



Transit Time and Doppler Flow Meters Increase Flow Measurement Accuracy in Fresh Water Quarry

Based in Watsonville, California, Graniterock is an American corporation that operates in the construction industry providing crushed gravel, sand, concrete, and asphalt paving services. Their Aromas, California location is home to their Aromas Technical Research Services. The Aromas location provides statistical process control reports and monitoring of their various branch locations; one of which is near the Wilson Quarry.

What did they need?

At the Aromas, California location, water is pulled from an onsite reservoir and is used for pumping to their Premium Sand Plant and thickener tanks. This onsite reservoir is also used as a freshwater rinse throughout the quarry. As there is so much water that is flowing and being pumped for various operational needs, the Graniterock team needed a

water flow measurement solution to accurately know how much water was flowing from the reservoir to each process. Not only that, but knowing how much water is flowing with a flow meter helps save time and money as other methods of flow measurement are prone to human error. At the time, there was no flow measurement solution in place to help determine water flow to the various processes at this location.

Finding the right flow measurement solution

At the Aromas, California, Graniterock location, they needed to find a solution that would fit their 30" High-Density Polyethylene (HDPE) Pipe that helped pull water from the onsite reservoir. Accuracy is critical as there are many processes that water is aiding in. The water is sent uphill to a 200,000-gallon tank, then gravity-fed to each process in the quarry. Not all the water that travels through this process is clean, therefore Pulsar Measurement's Sales Manager for the Americas Shaun Minton determined that the best solutions would be the TTFM 6.1 clamp-on transit time flow meter and DFM 6.1 clamp-on Doppler flow meter.



"We've used Pulsar Measurement solutions in the past, so our first call was to your company. As usual, everything worked as expected, and the onsite support from Shaun Minton was excellent."

Steve Webb, Automation Engineer, Graniterock

Why the TTFM & DFM?

Pulsar Measurement's TTFM 6.1 is a non-contacting flow measurement solution that accurately measures the flow rate of relatively clean, non-aerated fluids in full pipes. There are three different transducer sizes available so that it can work on all common pipe materials and pipe sizes ranging from 15 mm (0.5 in) to 1,200 mm (48 in), which was the right spec for this application. Installing this solution for the cleaner water flow through the quarry was ideal.

The DFM 6.1 is also great for this application as the Graniterock team also wanted to determine the pumped flow through the thickener plant, specifically. Thickener plants separate the solid and liquid parts from the slurry and concentrate as much of the solids to the bottom of the thickener so that clearer water can freely move away from the solids. The DFM works with liquids with entrained air or higher solids content, like those in a thickener plant, and can provide an accurate flow measurement when other technologies can't.

Each solution comes with its own flow display making it easy to know the flow rate and volume for each meter. The TTFM and DFM come with an intuitive 5-button keypad interface, so that configuration, installation, and monitoring are quick and easy. A standard 26 million point data logger is also included, and the free logging software makes data management and reporting a breeze.

Success with two ultrasonic solutions

Automation Engineer Steve Webb from Graniterock was satisfied with how simple it was to set up and install both ultrasonic flow measurement solutions for their flow applications. Both the TTFM and DFM provided accurate readings at a low cost compared to an inline flow meter that would require system shutdown and cutting into the pipe - which would have cost tens of thousands of dollars! When Shaun asked Steve Webb about the installation, Steve said, "We've used Pulsar Measurement solutions in the past, so our first call was to your company. As usual, everything worked as expected, and the onsite support from Shaun Minton was excellent."

The TTFM 6.1 and DFM 6.1 units proved that non-contacting pipe flow measurement is quick, simple, and straightforward to achieve. Pulsar Measurement offers a range of flow measurement solutions from contacting devices to non-contacting meters and has a solution for every water or wastewater application.



More Information

TTFM 6.1: <https://pulsarmeasurement.com/greyline-ttfm-6-1>

DFM 6.1: <https://pulsarmeasurement.com/greyline-dfm-6-1>

Graniterock: <https://www.graniterock.com/>



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