDO incorporated Clark Pacific's May 2012 proposed schedule to remove the remaining PCC, with a final date for removal of all the material of 30 December 2015. Based on comments, Prosecution Staff have reevaluated the removal schedule and agree that it could be accelerated. The Order has been revised to reflect that all PCC must be removed by 31 March 2015 instead of 30 December 2015.

**Comment No. 2:** The volume of PCC remaining on site has been consistently underestimated. (Mooney)

**Prosecution Team Response:** Agreed. The former property owners used aerial surveys to estimate the volume of PCC onsite, but did not take into account the amount of material below grade. In May 2012, Clark Pacific revised the estimated volume based on test pits, weight, and topographical information, and estimated that there was 212,000 tons as of May 2012. It is noted that while the CDO requires that *at least* 60,000 tons be removed per year, it also requires that *all* the material be removed by 31 March 2015. This final date is firm, and Clark Pacific will be expected to comply with it regardless of the accuracy of the volume estimates.

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**Issue No. 4: Best Management Practices are inadequate**

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**Background:** Clark Pacific's contractor employs a number of best management practices (BMPs) when it removes PCC from the property. The BMPs are designed to prevent wind-blown dust from leaving the property. The most recent listing of BMPs is found in Clark Pacific's 18 May 2012 *Workplan for Removal of PCC*. The 18 BMPs include (paraphrased): stopping operation when wind gusts exceed 35 mph; stopping loading at lower wind speeds if water spraying is unable to prevent dust; spraying trucks, loading areas, and internal roads with water; maintaining a solid crust on the PCC areas not actively being harvested; use of straw wattles; weekly inspections; and submittal of monthly monitoring reports.

**Comment No. 1:** Ms. Cedarblade states that she has allergic reactions and other health issues due to exposure to lime dust. The problem is especially bad on windy days when the PCC is loaded into trucks but not watered. (Cedarblade)

**Prosecution Team Response:** The Prosecution Team is sympathetic to Ms. Cedarblade's health issues, but as Water Board staff we have limited knowledge and jurisdiction in this area. We have routinely referred Ms. Cedarblade's health complaints to the Yolo County Environmental Health Department. Yolo County inspected Ms. Cedarblade's property and house on 3 April 2012, in response to her health concerns. The County inspector did not find an indication of the alleged human or horse health issues, and found only "normal" levels of dust in the house.

However, the Board does have jurisdiction over the discharge of waste, which in this case is the PCC, and it is appropriate to ensure that the waste remain in the area for which it is permitted. Although the Designated Parties dispute whether wind-blown PCC has entered Ms. Cedarblade's property, it is still appropriate to specifically highlight this concern in the Cease and Desist Order. Therefore, the proposed Order has been revised to state that "*The storage and removal of PCC shall take place in a manner that.. prevents the wind-blown deposition of PCC off the Discharger's property...*". The Order also requires that the Discharger prepare an updated list of best management practices to ensure that PCC dust remains onsite, and requires that the Discharger monitor the storage and removal of PCC on

a daily basis to ensure that the BMPs are adequate to prevent PCC from blowing onto Ms. Cedarblade's property.

**Comment No. 2:** The Board should require that Clark Pacific remediate Ms. Cedarblade's property by removing all lime dust and lime that has "spilled" onto her soil. (Cedarblade, Wilson)

**Prosecution Team Response:** As stated earlier, the Designated Parties dispute whether lime dust has blown onto Ms. Cedarblade's property. Neither Water Board staff nor Yolo County Air Quality Management District staff has observed visible dust blowing over the property line. Calcium carbonate is used as a soil amendment and can be used at horse stables to reduce flies. The material is not inherently toxic, and therefore Prosecution staff contends that this issue is more appropriately resolved between the two parties.

**Comment No. 3:** The Order should be amended to require that Clark Pacific implement specific best management practices (BMPs), including: limiting loading of PCC to small areas that can be controlled and covered each night; using sprinklers to water the areas being worked on; stop working when the wind exceeds 5 mph; tarp all trucks leaving the site; tarp all PCC piles; replace PCC with a topsoil suitable for agricultural use; and require BMPs to be developed before any more PCC is removed. (Cedarblade, Wilson, Ozone)

**Prosecution Team Response:** It is not the Board's practice to prescribe how a Discharger must comply with its requirements. Instead, the Board adopts a performance measure and allows a discharger a range of options to comply. This Order follows that practice. The performance measures are (a) PCC must be removed at a specified rate by specific dates, (b) the removal of PCC must take place in a manner that prevents wind-blown deposition of PCC off site, and (c) stormwater containing PCC may not leave the property. While the suggested BMPs may be appropriate, the Discharger may wish to consider other options. Clark Pacific provided a list of BMPs in its 18 May 2012 submittal, and the proposed Order requires the Discharger to update those BMPs by 30 October 2012. In addition, the proposed Order has been amended to require daily monitoring to ensure that the BMPs are adequate to prevent PCC dust from leaving the property boundary.

**Comment No. 4:** Stop the tracking of lime onto County Road 100B. (Cedarblade, Wilson)

**Prosecution Team Response:** Several of the photographs submitted by Ms. Cedarblade show that a white material has been tracked from the PCC piles onto the County road. An inspection by Board staff on 11 July 2012 also found tracking. This is not acceptable, and Clark Pacific must take steps to ensure that its contractor cleans its truck tires prior to entering public roads. The CDO has been revised to require that the Discharger update its BMPs to address this issue. An inspection in August 2012 found that the Discharger was in

the process of constructing a tire wash next to the PCC load out area. The use of a tire wash is a standard BMP to prevent tracking of material onto roadways.

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### **Issue No. 5: Removal of PCC has resulted in contamination of the neighboring property**

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**Comment No. 1:** The dust emissions generated from removal of PCC has “resulted in significant contamination” to Ms. Cedarblade’s property (Mooney). There are “toxic” levels of total chromium, ammonia, and calcium carbonate in the dust in Ms. Cedarblade’s home (Neiberg).

**Prosecution Team Response:** In April 2012, Mr. Mooney retained an environmental consultant to collect both a soil sample and a dust sample from Ms. Cedarblade’s property. Based on the description in the consultant’s report, the soil sample appears to be composed mainly of PCC. The dust sample was collected from within Ms. Cedarblade’s house. The samples were analyzed for total chromium, alkalinity as calcium carbonate, ammonia, and pH.

Prosecution staff have reviewed the report and the analytical results, and found:

- Total chromium was present in the soil sample at 5 mg/kg and in the dust sample at 32 mg/kg. The Prosecution Team first compared these values to the total chromium levels in native soil. According to a 2009 study<sup>2</sup>, Sacramento Valley soils west of the Sacramento River contain total chromium levels ranging from 80 to 1,420 mg/kg. The soil and dust samples contain total chromium levels well below the normal range for soil. In addition, staff compared the total chromium value in the soil and dust to the California Health Hazard Screening Level (CHHSL)<sup>3</sup> concentration. CHHSLs were developed by the Office of Environmental Health Hazard Assessment and address human health impacts associated with direct exposure to soil. The CHHSL for total chromium is 1,000 mg/kg. The two samples had total chromium values that are orders of magnitude lower than the health value. Given the above, the Prosecution Team does not find the levels of total chromium in the samples from Ms. Cedarblade’s property to be alarming.
- The pH values were within the neutral range of 6.5 to 8.5, and present no concern.
- It is not surprising to find that the samples contained alkalinity as calcium carbonate, because PCC is composed of precipitated calcium carbonate. This result is to be expected.

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<sup>2</sup> Morrison et al, 2009. *A Regional-Scale Study of Chromium and Nickel in Soils of Northern California, USA*. Applied Geochemistry, Vol 24, Issue 8. ([www.sciencedirect.com/science/article/pii/S0883292709001309](http://www.sciencedirect.com/science/article/pii/S0883292709001309))

<sup>3</sup> CHHSLs were developed by the Office of Environmental Health Hazard Assessment and address health impacts associated with direct exposure to soil.

<http://www.calepa.ca.gov/Brownfields/documents/2005/CHHSLsGuide.pdf>

- And finally, the samples were analyzed for “ammonia (NH<sub>3</sub>)”. Ammonia as NH<sub>3</sub> is a gas, and it is unclear how or why the laboratory analyzed for a gas in a soil or a dust sample. It is also unclear how the laboratory could report the results in mg/kg, which are units used to report results for a solid sample, when the reported analysis was for a gas.

To summarize, Board staff do not find evidence of a water quality problem based on the above sample results. There is also no evidence of a potential health impact associated with the total chromium result, and no evidence of “toxic” materials in the soil and dust. This conclusion is further supported by the PCC analytical results submitted by Clark Pacific. On 3 May 2012, Clark Pacific collected a sample of PCC and submitted it to an analytical laboratory for extensive analysis. The following compounds were not detected: volatile organic compounds, semi-volatile organic compounds, asbestos, and hexavalent chromium. The pH of the sample was 8.7, which is slightly above the normal range. Total chromium as detected at 6.5 mg/kg, which is within the range found by Mr. Mooney’s sample, and not a water quality or health concern. The sample contained a significant amount of calcium and magnesium, which is to be expected based on the nature of the material.

**Comment No. 2:** The CDO should be amended to ensure that continuing removal of the PCC will not contaminate nearby properties. (Mooney, Wilson)

**Prosecution Team Response:** Whether or not the previous PCC removal has contaminated neighboring properties, it is appropriate for the CDO to include the Board’s expectation that the Discharger shall implement all actions necessary to keep PCC dust on its own property. Therefore, the CDO has been revised to include the requirement that “*The storage and removal of PCC shall take place in a manner that (a) prevents the wind-blown deposition of PCC off the Discharger’s property (b) prevents stormwater from transporting PCC offsite, and (c) does not result in tracking on public roadways.*”

**Comment No. 3:** The CDO should be amended to require independent testing of the materials and contaminants contained in the remaining PCC. (Mooney, Cedarblade, Neibeg)

**Prosecution Team Response:** As discussed in the Introduction section of this document, PCC was created during the juice-purification step of sugar beet processing. Natural contaminants with in sugar juice, such as sulfate, phosphate, citrate, and oxalate, were pulled out of the sugar solution and are now found within the PCC. Water Board staff do not expect that there would be any “contaminants” and there is no evidence that there is any. Clark Pacific voluntarily tested the PCC on 3 May 2012 and the analytical results show that the PCC does not contain volatile organic chemicals, semi-volatile organic chemicals, asbestos, or hexavalent chromium. There is no need to require additional testing of the PCC.

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## **Issue No. 6: Neighbors should be notified**

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**Comment No. 1:** The CDO should be amended to require that all reports be submitted to Ms. Cedarblade and Mr. Nelson, as well as to Board staff. (Mooney)

**Prosecution Team Response:** While it is appropriate for the Board to require that a Discharger submit documents to this office, it is not the Board's normal practice to dictate that a Discharger also submit the same reports to members of the public. However, Prosecution staff suggests that the Discharger do so on its own motion. In addition, all documents submitted in response to this CDO are considered public documents and are available for review by Ms. Cedarblade and Mr. Nelson.

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## **Issue No. 7: Groundwater and surface water pollution**

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**Background:** There are seven shallow<sup>4</sup> groundwater monitoring wells onsite, two of which are upgradient of the PCC piles and two of which are downgradient. The WDRs require that the wells be monitored twice per year for the following constituents: specific conductance, pH, turbidity, ammonia, bicarbonate, calcium, chloride, hardness, nitrate, sodium, total dissolved solids, total fixed dissolved solids, and total organic carbon. The WDRs also require that groundwater gradient and flow direction be determined at least semi-annually, including the times of expected highest and lowest water level elevations. The monitoring reports document that groundwater is encountered in all seven wells between 15 feet and 22 feet below ground surface, and the gradient is generally to the east, toward Ms. Cedarblade's property.

**Comment No. 1:** Ozone Consultants submitted an evaluation of the groundwater conditions, determined that there was groundwater contamination, and stated that the Discharger should be required to adequately characterize and remediate the groundwater contamination. (Ozone)

**Prosecution Team Response:** Ozone Consultant's evaluation was based on monitoring reports containing data through 2009. Ozone compared the concentrations of specific conductance (EC), total dissolved solids (TDS), chloride, sodium, hardness, alkalinity, and total organic carbon (TOC) in the five downgradient wells to the concentrations in the two background wells. Board staff agrees with Ozone that concentrations are higher in the downgradient wells than the background wells. However, this is not unexpected given that sugar beet waste was discharged at the site for over 60 years.

In order to determine whether the groundwater is polluted, Board staff reviewed the most recent monitoring data (May 2012). Selected analytical results are shown below:

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<sup>4</sup> For purposes of this discussion, all wells are described as "shallow". Five of the wells are screened at 40-60 feet below ground surface (bgs), while two wells are screened between approximately 70-100 feet bgs.

**Summary of Constituents of Concern Reported for Shallow Groundwater  
May 2012**

Well ID	Date Sampled	EC (µmhos/cm)	TDS (mg/L)	Cl (mg/L)	Na (mg/L)	Total Alkalinity (mg/L)	Hardness as CaCO3 (mg/L)	TOC (mg/L)
MW-1	5/3/2012	2,500	1,500	180	210	1,300	1,290	13.8
MW-1A	5/3/2012	2,400	1,400	160	210	1,200	1,200	7.46
MW-9	5/3/2012	2,700	1,500	160	170	1,400	1,320	8.42
MW-9A	5/3/2012	1,900	940	98	98	900	733	11.1
MW-10	5/3/2012	2,200	1,300	150	120	1,100	1,210	5.39
MW-14*	5/3/2012	1,400	820	86	95	580	687	<1.00
Mw-15*	5/3/2012	1,400	890	100	78	580	744	<1.00

\*Background wells

EC = specific conductance; TDS = total dissolved solids; Cl = chloride; Na = sodium; TOC = total organic carbon. µmhos/cm = microSiemens per centimeter; mg/L = milligrams per liter

The downgradient wells (MW-1, 1A, 9, 9A, and 10) have elevated concentrations of all constituents as compared to the concentrations found in background wells MW-14 and MW-15. In general, most constituents are twice the concentration in the downgradient wells as in the upgradient wells.

The main constituent of concern in the PCC is salt, which is measured in the groundwater as TDS, EC, chloride, and sodium. Even though this shallow groundwater is not used as a drinking water source or for agricultural uses, Board staff compared the concentrations of the salt constituents to published Maximum Contaminant Level (MCLs) to determine whether the concentrations have the potential to impact the drinking water beneficial use, and to other water quality objectives to determine the potential impact to agricultural beneficial uses.

The secondary MCL for TDS is 500 mg/L as a recommended level, 1,000 mg/L as an upper level, and 1,500 mg/L as a short-term maximum. Although the background groundwater exceeds the recommended level, neither the background nor the downgradient wells exceed the short-term maximum. For protection of agricultural supply, the Board must determine the applicable numeric limit on a site-specific basis. The most limiting agricultural water quality goal may be as low as 450 mg/L as a long-term average based on the Ayers and Westcot<sup>5</sup> study, which evaluates the impacts of salinity levels on crop tolerance and yield reduction, and establishes water quality goals that are protective of the agricultural uses. However, the water quality goal is not a site-specific goal or objective, but rather a general measure that was determined to protect salt-sensitive crops. Only the most salt-sensitive crops require irrigation water of 450 mg/L or less to prevent loss of yield. Most other crops can tolerate higher TDS concentrations without harm. Salt-sensitive crops such as strawberries are not grown in the immediate vicinity of the site and a site specific TDS level for the protection of the agricultural beneficial use has not been determined for this facility. However, both domestic and agricultural wells are generally screened in deeper, more productive water

<sup>5</sup> *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1, R.S. Ayers and D.W. Westcot, Rome, 1985.

bearing zones than the shallow zone in which the on-site groundwater monitoring wells are screened. Therefore, it is expected that this shallow groundwater will not be a source of drinking water or agricultural supply water.

The secondary MCL for electrical conductivity is 900 umhos/cm as a recommended level, 1,600 umhos/cm as an upper level, and 2,200 umhos/cm as a short term level. The background groundwater exceeds the recommended level and most of the downgradient wells are just slightly over the short-term level. As stated above, the Central Valley Water Board must determine the applicable numeric limit to implement the narrative objective for the protection of agricultural supply. The most limiting agricultural water quality goal may be as low as 700 umhos/cm but it is not anticipated that this shallow groundwater will be used as a drinking water supply or as an agricultural supply.

The secondary MCL for chloride is 250 mg/L as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum. The chloride in this groundwater is less than all of the MCL values. As stated above, the Central Valley Water Board must determine the applicable numeric limit to implement the narrative objective for the protection of agricultural supply. The most limiting agricultural water quality goal may be as low as 106 mg/L as a long-term average, which is intended to protect against adverse effects on sensitive crops when irrigated via sprinklers. However, the water quality goal is not a site-specific goal or objective, but rather a general measure to protect salt-sensitive crops. It is not expected that the shallow groundwater will be used to irrigate salt-sensitive crops.

There are no MCLs for sodium. The Board must determine the applicable narrative limit to implement the narrative objective for the protection of agricultural supply. The most limiting agricultural water quality goal may be as low as 69 mg/L as a long-term average, which is intended to protect against adverse effects on sensitive crops when irrigated via sprinklers. However, the water quality goal is not a site-specific goal or objective, but rather a general measure to protect salt-sensitive crops. The background groundwater exceeds this value, as does the downgradient groundwater. However, it is not expected that the shallow groundwater will be used to irrigate salt-sensitive crops.

Board staff also reviewed the historical concentrations of the salt constituents in the groundwater monitoring wells over the last eight<sup>6</sup> semi-annual sampling events for all the monitoring wells. It was found that there is no significantly significant increase or decrease in the salt constituents in any of the wells. In other words, concentrations have remained stable over the last four years.

In summary, staff agrees that the analytical data shows that the shallow groundwater has become impacted by the constituents found in the PCC piles. This is to be expected because the first groundwater is shallow (about 20 feet below ground surface) and because liquid and solid waste has been deposited onsite for over 60 years. The salinity concentrations in the groundwater have remained constant over the last four years, and Board staff has no evidence that the shallow groundwater is used for drinking water or agricultural supply. As

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<sup>6</sup> Eight events provide a statistically significant result.

discussed below, supply wells in the area are screened at about 300 feet below ground surface, and there are a number of confining layers between the shallow groundwater and the supply water. Therefore, it is expected that the contamination will not reach the deeper groundwater. The first step in any site remediation is to remove the source of contamination. This Order requires the Discharger to accelerate the PCC removal process and to demonstrate the underlying soils left in place have concentrations similar to background. It is anticipated that once the PCC piles have been removed, the shallow groundwater will naturally attenuate.

**Comment No. 2:** The groundwater should be characterized for all possible contaminants, including petroleum products (Ozone, Neiberg).

**Prosecution Team Response:** During the sugar refining process, PCC was used to remove natural impurities from the raw sugar juice. There is no reasonable basis for requiring testing for the man-made compounds as alleged by Mr. Pryor and Ms. Neiberg. The PCC analytical results submitted by Clark Pacific along with the Prosecution Team's understanding of the historic uses of the site support this expectation. Current groundwater analytical data does not support expanding the list of constituents which are tested. In regard to petroleum products, the Water Board's underground storage tank unit oversaw the remediation and closure activities associated with the seven underground gasoline storage tanks. The Water Board has issued "No Further Action" letters in regard to all seven tanks. Based on this information, it is not appropriate to require that Clark Pacific sample the PCC groundwater monitoring wells for petroleum products.

**Comment No. 3:** All private wells that could be impacted by the plume should be tested and a new deep well (assumed to be on Ms. Cedebled's Nelson Ranch property) should be dug if the existing well is contaminated. (Cedarblade, Ozone)

**Prosecution Team Response:** Although the discharge of sugar beet waste has impacted the shallow groundwater, the concentrations do not cause concern to the Prosecution Team and it is not expected that the shallow groundwater would be used for domestic or agricultural supply. Generally, supply wells are drilled much deeper in order to provide higher yield and higher quality groundwater. Nevertheless, as described below, Board staff has evaluated whether it is plausible that the Nelson Ranch well could be impacted by the discharge of the PCC waste.

Clark Pacific has submitted well logs and analytical results for two deep supply wells: on-site well No. 6, and a supply well north of the facility referred to as the "Howald Ranch" drinking water well. As summarized in the table below, the analytical results for the supply wells were compared to the results for the shallow background wells MW-14 and MW-15. Based on this comparison, it appears that similar concentrations of salinity constituents exist. However, both supply wells appear to contain a moderate-to-high quality of water, whereas wells MW-14 and MW-15 have a lesser quality of water. This is to be expected because the onsite

monitoring wells are designed to sample the first encountered groundwater, which is about 20 feet below ground surface. This shallow water is likely influenced by agricultural practices in the surrounding farm fields, leading to higher concentrations of salts in these shallow groundwater zones.

**Summary of Constituents of Concern:  
Deep Wells Compared to Shallow Background Wells**

Well ID	Date Sampled	Depth of well (fbgs)	EC (µmhos/cm)	TDS (mg/L)	Cl (mg/L)	Na (mg/L)
Clark Pacific No. 6	6/16/09	244	1,100	670	85	74
Howald Ranch	5/3/12	261	1,100	670	88	72
MW-14	5/3/12	100	1,400	820	86	95
Mw-15	5/3/12	65	1,400	890	100	78

(fbgs) = feet below ground surface; EC = Specific Conductance; TDS = Total Dissolved Solids; Cl = chloride; Na = Sodium; µmhos/cm = microSiemens per centimeter; mg/L = milligrams per liter;

Board staff has obtained well log information for the Clark Pacific well No. 6, the Howald Ranch drinking water, and the supply well for the Historic Nelson Ranch (Ms. Cedarblade's well). As summarized in the table below, all wells were drilled to various depths yet were constructed with screen intervals set in a similar water bearing zone. As shown above, the No. 6 and Howald Ranch supply wells have near identical salinity concentrations, suggesting that groundwater collected from these wells is originating from the same moderate-to-high quality water bearing zone. Analytical data for the Nelson Ranch well has not been submitted, but given the fact that it is screened in the same general interval as the Clark Pacific Well No. 6 and the Howald Ranch well, Prosecution staff can reasonably assume that the groundwater from the Nelson Ranch well is similar in quality to the other two deep wells.

**Supply Well Construction Details**

Well ID	Depth of Well (fbgs)	Screen Interval (fbgs)	Sanitary Seal Depth (fbgs)
Clark Pacific No. 6	514	244-274; 294-314	0 - 50
Howald Ranch	282	261 - 282	0 - 20
Nelson Ranch	376*	284 – 376**	Unknown

\*Well drilled March 1930

To summarize, based on the analytical results of the two deep supply wells and the similar well construction between these wells and the Nelson Ranch well, it is highly unlikely that the Nelson Ranch well has been affected by the storage of PCC. Unless information is provided to the contrary, Prosecution staff does not believe new well at Nelson Ranch is warranted to protect human health or the environment. However, if Ms. Cedarblade wishes to sample the Nelson Ranch well, the Prosecution Team will be happy to review the results.

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**Comment No. 4:** The Discharger should be required to monitor the storm water for contaminants (Ozone). The Discharger should be required to install a stormwater detention basin to protect Cache Creek from contaminated storm water runoff (Cedarblade)

**Prosecution Team Response:** The Discharger is enrolled under the state-wide Industrial Storm Water General Permit (State Water Board Order 97-03-DWQ). Central Valley Water Board staff inspected the facility on 15 May 2012 to ascertain compliance with that permit. As described in the inspection report, “*Storm water onsite flows into an earthen lined ditch and is conveyed into a large onsite detention pond.*” After further discussion with Clark Pacific, staff understands that this detention basin collects storm water from the buildings and outdoor storage areas. Within the PCC piles, stormwater flows into a depression in the center of the area. There is no evidence in the record that contaminated storm water from the PCC piles has flowed offsite. However, the proposed Order requires that the Discharger implement best management practices to prevent this from occurring. These BMPs could include fully remediating portions of the site (i.e., removing all PCC and obtaining clean closure from Board staff), vegetating the piles, or using straw wattles to direct stormwater to the center depression.

*Comments and Issues in response to the revised CDO (proposed for consideration at the October Board meeting):*

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**Issue No. 8: Response to Revised Tentative CDO; Request to Make Timelines More Flexible**

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Because consideration of the CDO was delayed from the August Board meeting to the October Board meeting, staff needed to make edits to a number of the due dates in the tentative CDO. Staff also edited certain language to be more explicit about the need to remove the PCC from the site. The revised tentative CDO was circulated for a second comment period in August.

Comments were received from only two parties, Mr. Mooney and Clark Pacific. Mr. Mooney stated that his clients (Ms. Cedarblade and Ted Wilson) had no additional comments on the revised tentative CDO.

Clark Pacific asked for a number of changes to the revised tentative Order. In general, Clark Pacific would like the timelines to be more flexible to reflect a varying market demand for the PCC, and asked for a “carry over” allowance in that material removed from January through March be counted toward the volume removed the previous year. In addition, the Discharger asked that the language requiring removal of 60,000 tons of PCC per year be changed to removal of 50,000 tons per year, and that the date for final cleanup be extended from 31 March 2015 to 30 September 2015.

Board staff has carefully considered the requested changes, but do not find most supportable. In May 2012, Clark Pacific stated that market demand would support the

removal of 60,000 tons of PCC/year, and in July 2012 stated that it committed to removing 60,000 tons/year. Clark Pacific has provided no support for its most recent request to decrease removal to 50,000 tons/year.

However, Board staff encourages the beneficial reuse of PCC and is sympathetic to Clark Pacific's claim that most PCC is applied to cropland in the winter, and that weather conditions can impact the amount removed per year. Therefore, the revised CDO includes a "carry over" provision which states that if the Discharger does not remove 60,000 tons in a calendar year, and if it documents that it has implemented all options for beneficial reuse, then the amount of PCC removed in January and February the following year may be counted toward the prior calendar year requirement. The Discharger is still expected to remove 60,000 tons/year, even if it uses the "carry over" provision during that year.

Staff does not believe it necessary to change the final removal date from 31 March 2015 to the requested date of 30 September 2015. In May 2012, Clark Pacific provided a conservative estimate of 212,000 tons of PCC remaining onsite. If 60,000 tons are removed per year, and if the majority of the material is removed in the fall and winter, then Clark Pacific should be able to comply with the 31 March 2015 date. This date is in effect even if the "carry-over" provision is used.

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## **Conclusion**

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The purpose of this CDO is to provide an enforceable schedule for the final removal of PCC at the former Spreckels Sugar facility. Clark Pacific is already implementing best management practices to prevent the movement of PCC dust off of the facility, but this Order requires an evaluation of those BMPs and additional actions if needed to also prevent PCC from leaving the site in stormwater or being tracked onto the County roads. The Order also requires daily monitoring and monthly reporting regarding the adequacy of the BMPs. If adopted as proposed, Clark Pacific will be required to remove all PCC and remediate the site by 31 March 2015.

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## **Rebuttal Evidence**

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The following Rebuttal Evidence was received by noon on 12 July 2012. It is included in the agenda package and has been posted on the Board's website. Due to timing constraints, the documents presented by Clark Pacific and Ozone Consultants were not incorporated into this Response to Comments. However, they may be discussed during the Board meeting.

### **Prosecution Team:**

- Water Board staff's Industrial Storm Water General Permit Inspection Report dated 15 May 2012
- Water Board staff's No Further Action letter dated 25 February 2008

- Well logs for the Clark Pacific Well No. 6, the Howald Ranch well, and the Nelson Ranch well
- Groundwater concentration vs. time plots for the on-site monitoring wells
- 11 July 2012 Inspection report and photographs
- Chromium Nickel soil study

Clark Pacific:

- Rebuttal letter
- Two videos and 14 aerial photographs
- Independent review of the soil and dust sample collected by Grayland Environmental from Ms. Cedarblade's property
- Review of groundwater conditions, fugitive dust issues, and health concerns by Wallace Kuhl & Associates
- Letter from Mr. Ritchie, a neighbor to Clark Pacific
- Yolo Solano Air Quality Management District "Visible Emissions Surveillance" results from 2 April 2012 through 28 June 2012

Ozone Consultants

- Rebuttal letter

Attachment: Prosecution Team's evidence list