

Good Stewardship, Good Citizenship, Good Business



by Reed Sherar
General Counsel, Columbia River Carbonates

Columbia River Carbonates (CRC) produces ultra-fine ground calcium carbonate products for the paint, plastics, PVC pipe and paper industries in the Pacific Northwest. CRC's finished products range from fine powders (particle size distributions of three to 10 microns) to two-micron high-bright slurries used for coating fine printing papers. The company is a long-time active member of the Pulverized Mineral Division of the NSSGA.

CRC's administrative offices and processing plant are located in the rural community of Woodland in southwestern Washington state. In 1985, as a victim of the spotted owl issue and other economic factors, the region had been designated a "timber distressed" area by the state of Washington due to economic decline and double digit



unemployment. Enter CRC, the hero. Woodland welcomed its first heavy industrial plant and its 50-plus disposable-income jobs with open arms and red carpet incentives.

Initially, there was a single process waste water source from wet plant wash-down, overflow and spillage. Treatment was effectuated via two unlined settling lagoons on the 16-acre plant site. Within two years, entry into the coated paper market, which demands a very pure and white (“high brightness”) slurry, required installation of a froth flotation system. Flotation utilizes chemical reagents to remove impurities such as clay, quartz and graphite. Lined settling lagoons were therefore required for receiving flotation process waste water. CRC now had two separate waste water streams, treated in four

settling lagoons covering more than four acres. At that time, to us, “sustainability” referred to the constant turmoil entailed in treating and discharging wastewater so that our daily production could continue without interruption.

Fast-forward 10 years to 1997. CRC entices a building products company utilizing calcium carbonate as its primary raw material to locate directly across the street from our plant. During the course of the conditional use process and public hearings that ensued, out came the “torches and pitchforks” and an outcry from the local citizenry concerning industrial abuses and impacts by CRC: “Noise! Dust! Lighting! Truck traffic!” This is the first we had heard of such complaints, but nonetheless our status plummeted from hero to villain, seemingly overnight.

At the same time, the lagoons were filling to the rim—four acres of solid waste, eight feet deep. After years of looking at disposal alternatives, we still had nowhere to go with it. Consequently, our capacity for water treatment was dangerously low. Add 40-plus inches of rain each year to 14 million gallons of process waste water and we had a serious logistical problem. In the late 90s, we were discharging more than 14 million gallons of treated waste water to the Columbia River. We could no longer sustain our production and waste treatment systems without a major overhaul. To complicate matters further, CRC’s National Pollutant Elimination System (NPDES) permit was up for renewal.

The fact is that CRC had grown more rapidly than expected. We had not foreseen the rapid growth in business,

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Sustainability and the Aggregates Industry

The long-term viability of the aggregates industry is dependent on obtaining and maintaining a social license to operate. These licenses are based on discretionary decisions by local government bodies that are heavily influenced by political/public opinion. NSSGA member companies will enhance their ability to obtain these licenses when they apply sustainability guidelines.

Sustainability is an integrated concept that addresses the economic, social and environmental aspects of a company's business and is a developing issue in the markets where NSSGA members operate. Public resource agencies are now implementing frameworks based on sustainable development. NSSGA member companies will increase their ability to compete effectively by implementing NSSGA's Sustainability Guiding Principles. These guidelines emphasize the efficient use of resources, which reduces costs and contributes to profitability.

Implementing sustainability guidelines will help to coordinate and improve the effectiveness of multi-disciplinary programs such as community relations, environment, safety and health, operations and legal in NSSGA member companies.

hence product volume, hence waste accumulation. As a result, impacts to neighbors had in fact escalated, our ponds had filled with solid waste, and the waste water treatment system (and its underlying NPDES) had to be redesigned. The time for action was at hand. CRC had to address the issues simul-

taneously—community concerns, environmental impacts and compliance and continued business growth.

Response to the Community

CRC proposed and entered into a binding contract with Woodland city to invest in specific mitigation improve-

ments. This provided instant credibility and demonstrated commitment (and instant approval of the conditional use permit for our new neighbor-customer). The actions taken included:

- extensive site paving; enclosure and tarping of stockpiles; implementation of stringent housekeeping

The advertisement for Midwestern Industries, Inc. features a central image of a large yellow screening machine in a factory setting. To the left, the company logo is displayed, consisting of a globe with the word 'MIDWESTERN' across it and 'INDUSTRIES, INC.' below. Text next to the logo reads 'Over 50 years of Excellence'. Below the logo, the company name 'MIDWESTERN INDUSTRIES, INC.' is written in a bold, black, serif font. The main headline 'SCREENING... ITS WHAT WE DO!' is in a large, bold, orange, sans-serif font. Below the headline, four bullet points list key features: '-HIGH CAPACITY DESIGN-', '-QUICK SCREEN CHANGES-', '-AVAILABLE IN A VARIETY OF SIZES-', and '-CUSTOM WOVEN WIRE-'. At the bottom left, there is a call to action: 'Call Toll Free 877-4-SIZING (877-474-9464)' and the website 'WWW.MIDWESTERNIND.COM'. A smaller image of a screening machine is shown in the bottom right corner, with a caption: 'Screen heating is available to stop blinding due to damp material.' In the bottom right corner of the advertisement, there is a small American flag and the text 'MADE IN USA'.

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- retention of an acoustical engineering consultant and implementation of recommendations plant-wide, including installation of sound insulation materials, alternative work practices to reduce noise (e.g., closing plant doors) and scheduling high impact activities (e.g., rail car unloading, movements) for mid-day hours;
- expansion and improvement of storm water treatment facilities on site all but eliminated storm water runoff;
- implementation of significant scholarship program for Woodland High School graduates (now in its eighth year), aiding local families with the high cost of col-

lege and vocational training; and

- publication of a formal report, with pictures, for the Woodland city council and community on measures taken and results obtained. (You have to let them know what you did!).

Response to Waste and Water Treatment Challenges

In 1997, CRC was up to its eyeballs in pond sludge, had little capacity for water treatment (therefore spending a lot on treatment chemicals and labor costs) and received notice from the Washington Department of Ecology that we needed to provide detailed information for our NPDES permit renewal. Ecology required a WET (Whole Effluent Toxicity) test be conducted on pond discharge water. Also known as the “fish kill” test, we find out how young, sensitive aquatic creatures fare in our discharge water over

time. Answer: they didn’t—and in not much time. The problem lay in our flotation water discharge. Question: Can we change flotation chemicals to avoid the problem? Answer: No. Easy then—we don’t discharge. Question: But how?

Our general manager called a summit meeting to address these issues and the CRC SWAT (“Stop Waste All Together”) team was born. We were challenged to “think outside the ponds:”

- A totally unique approach for water treatment was diagramed by our automation/electrical manager on a paper napkin at lunch.



Columbia River Carbonates’ settling lagoons for pond discharge water prior to the development of the new wastewater treatment facility.

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Instead of separating particles from waste water with flocculants in a lagoon, we attacked the problem directly with an industrial centrifuge system to remove a majority of the solids, followed by a clarifier and small concrete pond to flocculate ultra-fines. A small trial model was constructed and proved successful. Then we launched the real deal and it worked.

- All treated wastewater was recycled back to production. Zero discharge was achieved for a period of more than four years. Currently, due to production changes dictated by market conditions, we are intermittently discharging some three million gallons of clean water annually. Still, this is down from more than 14 million gallons discharged before the changes were implemented.
- All waste water from flotation is recycled back to flotation, thereby eliminating any residual chemical discharges, saving on treatment chemical costs and keeping the fish happy.

- Since 80-plus percent of the content of our solid waste is calcium carbonate, we register the material as “waste derived” agricultural lime (aglime) in liquid form with the state of Washington Department of Agriculture (review and analysis by the Department of Ecology). The new “liquid lime” product was excavated from all settling lagoons and distributed as aglime. The aglime is now continuously accumulated in storage tanks and shipped off site in truckload lots for use as high grade agricultural lime.
- An inventory of all hazardous chemicals, lubricants, solvents and degreasers that would potentially generate hazardous waste was conducted and virtually all were replaced with non-hazardous substitutes. This reduced

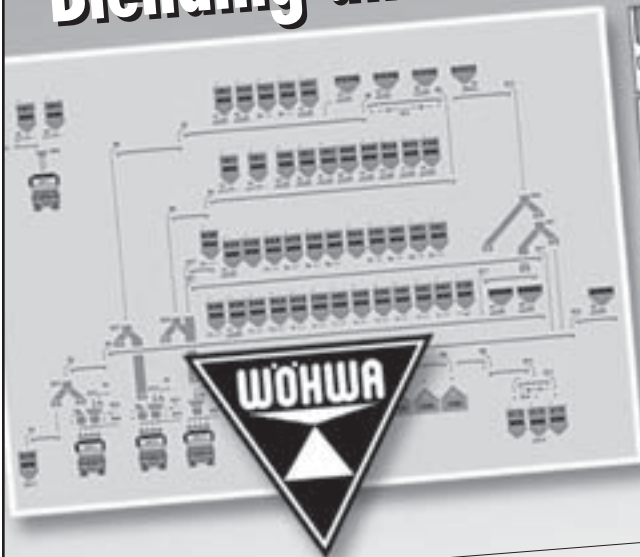


CRC's new wastewater treatment facility handles all process wastewater and recycling, storage, loading and transport of agriculture lime by-product.

our Resource Conservation and Recovery Act status from Medium Quantity Generator to Small Quantity Generator. (In fact, we now rarely have any hazardous waste disposal.)

- An oil-water separator evaporation unit was installed to remove 100 percent of the oil from our compressor blow down, and oil filtration inserts were installed in all storm drains to eliminate possible oil contamination in storm water and sewer discharges.

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Although the solutions adopted involved a significant investment of money and resources, at the end of the day it turned out to be quite favorable to the company's bottom line. In fact, the financial rewards and return on investment get better as time goes on and our volumes increase.

- Formerly, thousands of gallons of chemicals and an inordinate number of labor hours were consumed each year for lagoon wastewater treatment and discharge to the Columbia River. Now, a compact wastewater treatment facility handles all process wastewater and recycling, as well as storage, loading and transport of agriculture lime by-product.
- Recycling all flotation effluent has reduced overall process chemical costs, as well.
- By all but eliminating the need for hazardous waste disposal, thousands of dollars in disposal costs are avoided, not to mention the

value of avoiding ongoing liabilities associated with waste disposal sites and potential landfill clean-up issues.

- Significant enhancement of the company's image in the community continues to pay dividends as the company grows with the community, not in conflict with it.

The U.S. Environmental Protection Agency (EPA) Web site states, "Sustainability has many definitions but the basic principles and concepts remain constant: balancing a growing economy, protection for the environment, and social responsibility, so they together lead to an improved quality of life for ourselves and future generations." Although initially motivated by necessity, at Columbia River Carbonates, we believe this philosophy to be true and have incorporated it into our Environmental Mission Statement and our daily business practices.

In 2002, CRC received the most coveted environmental award in the state of Washington, the "Governor's

Award for Pollution Prevention and Sustainable Practices." The following year, I was invited to sit on the panel of judges selecting award recipients for 2003. The panel included representatives from the Department of Ecology, EPA's Region 10 and a variety of Washington-based environmental groups. Those companies selected as paradigms of sustainable business practice had their own stories to tell, but shared a commonality of purpose and practice: a commitment to reduce impacts to the environment and the community in often innovative ways that go well beyond mere compliance; the exercise of sound business judgment with a willingness to invest in not only the company's financial health, but the community in which they operate; and, in the words of one of the judges, "They really get it; I mean the whole picture."

Columbia River Carbonates is a partnership between Bleeck Management, Inc. and Northwest Carbonates, Inc. (a subsidiary of Omya, Inc.). ■

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