

RESOURCE OPPORTUNITIES

Independent Research for Junior Mining Profits

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Initiating coverage: Strongbow Exploration (SBW-V)

Price: 0.16

Market capitalization: \$9.7 million

The move in base metals prices in the past year has been relatively fierce, with corresponding increases in the equities. Copper has surged from US\$2.20/lb past \$2.70 just in the past five months; zinc traded at US\$0.80 a year ago and is now threatening \$1.30.

Tin was also among the best-performing commodities for calendar-year 2016, based on annual average prices compared to 2015, at according to Macquarie. I was surprised too -- tin posted a 12% increase for 2016. In many ways it's the invisible base metal: the market is quite small and tin production is opaque.

Only about 350,000 tonnes of tin is produced per year, a market dwarfed by commodities such as copper and zinc. Tin production is dominated by companies based in China and Southeast Asia, along with a few South American producers. Most investors have never heard of the largest tin miners, which include Yunnan Tin Company, Malaysia Smelting and PT Timah.

But tin's uses have shifted to fill a continuing, if evolving, niche. In ancient times, tin was alloyed with copper to produce bronze; later came the automobile and tin cans. Today, tin is used mostly in lead-free soldering and electronic gadgets. Consumption has steadily increased and there is a supply gap looming -- above-ground stocks of the metal have dropped in tandem with rising demand. That's driven prices higher in recent years.

A new report out of Capital Economics, an independent London-based research house, projects another good year. The report predicts tin will be the third-best performing commodity in 2017, behind nickel and palladium. And ITRI, the industry's International Tin Research Institute, has projected a global shortfall beginning in 2018.

Strongbow Exploration (SBW-V) is poised to capitalize on surging demand for tin and higher prices. Strongbow is Vancouver-based and its flagship project is the high-grade South Crofty property, which includes 26 former producing mines within a 1,490-hectare mining license in

Cornwall on the southwestern tip of Great Britain. Strongbow's plan is to dewater the old mine workings and re-open the mine while expanding the resource.

On Feb. 16 Strongbow released a positive preliminary economic assessment on South Crofty, and the stock inched a half-penny higher. The lacklustre action illustrates Strongbow's current lack of visibility, at least in North America. The indifference comes despite a very strong team driving the project forward, looming catalysts and development progress. Consider: South Crofty is just a single permit (water discharge) away from being fully permitted. That translates into a deep-value, speculative opportunity for contrarian investors.

Tin is embedded in Cornwall's DNA -- the metal has been mined in the region for thousands of years. Until just a few decades ago, Cornwall was the global production centre and home to 2,000 mines. But the tin price collapse in the mid-1980s laid waste to Cornwall's tin industry, and production moved elsewhere. The South Crofty mine outlasted all the others but shut its doors and turned off the pumps in 1998, succumbing to 13 years of low tin prices.

Echoes of that mining past are plentiful in Cornwall and one of them is the world-famous Camborne School of Mines. It remains one of the world's most renowned mining schools, with alumni working in operations around the globe. When Strongbow announced the acquisition of South Crofty, the company was inundated with calls from Camborne alumni who wanted to return and work there, CEO Richard Williams told me during an interview last year.



South Crofty: last tin mine to close

Williams, a geologist with experience in gold and base metals exploration in South Africa and South America, hails from the United Kingdom himself. He comes from Neath in the same area of Wales as Strongbow's chairman Gren Thomas, although the two didn't meet until the late 1990s (they were connected by a mutual friend at a squash game). Thomas's Aber Resources discovered the Diavik diamond mine in the 1990s, one of the events that turned Canada into a serious player in the global diamond industry.

Thomas and the rest of the team running Strongbow can only be described as a rock star lineup. Thomas is in the Canadian Mining Hall of Fame and so is fellow director Ron Netolitzky,

a veteran geo credited with high-grade gold discoveries in British Columbia's Golden Triangle. Sean Roosen's Osisko Gold Royalties is Strongbow's major shareholder and owns 24% of the outstanding shares. Osisko cofounder John Burzynski -- former Mining Man of the Year and Prospector of the Year for Osisko's Malartic find -- is on the board of directors, as is Dalradian CEO and Aurelian cofounder Patrick Anderson. Rounding out the board is diamond veteran Ken Armstrong, CEO of North Arrow Minerals.

Put simply, this is a board of directors with chops. The United Kingdom roots of Williams, Thomas and Anderson -- Dalradian's flagship Curraghinalt gold deposit is in Northern Ireland -- can only help as Strongbow works to open a mine in an economically struggling, mining-friendly jurisdiction. And Osisko's involvement gives Strongbow heft on the capital side.

Tin trouble presents opportunity

There were several attempts to re-open South Crofty between 2001 and 2013. In 2013, Cornwall Council issued an underground mining permit good until 2071. But all efforts to revive Cornish tin mining failed. Last year Strongbow acquired 100% of the project out of bankruptcy protection. Strongbow's mine permit area includes 26 former mines or old workings. The proposed mill site is adjacent to rail and has access to grid power. Planning permission to construct a mill is already in hand.

Last year Strongbow updated the resource estimate and took care of some important "housekeeping" items needed to re-open the mine, including discharging mine permit conditions and starting water treatment trials. The resource was split into two: the tin-only lower mine resource and an upper mine resource that also has copper and zinc. The lower resource will be mined first. It hosts 1.66 million tonnes Indicated at 1.81% tin and 740,000 tonnes Inferred at 1.91%. The upper mine resource has 257,000 tonnes grading 0.70% tin, 0.79% copper and 0.58% zinc Indicated (0.99% tin equivalent) and 464,000 tonnes grading 0.67% tin, 0.62% copper and 0.63% zinc (0.91% tin equivalent).

At 1.8% tin in the tin-only resource, South Crofty is one of the highest-grade undeveloped tin projects in the world. That grade equates to about 10 g/t gold or 6% copper. And grade remains one of the key ingredients of the world's most profitable mines. Only one undeveloped tin project has higher grades -- Alphamin's (AFM-V) Bisie project, which also has size and will be underground. Bisie hosts about 3.94 million tonnes of tin in the Measured and Indicated categories, at average grades of almost 4% -- more than double South Crofty's. But Bisie is located in the Democratic Republic of Congo, which can be an adventure at the best of times.

In September 2016, for example, the [managing director of Alphamin's Congo subsidiary was arrested by police](#) and held for almost two weeks in the capital Kinshasha. The arrest apparently resulted from a "misunderstanding" over samples Alphamin had flown out of the war-torn country, according to the Globe and Mail report. At South Crofty, the local violence is more likely

to be well-oiled lads exchanging punches at the local watering hole over the outcome of a game of “footie.”

There is strong community support in Cornwall -- albeit mixed in with some skepticism given failed attempts in recent years -- for the reopening of South Crofty. Mine construction could employ 110 people and the mine would directly employ 275 people in well-paying jobs that would create economic spinoffs for the region.



Grade Comparison with Other Tin Projects (based on Sn grade)

Company	Project	Country	M& I Tonnes	Grade	Contained Tin	Inferred Tonnes	Grade	Contained Tin	Project Status
Alphamin Resources	Bisie Project	DRC	3,940,000	3.94%	155,236	840,000	4.64%	38,976	
Minsur	San Rafael	Peru	5,619,000	2.67%	150,027	1,941,000	1.97%	38,238	In production
Strongbow	South Crofty	England	1,660,000	1.81%	30,000	740,000	1.91%	14,000	
Metals X	Renison Bell	Tasmania	9,500,000	1.50%	142,500	3,374,000	1.36%	45,886	In production
Stellar Res. Ltd	Heemskirk	Tasmania	1,410,000	1.26%	17,766	4,870,000	1.10%	53,570	
Kasbah Res. Ltd	Achmmach	Morocco	1,260,000	0.98%	12,348	7,460,000	0.77%	57,442	
Consolidated Tin Mines	Mt. Garnet	Australia	2,360,000	0.80%	18,880	180,000	0.53%	954	
Elementos Limited	Cleveland	Tasmania	4,200,000	0.67%	28,140	2,400,000	0.56%	13,440	
Euro Tin	Oropesa	Spain	9,160,000	0.56%	51,296	3,330,000	0.52%	17,316	
Syrymbet JSC	Syrymbet	Kazakhstan	25,400,000	0.52%	132,080	24,500,000	0.48%	117,600	
Treliiver Minerals	Tellerhauser	Germany	6,200,000	0.47%	29,140	15,800,000	0.47%	74,260	
Tin International Ltd	Sadisdorf	Germany				3,360,000	0.44%	14,784	
Tin International Ltd	Geyer	Germany	11,600,000	0.37%	42,920				
Tin International Ltd	Gottesberg	Germany	10,800,000	0.26%	28,080	31,300,000	0.27%	84,510	
Venture Minerals	Mt. Lindsay	Tasmania	25,000,000	0.20%	50,000	20,000,000	0.20%	40,000	
Aus Tin Mining	Taronga	Australia	26,900,000	0.17%	45,730	9,400,000	0.13%	12,220	

PEA shows path forward

On Feb. 16, Strongbow published a [preliminary economic assessment](#) on South Crofty that showed positive economics. At a 5% discount rate, South Crofty has an after-tax net present value of US\$130.5 million and an after-tax IRR of 23.4% (at metal prices of US\$10/lb tin, \$2.65/lb copper and \$0.90/lb zinc). Tin is currently trading a dollar lower per pound, copper is on par and zinc has moved much higher, to about \$1.30.

Pre-production capex including contingency is estimated at US\$118.7 million, with a payback of 3.8 years and life-of-mine sustaining capital costs of US\$83.8 million. The PEA shows a mine at

South Crofty is economic at close-to-current metals prices and technically feasible. But it seems like a lot of capex for a project with an NPV at US\$130.5 million. Size matters, and both the resource and the mined material modelled in the PEA are of modest size. The resource at South Crofty is small, particularly compared to other undeveloped tin projects.

However, the current resource and PEA is merely scratching the (underground) surface, Williams says. South Crofty is likely to be a mine that starts small and profitable, with a mine life that grows along with the amount of tin produced. Here's how:

- The PEA concentrates on four main mining areas that were in production when the mine shut down in 1998. There are multiple other zones that are mineralized and accessible but not part of the resource.
- There is exploration potential at South Crofty -- the main lode areas remain open along strike and at depth.
- South Crofty is one of three formerly operating mines on the property. The Dolcoath and Carn Brea mines could also be restarted to provide mine feed for the mill.

Strongbow had plans to drill this spring, but will instead focus its resources on getting the water discharge permit. Water treatment trials will soon wrap up, which will be followed by an application to the Environment Agency. CEO Williams says the water trials have gone well and hopes to get a water discharge permit by the end of June. That will clear the way for Strongbow to begin dewatering and initiate a Feasibility Study.

London calling

Another catalyst is a planned London listing on the venture AIM later this year. South Crofty's road to reopening fits into a larger metals revival in the United Kingdom. Wolf Minerals of Australia recently opened the Drakelands tungsten-tin mine not far from Cornwall, the first new metals mine in Britain in 45 years. And Sirius Minerals is opening a potash mine in South Yorkshire. In Northern Ireland, Dalradian is pushing the Curraghinalt high-grade gold mine toward production.

A London listing will also make it easier for British investors to buy stock in Strongbow, which could be a considerable catalyst. As already noted, Strongbow shares are close to invisible in North America -- average daily volume on the Venture is less than \$5,000. But there are large pools of capital in Britain, both retail and institutional, that would be favourably inclined to invest in a local play with a strong mining history and solid backers.

The AIM listing also dovetails nicely with another unlikely catalyst for a mining development story: surging interest in Cornwall's mining history. The pop culture catalyst is Poldark, a new British television series. The show is set in Cornwall in the late 1700s, when copper and tin mining was booming. The main character, Ross Poldark, returns to Cornwall after fighting in the U.S. War of Independence to find his estate in ruins, his girlfriend engaged to his cousin, and a

greedy rival laying claim to his Cornish mines. The BBC series is a hit, sparking renewed interest in Cornwall -- fans of the show have been travelling to Cornwall to visit the heart of Cornish tin mining country.

Media coverage also tells a tale of the dichotomy. Strongbow's path to reopening South Crofty has been chronicled by major outlets including the [Financial Times](#), [Bloomberg](#), [Reuters](#), BBC and ITV as part of the nascent British commodities revival. Meanwhile, back at the TSX Venture, Strongbow's share price has languished in the teens over the past year. A positive PEA was met mostly with yawns.



Water, water everywhere

There are moving parts with any mine development story, of course, and Strongbow is no exception. A key piece of the development process is dewatering the flooded mine shafts and workings at South Crofty. The goal of the water treatment trials is to determine if treated water can be discharged directly into the Red River. Untreated mine water is now flowing continuously into the river, named for the colour of its water after centuries of discharges into the ocean.

If it receives the water discharge permit, Strongbow can build a permanent water treatment plant that will treat water from both dewatering and from the future mill. If tests are successful, Strongbow will apply to the Environment Agency for permits. The mine could be dewatered over an 18-24-month period, Williams says. Building a water treatment plant would cost between 4 and 5 million pounds -- about US\$5 million to \$6.3 million -- but there are government funding opportunities possible.

One of the risks on the water front is the flood risk in the Red River during periods of heavy rainfall or peak runoff. In response, Strongbow is proposing discharging in two different spots and cutting back on the amount of water discharged while the river is high.

Strongbow also holds royalties on the Cantung and Mactung tungsten mines in Nunavut and Northwest Territories. Mactung is one of the largest, highest-grade undeveloped tungsten

projects in the world. Last month, Strongbow optioned lithium brine exploration rights at South Crofty to a private UK company that plans a large exploration program.

Strongbow shares are held in strong hands, led by Osisko and its 24% stake. Chairman Gren Thomas has steadily added to his already large stake in Strongbow, spending \$280,000 on stock purchases in the past year. He owns almost 3.57 million shares, about 6.1% of the stock, and Netolitzky owns another 3.8% of outstanding shares. Burzynski comes in at 2% of outstanding shares.

To summarize: Strongbow's South Crofty is a single permit away from being fully permitted, and CEO Williams is optimistic about the water discharge permit being approved. At a market capitalization of \$9.7 million, this is an advanced-stage asset that is trading at the market capitalization of a speculative drill play. However, most drill plays priced at \$10 million and lower will die on the vine. I like Strongbow's chances of success.

Identifying asymmetric risk-reward opportunities -- where the upside potential dwarfs the downside risk -- is key for junior resource speculators. Strongbow fits the bill. Strongbow's experienced team combined with financial backing from Osisko Gold Royalties, a royalty powerhouse, increases the company's odds of success. There is \$1.5 million in the treasury and warrants that will likely be exercised at higher prices. Williams says he doesn't plan to raise any more money at these share price levels.

A cautionary note: Strongbow shares are thinly traded, typically, so patience may be required when taking a position. The stock is a buy at these levels, and should be rated as Mr. Market picks up on the fact that this is a derisked advanced development story in a safe and friendly mining jurisdiction. The process may already be starting -- Williams is in London marketing and on Tuesday the stock rose 2.5 cents, or 18.5%, on multiples of its average volume.

Price: 0.16

Shares outstanding: 60.6M (101.4M fully diluted)

Market cap: \$9.7 million

Treasury: \$1.5 million

www.strongbowexploration.com

Disclosure: *Author owns shares of Strongbow Exploration, a highly speculative stock that trades on the TSX Venture Exchange. Readers should always conduct their own research and do thorough due diligence, and/or obtain professional advice. This article is solely for information purposes. Nothing contained herein constitutes a representation by the publisher, nor a solicitation for the purchase or sale of securities. The information contained herein is based on sources which the publisher believes to be reliable, but is not guaranteed to be accurate, and does not purport to be a complete statement or summary of the available data. Any opinions expressed are subject to change without notice. The author and their associates are not responsible for errors or omissions. They may from time to time have a position in the*

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