# Derrick® dewatering technology increases product quality for aggregate producers

- Dewaters primary sands to over 90% solids, increasing product quality and value
- Reduces water loss and fresh water make up requirements
- Converts a waste material into a marketable, profitable product

## Background

R.W. Tomlinson Inc. is an industry leader in the Canadian aggregate marketplace with numerous plants serving many customers throughout Ontario. As the industry continues to evolve with new construction material specifications and moisture levels, the company began to look at new technology available to further dewater their primary products. The production managers at Tomlinson contacted Derrick® Corporation for assistance in reviewing the problems of free running water and high moisture levels in their primary asphalt sand and making recommendations for implementing technologies to improve the moisture content of their products. Traditional screw classifiers were used to produce the current asphalt specification sand. This technology makes the proper specification/gradation, but it does yield a high moisture content and has free running water present. These characteristics drastically reduce the value and marketability of the sand. Furthermore, the screw classifier overflow generates the high handling costs of transferring waste to the settling pond.

## Solution

As with all mining applications, a detailed review of the raw feed material was conducted.

Derrick 4 x 8 HI-G® Dewatering machine, coupled with Derrick 4" hydrocyclones

This provided the evidence that the feed (production sand) contained a moisture level of 60 to 65 percent by weight. Tonnage rates were determined to be varying between 100 to 250 t/h, with gradations expanding between -3/16" x 200 mesh (75 micron).

This analysis revealed the task to be ideally suited to installing a single W series HI-Cap dewatering machine.

The Derrick 5 x 14 dual motor machine can convert this generally "soupy," barely acceptable material into a dried, high quality, high demand product. The machine is positioned at the discharge end of the hydraulic screw classifier, which feeds directly to the feed plate of the machine. The material is equally dispersed across the width of the machine to begin dewatering the material immediately.

The high G levels and high open area urethane media are effectively dewatering this material to between 85 and 90 percent solids. Dryness levels exceed their customer's requirements, providing consistent gradation, and allowing them to sell the material as a premium product.

In addition, the overflow waste slurry (screw classifier overflow) reports to the Derrick HI-G Dewatering machine. Here, the Derrick 4 x 8 HI-G Dewatering machine, coupled with the Derrick 4" hydrocyclones, recovers this waste material that formerly reported to a settling pond. The material is now dewatered into a new, stackable and conveyable fine material at 80 percent solids, that can now be sold as a profitable product.

## Conclusion

The Derrick HI-Cap dewatering unit has a small footprint, requires very low horsepower (10hp), zero operational attendance, and extremely low maintenance. The end user simply starts the unit with daily operations and begins production. The product now being produced with the addition of the Derrick dewatering unit has increased the quality. Dryness levels of this material exceed their customer's requirements and provides consistency in gradation, allowing them to sell it as a premium product.

The addition of the Derrick HI-G Dewatering machine allows them to convert nearly 75 percent of what was previously waste material into a new marketable, profitable product along with a drastic reduction in pond cleaning costs.

Derrick technology is providing unmatched quality, performance, and reliability, while also giving the end user an immediate, positive impact on their operation's bottom line.

**For more information, please contact your local Derrick sales representative.**
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