

## Sonic Success for First Bauxite in Guyana

At First Bauxite's refractory bauxite properties in Guyana, South America, the weather conditions and terrain create unique challenges, which prompted the company to purchase a rig from Sonic Drill Corp for its exploration and mining operations.

Headquartered in Vancouver, Canada, First Bauxite is on the way to achieving its near-term goal of becoming a medium-sized producer and supplier of calcined bauxite. The company's Bonasika and Waratilla-Cartwright properties form part of Guyana's historical coastal bauxite belt, which was first drilled in the 1940s by Alcan.

With two rainy seasons (May to mid-August, and mid-November to mid-January), flash floods are a constant threat. The terrain is alternately hilly and swampy, making the movement of drilling rigs and other vehicles dangerous at times. And, underground, the overburden of silica sand is often too porous for traditional mud rotary drills.

"You just run your casing and that's your wall," said drilling consultant Randy Pruden, who was hired to train Guyanese operators on the sonic drill. "You don't have to spend days mixing mud and you don't have friction in your hole. In Guyana, the overburden is mostly silica sand. We just blow that out through a 5½ in (140mm) pipe and then, afterwards, we get a 3½ in core to the bottom of the bauxite. With the casing in place, no sand can contaminate it.

"It's so fast we can just shoot it to the zone we're looking for, then do a continuous casing to the bauxite and that seals off that zone, so we never have to worry about silica sand in the assays."

He added: "As far as I know, the sonic is the only rig that can do this, and I've used almost all of them, including those of Sonic Drill's competitors."

Mr. Pruden worked for Sonic Drill for several years before becoming a consultant, but he said that, as a driller, he is obliged to find the best equipment for the job in hand, regardless of the manufacturer.



Over the past four months, using the newest rig from Sonic Drill, a custom-built 550 series crawler, Mr. Pruden said he has encountered few problems, despite conditions being less than ideal.

Operating round the clock, his crew worked 620 hours on the rig in February alone, with only 28 hours of downtime.

## Drill Pads

“The drill patterns run from the hills through the flats of the valleys so as to close off the range of the bauxite,” said Mr. Pruden. “We use a skid that we pull with all our drill strings and tools. The drill skid is pretty much self-contained and the weight is upwards of 4.5t. The 550 Series crawler pulls this skid up and down the hills with the silica sand, and through the lower wet valleys with little or no assistance, which is a huge time-saving feature for us because we don’t have to wait for another machine to come and move the rig to the next drill site.”

Most of the bauxite in Guyana is near the surface, making exploration fairly quick. Mr. Pruden said the deepest that a test hole will go is 60m if no bauxite is found.

“If we get to 59m and then get 9m of bauxite, we’ll carry on,” he explained. “The average hole depth is 42m. We drill in patterns to find the limits of the deposit, then drill the deposit, but all of the deposits so far have been high-grade ore.”



First Bauxite is developing a processing and loading facility near its current operations at Sandhill on the Demerara River. The company is building a school for what is expected to be a growing mining settlement, and hires as many local people as possible.