

THE SIDE EFFECTS OF CHEMICAL DESCALERS

THE MSW LANDFILL

Located in Pennsylvania the MSW has experienced its share of common and not so common issues related to leachate management and treatment. Of pressing concern were areas of rapid scaling in and between the leachate treatment & holding tanks. New problems have arisen from new solutions.

CHEMICAL DE-SCALERS HAVE SIDE EFFECTS

The MSW landfill under testing is lead by one of the most talented engineers throughout the organization and is very efficiently managed. Rapid scaling impedes flow and processes and has become a continual challenge to pre-treatment and movement of leachate. Chemical de-scalers were added to solve the issue with cost being secondary. As advised the scale was dissolved and did not return, but a new problem was discovered shortly thereafter. Following several weeks of changing the chemistry and pH levels, manganese levels were out of control. A diagnostic of all the new variables was run. It was then determined with removal of the de-scalent that this was the contributing factor to increased manganese levels. A Solution Created New Problems.

ANOTHER SOLUTION COMES OUT OF THE BLUE

The DM was contacted by a Sustainable Technologies Organization; Gii Scale Control. They had a story about a technology they claimed was changing the way landfills do maintenance when it comes to the treatment of leachate scale. Even under extreme circumstances they assured us they could do the job. Following the engineering design call and determination Gii Group also gave to the site a written guarantee on performance. The technology itself uses a proprietary pulse energy signal that creates a new path of least resistance for carbonite particles. The carbonite is now attracted to solids and create microscopic seed crystals that flow through solution. Moreover the device induces a chemistry reaction that creates billions of nano CO2 bubbles that slowly dissolve the scale much like a chemical de-scaler but is a completely natural part of the reaction process. “The most significant benefit of the FlowScience LSC System to the landfill unfortunately is the most difficult to explain without going into a lot of technical jargon.” “The ability to achieve effluent compliance of a water-quality based effluent limit (manganese) without experiencing crippling scaling is huge.”



WHAT IS THE OPTIMAL SOLUTION FOR LEACHATE SCALE TREATMENT?

<u>DE-SCALERS</u>	<u>HYDRO-JETTING</u>	<u>FLOWSCIENCE</u>
After effects	Limitations	Few Limitations
Ongoing Cost	Ongoing Cost	1-Time Cost 1yr < ROI
Maintenance ^	Maintenance ^	Zero Maintenance
Corrosive	Can Break Pipes	Permanent
Not GREEN	Not GREEN	GREEN Technology