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Firestone Ventures Teams Up With Alexander Mining For AmmLeach Testwork On Its Torlon Hill Zinc-Lead Deposit In Guatemala

By Charles Wyatt

Only a couple of weeks ago Aim-traded Alexander Mining reported that it had signed a joint venture agreement with Anvil Mining to build and operate a pilot plant to treat 150,000 tonnes of cobalt ore at the Mutoshi deposit in the Democratic Republic of Congo. This news represented Alexander's first step towards the commercialisation of its new Ammleach technology, which is billed as an environmentally-friendly ammonia-based process for the leaching and selective extraction of base metals from high acid consuming and complex ores under ambient temperature and pressure conditions. Now up steps Canadian listed [Firestone Ventures](#) to announce that AmmLeach amenability testwork conducted by Alexander on its Torlon Hill zinc oxide project in Guatemala has produced excellent results. The pace is clearly speeding up for Alexander and Matt Sutcliffe, the executive chairman, must be in perpetual motion around the world following up on potential deals.

The testwork at Torlon Hill involved eleven selected representative zinc oxide ore samples, where the head grade assays were 6.99% zinc, and the average zinc dissolution rate was 79 per cent. So, potentially high recoveries above 75 per cent should be achievable. And it's hoped that recoveries can be improved even more by the optimisation of the leaching conditions. As a result Lori Walton, chief executive of Firestone, has asked Alexander to submit a conceptual process flow sheet for Torlon Hill and a plan for substantial additional next stage testwork. The conceptual flow sheet will be for a heap leach solvent-extraction electro-winning treatment plant, using AmmLeach. Once that has been received Firestone will be in a position to commit to a full feasibility study for Torlon Hill using AmmLeach, and commercial terms will be agreed with Alexander at that time.

The two companies are clearly getting on well, as they are going to work together to identify and target other high acid-consuming, carbonate-hosted zinc oxide opportunities in Firestone's portfolio which may be suitable for AmmLeach. Be that as it may, though, Torlon Hill remains the company's flagship project for now. It currently boasts measured and indicated resources totalling 1.9 million tonnes at 7.32% zinc, 2.41% lead and 14.25 grams per tonne silver, at a 3% zinc-equivalent cut-off, and also claims another 169,705 tonnes in the inferred category grading 4.42% zinc, 1.96% lead, and 12.53 grams per tonne silver. In addition, there is a basal zone of unoxidized sulphide mineralisation which is not yet well defined by the drilling to date.

Smithsonite ($ZnCO_3$) is the prevalent zinc mineral at Torlon Hill, occurring as a replacement to limestone and resulting in high grade mineralisation, exceeding 40% zinc in places. Other non-sulphide zinc minerals are relatively rare and there is no evidence of deleterious zinc-clay minerals such as sauconite. Overall, Torlon Hill is an intensely oxidized zinc-lead deposit hosted in Permian dolostone breccia and limestone. The carbonate unit has been tectonically thrust over a serpentinised basement sequence at the boundary between the North American Tectonic Plate and the Caribbean Plate and it is the "tectonic crush zone" that produces the bonanza zinc grades that Firestone has been recovering close to the surface. To date, a total of 8,400 metres in 101 holes has been drilled into the deposit. There's good infrastructure too, as Torlon Hill is accessible by road and is only 22 kilometres from the Pan American Highway in western Guatemala.

As well as Torlon Hill, Firestone has a significant land position throughout a carbonate-hosted zinc-lead-silver district that extends across a 250 kilometre belt in Guatemala. Very little modern exploration has taken place in this carbonate belt, despite the historical mining of numerous oxide and sulphide zinc occurrences on surface. However, Firestone's geological field crews worked throughout the last six months of 2010 on a comprehensive regional exploration program that focused on this belt of Cretaceous to Permian carbonate host rocks. To date, Firestone has been able to deliver considerable reconnaissance exploration success in its targeting of prospective carbonate horizons which may host Mississippi-Valley type zinc-lead-silver mineralization. This year the crews are focusing on property scale exploration work at one of the most promising project areas, where rock samples collected by field crews returned up to 40.78% zinc, 6.21% lead and 42 g/t silver.

Lori Walton also has a couple of zinc properties in Nevada, the most advanced of which is the Antelope zinc-lead-silver property situated about 75 kilometres southwest of Eureka and which is accessible by road. A four kilometre mineralized corridor has been defined and a drilling programme will proceed once permits are received, which, Lori points out, may take a while as the property is in a National Forest. In addition, at the end of last year the Black Mountain zinc-lead mineral claims were acquired from Kinross Gold. Again the claims are road accessible and this time they are permitted for drilling, so drilling will be starting shortly. Firestone is therefore in for a busy 2011 and in support of all that work it is useful that C\$1.35 million was raised in January by a placing.