

Trevali Mining Corporation (TV-T, \$0.43)

Rating Buy
 Target Price \$0.75
 Return 74%
 Risk Profile Very High

Stefan Ioannou, PhD | 416-507-2309 | sioannou@haywood.com

Analyst Certification, Important Information and Legal Disclaimers: See page 13

Santander Production Off to a Good Start This Year – All Eyes on Caribou Ramp-Up

Valuation | Our target is based on a 1.0x multiple to fully financed after-tax corporate net asset value (NAV)10% of \$0.75 per fully diluted share at a long-term zinc price of US\$1.15/lb.

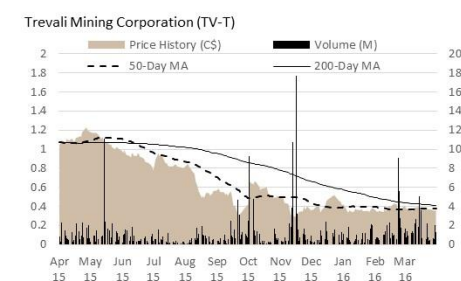
Risks | We maintain a bullish medium-term outlook on the zinc price. However, at current spot metal pricing (sustained), our modelled Trevali balance sheet faces a liquidity issue in ~Q3/17.

Impact – Neutral | Trevali recently announced preliminary Q1/16A production results for its Santander and Caribou operations and reiterated 2016E Santander production guidance.

- Production continues to progress well at Trevali's 100% owned Santander zinc-lead-silver mine in Peru, where commercial production was declared in February 2014. During Q1/16, **the mine booked 13.7 Mlb of payable zinc production, 6.4 Mlb of payable lead production, and 221 koz of payable silver production.** Corresponding Q1/16A cash-cost data has not been provided with the preliminary production results. However, Trevali's reiterated 2016E guidance includes an onsite operating cost estimate of US\$40 to US\$43 per tonne milled (versus a 2015A average cost of US\$42.65 per tonne milled).
- Santander's mill continues to operate at (above) design capacity. Record Q1/16A mill throughput averaged ~2,299 tpd (versus ~2,159 tpd in 2015A and a nameplate capacity at 2,000 tpd), with good metallurgical recoveries (including 89% zinc). Average zinc head grade remained below 4.0% for the second straight quarter, but is expected to increase this year—2016E Santander production guidance includes an average zinc head grade of 4.2% to 4.4% (4.3% in Haywood model; versus a 2015A average zinc head grade of 4.14%). We note the recent discovery of the Oyon Mantos at Santander's Magistral North deposit stands to bolster head grades late this year and/or by early next year—noting drill hole assay result highlights from the new zone include 7.30 m grading 8.73% zinc, 6.22% lead, and 117 g/t silver (including 4.15 m grading 12.46% zinc, 9.35% lead, and 142 g/t silver; refer to *Radar Screen*, April 8, 2016).
- Santander's reiterated 2016E payable production guidance is headlined by 52 to 55 Mlb of zinc, 22 to 25 Mlb of lead, and 800 to 1,000 ounces of silver (compared to our modelled production profile that includes 2016E payable zinc, lead, and silver production of 53 Mlb, 24 Mlb, and 900 koz respectively). **Our model reflects the midpoint of Trevali's 2016E payable production guidance in conjunction with an arguably conservative onsite operating cost of US\$50 per tonne. Our modelled 2016E Santander onsite operating cost translates into a 2016E average total zinc cash cost of US\$0.45/lb net of credits (versus a 2015A average total zinc cash cost of US\$0.48/lb).**

Target Price	\$0.75	52-Week High / Low	\$1.24 / \$0.25
Current Price	\$0.43	Shares O/S	378.8M (basic)
Return	74%		397.8M (F/D)
YTD Performance	(16%)	Market Capitalization	\$162.9M
		Cash	\$30.9M
		Working Capital	\$25.9M
Overall Risk Rating	Very High	Long-term Debt	\$80.4M
Forecast Risk	(High) 7	Enterprise Value	\$217.4M
Financial Risk	(High) 7	Daily Volume (3-month average)	1,625,601
Valuation Risk	(Moderate) 5	Website	www.trevali.com
Political Risk	(Moderate) 6	CEO	Mark Cruise
Risk Profile Definitions: See page 15		Currency	C\$ unless noted

Price Performance





Santander Production Results

Santander Production	2012A	Q1/13A	Q2/13A	Q3/13A	Q4/13A	2013A	Q1/14A	Q2/14A	Q3/14A	Q4/14A	2014A	Q1/15A	Q2/15A	Q3/15A	Q4/15A	2015A	Q1/16A	QoQΔ (%)	YoYΔ (%)	2016E	2017E
Ore Milled, tonnes 000's	-	-	-	74	178	252	174	175	174	186	709	185	190	197	205	788	209	2%	13%	735	735
Ore Milled, tonnes per day	-	-	-	800	1,938	1,369	1,931	1,927	1,892	2,020	1,943	2,060	2,093	2,144	2,228	2,159	2,299	3%	12%	2,000	2,000
Zinc Grade Milled, %	-	-	-	3.50%	4.61%	4.29%	4.76%	4.20%	4.40%	3.65%	4.24%	4.03%	4.27%	4.45%	3.80%	4.14%	3.93%	3%	(2%)	4.3%	3.6%
Lead Grade Milled, %	-	-	-	1.03%	1.83%	1.60%	1.90%	1.42%	2.11%	2.12%	1.89%	2.13%	2.47%	2.11%	1.68%	2.09%	1.66%	(1%)	(22%)	1.8%	1.3%
Silver Grade Milled, g/t	-	-	-	33.3	60.3	52.5	67.5	49.4	55.2	53.5	56.2	56.6	63.4	61.4	47.3	56.9	41.1	(13%)	(27%)	57	43
Zinc Recovery (in zinc concentrate), %	-	-	-	73%	83%	80%	87%	88%	88%	88%	88%	90%	90%	90%	90%	90%	89%	(1%)	(1%)	90%	90%
Lead Recovery (in lead concentrate), %	-	-	-	71%	84%	80%	86%	84%	83%	88%	85%	90%	88%	89%	88%	89%	88%	-	(2%)	88%	88%
Silver Recovery (in concentrates), %	-	-	-	62%	71%	68%	74%	70%	74%	80%	75%	80%	78%	77%	75%	77%	76%	1%	(5%)	75%	75%
Zinc Concentrate Production, DMT	-	-	-	4,060	13,800	17,860	15,640	13,048	13,466	12,050	54,204	13,430	14,706	15,954	14,141	58,232	14,480	2%	8%	56,889	47,893
Zinc Concentrate Zinc Grade, %	-	-	-	-	-	-	50%	49%	50%	50%	50%	50%	50%	50%	49%	50%	49%	-	(2%)	50%	50%
Lead Concentrate Production, DMT	-	-	-	1,040	4,900	5,940	4,510	3,680	5,370	5,815	19,375	5,925	7,080	6,610	5,347	24,962	5,469	2%	(8%)	20,425	15,288
Lead Concentrate Lead Grade, %	-	-	-	-	-	-	58%	57%	56%	56%	57%	60%	59%	56%	57%	58%	56%	(2%)	(7%)	57%	55%
Lead Concentrate Silver Grade, g/t	-	-	-	-	-	-	1,895	1,675	1,337	1,498	1,599	1,407	1,343	1,432	1,361	1,388	1,204	(12%)	(14%)	1,244	1,244
Zinc Production (in zinc concentrate), Mlb	-	-	-	4.1	15.0	19.1	17.2	14.1	14.8	13.3	58.3	14.8	16.2	17.6	15.3	64.2	15.6	2%	6%	63	53
Lead Production (in lead concentrate), Mlb	-	-	-	1.2	6.0	7.1	5.8	4.6	6.6	7.2	25.1	7.8	9.2	8.2	6.7	31.9	6.8	0%	(14%)	26	19
Copper Production (in copper concentrate), Mlb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver Production (in concentrates), Moz	-	-	-	0.0	0.2	0.3	0.3	0.2	0.2	0.3	1.0	0.3	0.3	0.3	0.2	1.1	0.2	(10%)	(21%)	1.0	0.8
Operating Cost, US\$/tonne milled	-	-	-	-	-	-	\$50.17	\$45.12	\$52.05	\$43.12	\$47.33	\$48.88	\$44.95	\$38.67	\$38.70	\$42.65	-	-	-	\$50	\$50
Zinc Production (payable), Mlb	-	-	-	-	-	-	14.6	12.0	12.6	11.2	50.4	12.5	13.7	14.8	13.1	54.1	13.7	4%	9%	53	45
Lead Production (payable), Mlb	-	-	-	-	-	-	5.5	4.4	6.3	7.1	23.3	7.4	8.7	7.8	6.3	30.2	6.4	2%	(13%)	24	18
Silver Production (payable), Moz	-	-	-	-	-	-	0.3	0.2	0.2	0.2	0.9	0.3	0.3	0.3	0.2	1.1	0.2	(1%)	(13%)	0.9	0.7
Total Zinc Cash Cost (net of credits), US\$/lb payable	-	-	-	-	-	-	\$0.36	\$0.54	\$0.63	\$0.45	\$0.49	\$0.49	\$0.39	\$0.48	\$0.62	\$0.48	-	-	-	\$0.45	\$0.55
Zinc Production (sold), Mlb	-	-	-	-	-	-	12.7	11.8	13.6	11.0	49.0	11.8	13.2	15.2	12.6	52.9	-	-	-	55	45
Lead Production (sold), Mlb	-	-	-	-	-	-	5.2	4.2	6.4	6.8	22.6	7.3	8.7	8.0	6.5	30.4	-	-	-	25	18
Copper Production (sold), Mlb	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver Production (sold), Moz	-	-	-	-	-	-	0.2	0.2	0.2	0.2	0.9	0.2	0.3	0.3	0.2	1.1	-	-	-	0.9	0.7

Total zinc cash costs excludes consideration for sustaining capital costs.

Source: Trevali Mining and Haywood Securities

Santander Production Results and Guidance

	2013A	Q1/14A	Q2/14A	Q3/14A	Q4/14A	2014A	Q1/15A	Q2/15A	Q3/15A	Q4/15A	2015A	Q1/16A	January 2015 Trevali 2015E	March 2015 Trevali 2015E	October 2015 Trevali 2015E	Haywood Model 2015E	January 2016 Trevali 2016E	Haywood Model 2016E
Milling																		
Ore Milled, tonnes 000's	252	174	175	174	186	709	185	190	197	205	788	209	-	-	-	788	-	735
Zinc Grade Milled, %	4.29%	4.76%	4.20%	4.40%	3.65%	4.24%	4.03%	4.27%	4.45%	3.80%	4.14%	3.93%	-	4.2% - 4.4%	4.2% - 4.4%	4.14%	4.2% - 4.4%	4.3%
Lead Grade Milled, %	1.60%	1.90%	1.42%	2.11%	2.12%	1.89%	2.13%	2.47%	2.11%	1.68%	2.09%	1.66%	-	1.8% - 2.1%	1.8% - 2.1%	2.09%	1.7% - 2.0%	1.8%
Silver Grade Milled, oz/ton	1.53	1.97	1.44	1.61	1.56	1.64	1.65	1.85	1.79	1.38	1.66	1.20	-	1.5 - 1.8	1.5 - 1.8	1.66	1.5 - 1.8	1.7
Metallurgy																		
Zinc Recovery, %	80%	87%	88%	88%	88%	88%	90%	90%	90%	90%	90%	89%	-	-	-	90%	-	90%
Lead Recovery, %	80%	86%	84%	83%	88%	85%	90%	88%	89%	88%	89%	88%	-	-	-	89%	-	88%
Silver Recovery, %	68%	74%	70%	74%	80%	75%	80%	78%	77%	75%	77%	76%	-	-	-	77%	-	75%
Zinc Concentrate Zinc Grade, %	-	50%	49%	50%	50%	50%	50%	50%	50%	49%	50%	49%	-	50%	50%	50%	50%	50%
Lead Concentrate Lead Grade, %	-	58%	57%	56%	56%	57%	60%	59%	56%	57%	58%	56%	-	55% - 57%	56 - 58%	58%	56 - 58%	57%
Production																		
Zinc Production (payable), Mlb	-	14.6	12.0	12.6	11.2	50.4	12.5	13.7	14.8	13.1	54.1	13.7	48 - 50	48 - 50	50 - 52	54.1	52 - 55	53
Lead Production (payable), Mlb	-	5.5	4.4	6.3	7.1	23.3	7.4	8.7	7.8	6.3	30.2	6.4	23 - 25	23 - 25	29 - 31	30.2	22 - 25	24
Silver Production (payable), koz	-	269	187	218	242	915	255	290	286	224	1,056	221	850 - 950	850 - 950	1,000 - 1,050	1,056	800 - 1,000	900
Onsite Operating Costs																		
Onsite Operating Cost, US\$/t milled	-	\$50.17	\$45.12	\$52.05	\$43.12	\$47.33	\$48.88	\$44.95	\$38.67	\$38.70	\$42.65	-	\$48 - \$51	\$48 - \$51	\$46 - \$48	\$50	\$40 - \$43	\$50

Source: Trevali Mining and Haywood Securities

- Guidance aside, ongoing cost cutting initiatives are targeting a further 10% operating cost reduction at Santander this year. Higher throughput (offsetting Santander's fixed cost base, noting 'steady state' throughput is now averaging +2,200 tpd versus a nameplate capacity of 2,000 tpd), lower power costs (noting a 3-year contract is coming due for renewal; Peruvian grid power is currently +20% cheaper), and lower zinc treatment charges stand to underpin this savings initiative. In the case of zinc treatment charges, Trevali has noted that international benchmark terms have decrease from ~US\$245 per DMT in 2015 to ~US\$190 per DMT this year, which stands to reduce Santander's total zinc cash cost by up to ~10%.
- Following a contemplated ~US\$20M mill expansion to +4,000 tpd in +2018 (US\$30M/2018 in Haywood model; functional in early 2019; likely funded, in part, by a lease-back agreement with Glencore), Santander is expected to produce ~80 Mlb of zinc per annum.



Caribou Commissioning Update

Trevali is more than a one-trick pony. The Company's 100% owned Bathurst project in New Brunswick comprises three deposits (Halfmile, Caribou, and Stratmat) and the Caribou mill complex. Established infrastructure associated with the world-class Bathurst mining camp has positioned the project for an expedited restart, which began in Q2/15 and is targeting ramp-up to commercial zinc-lead production by late Q2/16. **Caribou produced more zinc and lead concentrates than Santander in Q1/16, and it is not fully ramped-up yet, noting the mine's steady-state profile is headlined by ~93 Mlb of annual zinc production.**

Mill commissioning / ramp-up is proceeding more or less on schedule (we had previously looked to commercial production achievement by ~late Q1/16). During Q1/16, Caribou processed 200,670 tonnes of ore. Nominal throughput during the quarter averaged ~2,205 tonnes per day (~74% of Caribou's nameplate 3,000 tonne per day design capacity), compared with average nominal throughput of ~1,800 tonnes per day in Q4/15. The throughput increase reflects Trevali's efforts to address pumping and rougher circuit constraints that became apparent when processing higher zinc grade feed. Note that Caribou's zinc head grade averaged 5.9% in Q4/15, versus 4.8% in Q3/15. Trevali proceeded to contact its consulting metallurgist Holland and Holland Engineering, as well as Glencore's corporate metallurgist. **Zinc circuit pump and sump capacity was subsequently increased, and handling was optimized through upgrade modifications conducted between December 22 and January 2. The modifications increased average mill throughput to 2,671 tonnes per operating day in January and up to 2,707 tonnes per operating day during the first ~3 weeks of in February (refer to Radar Screen, February 24, 2016).**

Caribou Mill Commissioning Summary

	Q3/15A	Q4/15A	Q1/16A	Commercial (LOM)
Mill Throughput, tonnes 000's	203	166	201	6,152
Annualized Mill Throughput, Mtpa	0.8	0.7	0.8	1.1
Average Mill Throughput, tonnes per calendar day	2	2	2	3,000
Average Zinc Head Grade, %	4.8%	5.9%	5.9%	6.1%
Average Lead Head Grade, %	1.8%	2.2%	2.6%	1.5%
Average Silver Head Grade, g/t	54.9	65.1	62.2	68
Average Zinc Metallurgical Recovery, %	61%	71%	71%	84%
Average Lead Metallurgical Recovery, %	41%	57%	58%	65%
Average Silver Metallurgical Recovery, %	21%	29%	38%	38%
Zinc Concentrate Production, DMT	12,464	14,616	17,732	631,200
Annualized Zinc Concentrate Production, DMTpa 000's	49	58	71	100
Zinc Concentrate Zinc Grade, %	49%	48%	48%	50%
Zinc Concentrate Silver Grade, g/t	134	151	124	126
Lead-Silver Concentrate Production, DMT	4,240	5,230	7,586	220,900
Annualized Lead-Silver Concentrate Production, DMTpa 000's	17	21	30	30
Lead-Silver Concentrate Lead Grade, %	36%	40%	39%	45%
Lead-Silver Concentrate Silver Grade, g/t	552	607	631	655
Contained Zinc Production, Mlb	16.8	22.9	27.8	315.7
Contained Lead Production, Mlb	3.8	6.6	9.7	59.6
Contained Silver Production, koz	129	173	225	5,036

Commercial (LOM) data as per Caribou's May 2015 PEA Technical Report.

Source: Trevali Mining

We viewed Caribou's Q4/15 throughput issues as a typical growing pain encountered during a commissioning campaign, which now appears to have been addressed. Year to date, 2016 performance has exhibited improved availability, utilization, throughput, and stability on a daily basis, and overall processing variability continues to decrease month over month. We note metallurgical zinc and lead recoveries improved significantly during Q4/15 to 71.5% and 57.2% respectively (from 61.1% and 41.0% respectively in Q3/15; versus design zinc and lead recovery targets of 84% and 65% respectively), and improved further to 73% and 60% respectively in February.



As iterative circuit modifications continue, Trevali is now looking to a slightly finer primary grind size of ~30 microns (from ~35 microns currently). As we anticipated, Q1/16 (March 2016) Caribou's latest metallurgical commissioning metrics did not change materially on a quarter-over-quarter / month-over-month basis, as grinding-optimization initiatives are awaiting the arrival of smaller grinding media (balls) from China this month and the installation of a modified semi-autogenous grinding (SAG) mill lifters and shell liners in late May (refer to *Radar Screen*, April 1, 2016). We look to this timeline as a (the) critical-path consideration for achieving commercial zinc-lead production at Caribou, which is currently targeted by late Q2/16. **Given Caribou's history, we continue to view the operation's metallurgical performance in the context of optimized grind size as a (the) critical ramp-up consideration.** Outstanding pre-commercial production capital costs at Caribou are pegged at \$4.5 million (excluding copper circuit considerations).

Once zinc and lead recoveries have been optimized, Trevali plans to further modify Caribou's processing flowsheet through the introduction of a ~\$5.4 million (including contingencies; ~\$3.8 million spent to date) copper flotation circuit that will boost by-product credits, which should further buffer the project's profit margin. Even so, we remain cognizant that a froth flotation operation producing three separate concentrates (zinc, lead, and copper) will likely take additional time to optimize following production start-up. Preliminary plant-based copper recovery tests conducted during September, utilizing reagents available on-site (i.e., not optimized), recovered 65% of the copper from the lead-cleaner tailings to produce a 25.5% copper concentrate. This percentage is well above expectations in the Preliminary Economic Assessment (PEA), which include a 45% recovery to produce a 20% copper concentrate. Mill commissioning (and cost optimization) efforts at Caribou stand to benefit from lessons learned during a very successful start-up campaign at Trevali's Santander mine in Peru during late 2013 (refer to *Radar Screen*, February 21, 2014). Mineralization at Caribou is more complex (fine grained), which has prompted the Company to adopt a phased commissioning plan. The plan has utilized lower grade feed to initially establish the operation's zinc and lead-silver circuits, followed by copper-gold circuit commissioning later this year (note that Caribou's copper production accounts for ~5% of the mine's life-of-mine revenue in our model, versus ~65% and ~21% for zinc and lead respectively).

Until last May, the Caribou mill sat in a production-ready state (under the ownership of Blue Note Mining Inc.) following the suspension of commercial activities in October 2008 during the global financial crisis. Blue Note acquired Caribou from Breakwater in August 2006, and proceeded to upgrade the mill's technology through the installation of IsaMills that facilitate ultrafine grinding to improve metallurgical recovery (which Breakwater struggled with). Blue Note restarted production in May 2007. However, despite the mill upgrades, metallurgical performance remained weak through the remainder of the year (zinc and lead recovery averaged 55% and 54% respectively in 2007, versus targets of 80% and 65% respectively). The mine subsequently declared commercial production on January 1, 2008, and metallurgical performance improved through October 17, 2008, when the operation was placed on care and maintenance in the wake of the global financial crisis. For the year 2008, average zinc and lead recoveries increased to 78% and 68% respectively (including 84% and 72% respectively in Q3/08). **However, Breakwater's metallurgical issues, compounded by Blue Note's lengthy ramp-up and subsequently short-lived commercial production profile are still fresh in the minds of many investors. Hence, we would not be surprised to see the market discount Caribou's production profile until Trevali demonstrates steady-state design performance (on the back of an optimized grind—arguably Caribou's previous Achilles Heel).** Trevali plans to further modify Caribou's processing flowsheet through the introduction of a ~\$5.4 million copper flotation circuit that will boost by-product credits, which should further buffer the project's profit margin. Even so, we remain cognizant that a froth flotation operation producing three separate concentrates (zinc, lead, and copper) will likely take additional time to optimize following production start-up.



Historical Caribou Mill Performance (2007/2008)

Period	Mill throughput (tonnes)	Average daily mill throughput (tonnes)	Average Zn recovery (%)	Average Pb recovery (%)	Average Ag recovery (%)	Average Zn conc. grade (%)	Average Pb conc. grade (%)	Average Ag grade in Pb conc. (g/t)	Contained Zn production (lbs)	Contained Pb production (lbs)	Contained Ag production (oz)
Q3-2008	266,933	2,960	83.6	72.2	42.6	50.4	42.5	514	29,628,585	15,093,225	266,500
Q2-2008	247,951	2,750	77	67.7	37.7	50.3	43.8	534	25,796,295	13,959,855	248,700
Q1-2008	220,835	2,450	72.3	61.4	33.8	48.4	43.6	591	20,292,615	11,146,275	220,500
Q4-2007	178,124	1,936	60.6	58	37	49	41	633	14,713,965	9,183,825	206,500
Q3-2007	n/a	1,300	39.9	44.9	n/a	47.8	38	701	5,369,175	3,788,190	n/a

Source: Trevalli Mining

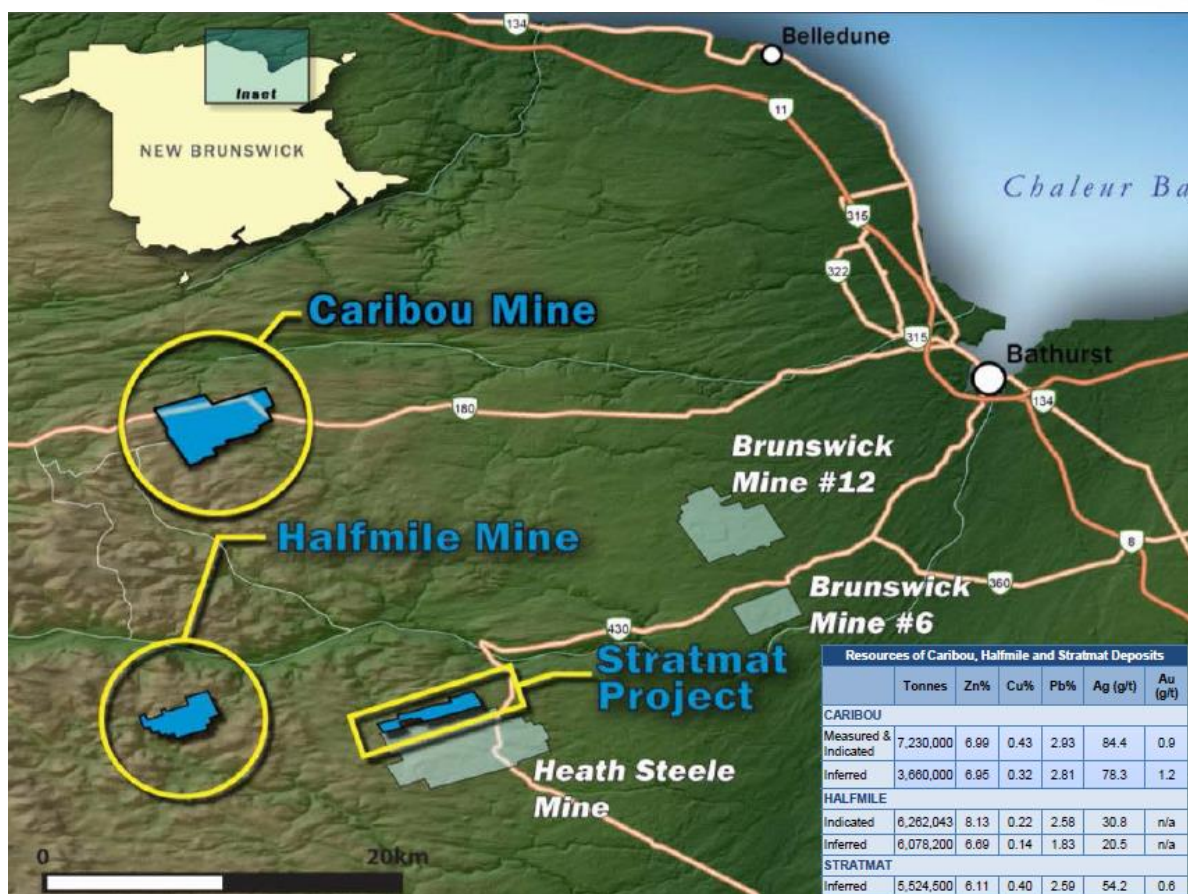
During a site visit to Caribou (refer to *Radar Screen*, September 26, 2014), it became apparent from discussions with key technical staff with working knowledge of Caribou's past operations that Breakwater and Blue Note were consumed by numerous design issues, which distracted from any optimization initiatives. We note (1) mine production was limited by shaft capacity, which is no longer an issue given Trevalli's plans to utilize a production decline, (2) a lack of communication between the crusher station and primary grinding circuit caused storage problems within the coarse-ore stockpile (in particular freezing of the pile during winter months), (3) a second hand SAG mill being used was beyond its 'best before date' (1950s era piece of equipment; Trevalli has replaced the unit with a new SAG mill), and (4) blending ore feed from Caribou and Restigouche complicated metallurgy (versus Trevalli's plans to process ore from only the Caribou deposit).

Caribou utilizes IsaMills to grind ore ultrafine (to < 12 microns) before final flotation, previously deemed necessary as part of a +US\$100 million overhaul completed in 2007 to improve metallurgical recoveries given the Caribou deposit's very fine-grained mineralization. However, Halfmile (and Stratmat) mineralization is not as fine, and Trevalli believes it could increase the necessary grind size, in turn boosting mill throughput associated with potential supplementary ore feed from Halfmile. (The Halfmile-Stratmat October 2010 PEA processing flowsheet includes a primary grind target of 70% to 80% passing 400-mesh [37 microns].) Caribou's back-end flotation circuit was originally designed with excess capacity and should therefore be sufficient to maintain adequate metallurgical recovery at higher throughput rates.

We realize that production involving ore feed from Caribou and Halfmile would likely require batch processing given the deposits' contrasting grinding requirements. Arguably, doing so would add a layer of complexity to a restart story that is already under market scrutiny for its historical metallurgical challenges. Furthermore, exploration initiatives at Stratmat continue to bear fruit (refer to *Radar Screen*, May 20, 2015). This success has, in part, prompted Trevalli to focus its base-case (conceptual) production planning from Halfmile and Stratmat through a second (new) mill, likely erected at/near Xstrata's brownfields Heath Steele site (which includes paved highway, water, and power access, as well as +3 years of additional tailings storage capacity in an existing impoundment; refer to *Radar Screen*, April 1, 2016). However, in light of resource definition, engineering, and permitting considerations, this second mill would likely not be operational until (at least) ~2020. Our pre-Caribou PEA model included production from Stratmat ore through the Caribou mill beginning in 2029 (following the exhaustion of Caribou mill feed at 1,500 tonnes per day). **However, we subsequently modelled the construction of a new 4,000-tonne-per-day internally funded \$150 million mill complex at Heath Steele to process production from Halfmile and Stratmat beginning in 2020 (through 2036; see below). We look to a new standalone Halfmile-Stratmat mine plan later this year to refine our model.**



Bathurst Project Location Map



Source: Trevalli Mining

Metallurgical considerations aside, Caribou's PEA mine plan includes 852,000 tonnes of ore throughput in 2015, equivalent to ~78% of the project's nameplate capacity (1.1 million tonnes per annum). Not surprisingly, this figure has proven to be optimistic, noting the project processed 369,006 tonnes of ore last year. Working in the Company's favour is access to a (very) skilled labour pool (including high-level technical management) following closure of Xstrata's nearby Brunswick No. 12 mine in 2013.

Trevalli has not provided formal 2016E production guidance for Caribou, where commissioning is now well underway with ramp-up to commercial production targeted by late Q2/16 (reefer to *Radar Screen*, April 1, 2016). Our model includes 147 million pounds of zinc production (payable) this year from Santander and Caribou at an average total cash cost of US\$0.65 per pound net of credits. This production profile generates 2016E CFPS of US\$0.06 at Haywood's 2016E forecast zinc price of US\$0.80 per pound (increasing to US\$0.15 at US\$1.00 per pound zinc in 2017E).



Balance Sheet Now Bolstered to Weather Near-Term Metal Pricing

During Trevali's Q3/15 financial results conference call, Management noted that it was comfortable that Santander and its 100% owned Caribou mine in New Brunswick (commercial production start-up targeted by late Q2/16) could deliver sufficient cash flow at current spot metal pricing over the foreseeable future to cover the Company's (near-term) liquidity requirements. Working in Trevali's favour, Glencore provided a grace period on the Company's \$32.4M finance lease (despite the Major's own financial challenges), deferring payments scheduled over the next year (October 2015 to October 2016). The near-term savings amount to ~US\$8M in our model (note, the grace period is conditional on zinc remaining below US\$0.90/lb; US\$1,990/t). **At the time, we acknowledged that our model was underpinned by +2016 (Santander) production parameters that were arguably conservative relative to 9M/15A performance. Nevertheless, given the 12.5% interest payments on Trevali's Senior Secured Notes (see below), liquidity in our model became a cause for concern in early 2016 at sustained zinc (and lead) pricing at/near current spot (< US\$0.80/lb of zinc and < US\$0.80/lb of lead; refer to Radar Screen, November 18, 2015).**

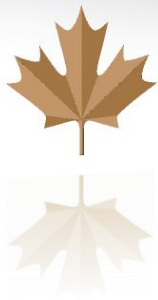
In late December, Trevali proceeded to amend (expand and extend) its \$52.5M Senior Secured Notes debt facility with an additional \$8.4M in new notes and received a waiver for the Company's \$7.5M amortization payment, originally scheduled on August 30, 2016, to August 30, 2017 (increasing total 2017 principal repayments to \$15.0M). The senior notes are underpinned by a 12.5% interest rate and are secured against Trevali's Canadian assets, which include the Company's 100% owned Caribou mine in New Brunswick (refer to Radar Screen, January 4, 2015).

The amendment stood to provide a 1 to 2 quarter financial buffer/lifeline at/near current spot zinc (and lead) pricing, in an effort to address the market's immediate-term concern regarding the Company's financial wellbeing. **Nevertheless, given Santander's all-in breakeven zinc price of ~US\$0.80/lb (and a modestly higher breakeven price for Caribou), Trevali's upside was still contingent on a move in the zinc price—all indications are pointing to +H2/16 for higher zinc prices driven by supply pressure, but time will tell.** In the meantime, the market remains pessimistic on the back of (perceived) high/volatile refined zinc inventories. **Earlier this year, we remained cognizant that additional medium-term working-capital funding could be required at/near sustained current spot zinc (and lead) pricing (our model included/required a modest US\$5M top-up equity financing priced at \$0.35 per share in Q2/16). Fast forward to March 2016, and Trevali subsequently completed a \$15.0M equity financing (priced at \$0.32 per share; ~15% dilution), which now stands to bolster the Company's balance sheet (cash position) through ~Q3/17 at/near current zinc spot pricing (i.e., well beyond ramp-up initiatives at Caribou and into a period of anticipated higher zinc pricing).**

Trevali Balance Sheet Sensitivity (quarter in which Company faces a zero cash balance in our model)

		Zinc Price (US\$/lb)									
		\$0.65	\$0.70	\$0.75	\$0.80	\$0.85	\$0.90	\$0.95	\$1.00	\$1.05	\$1.10
Lead Price (US\$/lb)	\$0.65	Q3/16	Q3/16	Q4/16	Q3/17	-	-	-	-	-	-
	\$0.70	Q3/16	Q4/16	Q1/17	Q3/17	-	-	-	-	-	-
	\$0.75	Q3/16	Q4/16	Q2/17	Q3/17	-	-	-	-	-	-
	\$0.80	Q4/16	Q4/16	Q3/17	Q3/17	-	-	-	-	-	-
	\$0.85	Q4/16	Q1/17	Q3/17	-	-	-	-	-	-	-
	\$0.90	Q4/16	Q2/17	Q3/17	-	-	-	-	-	-	-
	\$0.95	Q1/17	Q2/17	Q3/17	-	-	-	-	-	-	-
	\$1.00	Q1/17	Q3/17	Q3/17	-	-	-	-	-	-	-
	\$1.05	Q2/17	Q3/17	Q4/17	-	-	-	-	-	-	-
	\$1.10	Q2/17	Q3/17	-	-	-	-	-	-	-	-

Source: Haywood Securities



Trevali's December 31, 2015, \$9.4M working-capital position includes \$6.3M in unrestricted cash, which has since been bolstered by the \$15.0M equity financing noted above (as well as a \$1.5M flow-through equity financing priced at \$0.34 per share and operating cash flow from Santander). An additional restricted cash balance of \$8.2M includes \$4.1M related to operations in Canada and \$4.0M held in a Peruvian general sales tax (IGV) restricted account. Trevali receives IGV from its sales of concentrate in Peru; 10% of the amount received is deposited directly by the vendor in a restricted account. Trevali is allowed to apply every quarter to the Peruvian tax authority to release the funds from the restricted account.

The Company's December 31, 2015, balance sheet also includes \$80.4M of long-term debt. We continue to believe timely execution at Santander and Bathurst will be key to maintaining market confidence (especially given the market's current sentiment towards the resource sector). **With zinc production from two mines expected to ramp-up to +170 Mlb per annum by ~2019, we believe the Company is poised to become a (the) marquee mid-tier pure-play zinc producer in a market facing a significant medium-term supply issue. Hence, we would not be surprised to see the Company garner a premium market valuation on the back of higher zinc pricing. However, given the currently weak zinc (and lead) pricing environment, which is underpinned by relatively high (albeit decreasing) inventory levels, the market's focus has shifted to Trevali's near-term balance sheet vitality (or lack thereof; see below).**

In late May 2014, Trevali announced a \$52.5M debt facility (52,500 unit private placement Senior Secured Notes offering) that is secured by the Company's Canadian assets. Each unit includes a \$1,000 principal Senior Secured Note bearing 12.5% annual interest due on May 30, 2019, and 123.2 common-share purchase warrants exercisable at \$1.26 per share expiring on May 30, 2019 (6.5M total warrants to be issued; 2% potential dilution). The units were offered through a private placement at \$980 per unit for aggregate proceeds of \$51.5M. The proceeds have been used to repay a \$30M mezzanine debt facility with RMB Resources (due on June 30, 2014), repay a US\$2M convertible note (to Glencore Xstrata), and finance the remaining initial capital costs at Caribou (start-up of commercial production targeted for late Q2/16). As anticipated, the financing did not include a prepaid precious metals (i.e., silver streaming) component, which was previously contemplated as part of Trevali's plans to fund the remaining initial capital costs at Caribou (refer to *Radar Screen*, December 12, 2013). **Hence, the Company's operating-cost profile stands to fully benefit from silver by-product credits.** Trevali's prior financing plans were centred on RMB as the lead financier, which in part prompted the completion of a Preliminary Economic Assessment for Caribou (refer to *Radar Screen*, May 14, 2014). However, it now appears the Company was able to secure better financing terms elsewhere. **Nevertheless, the \$52.5M Senior Secured Notes facility was still arguably expensive and includes principal repayments of \$15.0M in 2017 and \$7.5M in 2018, with the remaining \$30.0M in principal repayable in 2019.**

We maintain a bullish medium-term outlook on the zinc price (refer to *Radar Screen*, January 12, 2016) and acknowledge that the Senior Secured Notes offering provided the formal security beyond June 30, 2014, that the Company previously lacked. Our market outlook is underpinned by a number of recent key mine shutdowns (accounting for +10% of global supply), including Century and Lisheen, and by a lack of new significant advanced-stage projects positioned to replace them (including a delayed/decreased production outlook at Dugald River). Production cutbacks recently announced (pending) by Glencore and Nyrstar stand to further stress near-term mine supply fundamentals (refer to *Radar Screen*, November 3, 2015). Despite arguably lofty (volatile) inventory levels and concerns about the Chinese growth rate, we look to a recent increase in London Metal Exchange (LME) inventory drawdown rates and lower spot and international benchmark treatment charges as indications of a tightening market. In addition, we would argue that unlike copper, the list of good zinc-focused equity names can be counted on one hand, a situation which will likely attract additional market attention to Trevali. Hence, successful project execution in conjunction with anticipated medium-term zinc price strength should garner a higher (premium) valuation.

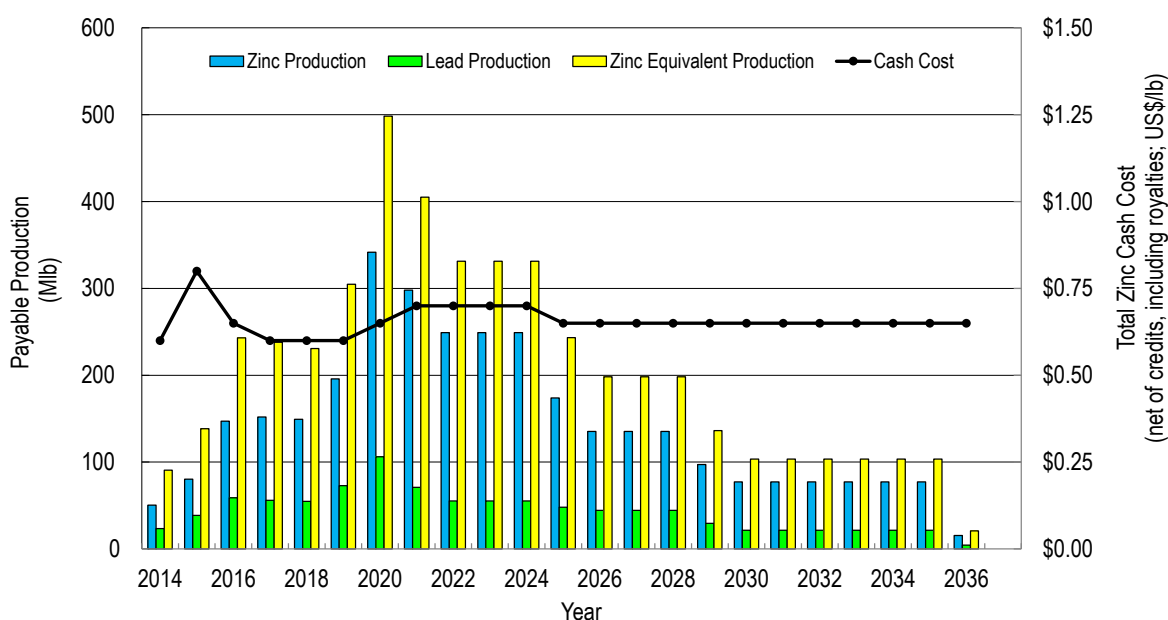


Nevertheless, prior to recent (re)financing initiatives (see above), market (metal price) weakness questioned the vitality of Trevali's near-term free-cash-flow profile given debt repayment (principal and interest) obligations. Hence, we were not surprised to see the Company's share price garner market scrutiny underpinned by concern that near-term (re)financing could be required ahead of an anticipated medium-term zinc price rally. To better reflect this concern, we previously applied a risk-adjusted 0.8x multiple to Trevali's fully financed after-tax corporate NAV10% in our model. **However, recent (re)financing initiatives now provide the financial buffer the Company previously lacked, which in turn prompted our formal valuation to revert to a 1.0x fully financed after-tax corporate NAV10% metric (refer to *Radar Screen*, April 1, 2016).** That said, the impact of the increased valuation metric has been offset by share dilution associated with the recent \$15.0M equity financing. As a result, our formal target price of \$0.75 per share remained unchanged.

We acknowledge that our target price of \$0.75 per share falls towards the lower end of analyst consensus valuations for Trevali (target price range of \$0.75 to \$1.30 per share; \$0.89 average [Bloomberg]). We remain cognizant of the challenges every mining company faces for timely cost-effective production start-up at any given operation. **Our arguably conservative valuation reflects a cautious stance given concerns about the Company's near-term balance sheet liquidity in the currently weak metal price environment and ongoing efforts to initiate timely cost-effective commercial zinc production in New Brunswick (while still recognizing Trevali's progress at the project and production success/proven track record at Santander to date).**

Nevertheless, successful project execution in conjunction with anticipated medium-term strength in the zinc price should garner a higher (premium) valuation. Our model includes +2017E CFPS of +US\$0.15. Trevali's peer group of mid-tier base metals producers currently trades at +4.0x annualized operating CFPS, implying a target price on the order of +\$0.80 per share once the Company establishes a steady-state (expanded) production profile in New Brunswick (in an anticipated higher zinc price environment). Conversely, we note that at current spot metal pricing (including US\$0.84/lb of zinc and US\$0.77/lb of lead), Trevali's 2017E CFPS decreases to US\$0.07 in our model.

Trevali Corporate Production Profile (Haywood model)



Zinc Equivalent Production is calculated using Haywood's formal metal price assumptions (refer to *Radar Screen*, January 12, 2016).

Source: Haywood Securities



Investment Thesis

Trevali is working to establish commercial production at its second zinc mine this year. The Company's 100% owned Bathurst project in New Brunswick comprises three deposits (Halfmile, Caribou, and Stratmat) and the Caribou mill complex. Established infrastructure associated with the world-class Bathurst mining camp has positioned the project for an expedited restart (now well underway), which is anticipated to ramp-up to ~100 million pounds per annum (Haywood model). In addition, the Company's 100% owned Santander mine in Peru ramped-up to nameplate throughput capacity (2,000 tonnes per day) in late September 2013. Following a mill expansion contemplated in +2018 (2018 in Haywood model; functional in early 2019), the operation is expected to produce ~80 million pounds of zinc (in concentrate) per annum. Trevali's production profile extends beyond zinc. Significant by-product lead, copper, gold, and silver credits at Bathurst and Santander account for approximately 30% of the Company's remaining life of mine (RLOM) gross revenue in our model and translate into a corporate life of mine (LOM) average total zinc cash cost of US\$0.65 per pound net of by-product credits, positioning the Company near the mid-point of the global zinc cost curve.

With zinc production from two mines anticipated to ramp-up to +170 million pounds per annum by ~2019, we believe that Trevali is poised to become a (the) marquee mid-tier pure-play zinc producer in a market facing a significant medium-term supply issue. This zinc market outlook is underpinned by a number of recent key mine shutdowns (accounting for +10% of global supply), including Century and Lisheen, and a lack of new significant advanced-stage projects positioned to replace them (including a delayed/decreased production outlook at Dugald River). Production cutbacks recently announced (pending) by Glencore and Nyrstar (Middle Tennessee Mines and Clarksville Smelter) stand to further stress near-term mine supply fundamentals. Despite arguably lofty (volatile) inventory levels and concerns about the Chinese growth rate, we look to a recent increase in London Metal Exchange (LME) inventory drawdown rates and lower spot/benchmark treatment charges as indications of a tightening market. In addition, we would argue that, unlike copper, the list of good zinc-focused equity names can be counted on one hand, a situation which will likely attract additional market attention to Trevali.

Trevali's share price, down ~67% since the beginning of September 2014, reflects weakness across the base metals equity market and concern about balance sheet liquidity specific to Trevali. While aware that continued weak metal pricing and/or negative sentiment could weigh further on the Company's near-term market valuation, we look to Trevali's fundamental valuation in the context of anticipated stronger medium-term zinc pricing and the near-term financial buffer a recently completed \$15.0 million equity financing has provided.

We acknowledge that our target price of \$0.75 per share falls towards the lower end of analyst consensus valuations for Trevali (target price range of \$0.75 to \$1.30 per share; \$0.89 average [Bloomberg]). We remain cognizant of the challenges every mining company faces with respect to timely cost-effective production start-up at any given operation. **Our arguably conservative valuation reflects a cautious stance given medium-term balance sheet liquidity concerns in the context of a currently weak metal price environment and the Company's ongoing efforts to initiate timely cost-effective commercial zinc production in New Brunswick (recognizing Trevali's progress at the project and production success / proven track record at Santander to date). Nevertheless, successful project execution in conjunction with anticipated medium-term strength in the zinc price should garner a higher (premium) valuation.** Our model includes +2017E cash flow per share (CFPS) of +US\$0.15. Trevali's peer group of mid-tier base metals producers currently trades at +4.0x annualized operating CFPS, implying a target price on the order of +\$0.80 per share once the Company establishes a steady-state (expanded) production profile in New Brunswick (in an anticipated higher zinc price environment).



Risks

Significant Investment Risks

The investment to which this report relates carries various risks, which are reflected in our Overall Risk Rating. We consider the following to be the most significant of these investment risks:

- Trevali fast-tracked the development of the Halfmile mine without the publication of an up-to-date National Instrument 43-101 compliant technical report (i.e., mine plan). As a result, our formal valuation is based on project parameters derived from a combination of an (out of date) October 2010 Preliminary Economic Assessment (PEA), conceptual Company guidance, and peer-group comparables. Similarly, a May 2014 PEA, in lieu of a definitive feasibility study, stands to underpin development at Trevali's Caribou operation. Furthermore, Trevali has also fast-tracked the Santander project into production through a toll-milling and offtake agreement with Glencore. Trevali has not published any National Instrument 43-101 compliant technical studies outlining the details of a modern mining operation at Santander. Thus, our formal Santander valuation is based on conceptual Company guidance and peer-group comparables only. Ongoing/future development at Santander also appears to be taking place in lieu of publicly available technical documentation, in part illustrated by Trevali's recent initiative to fast-track underground development on four sublevels at the Rosa Zone. Hence, we consider forecast risk as High.
- Trevali initially fast-tracked the Halfmile mine towards start-up of commercial production through a toll-milling agreement with Glencore Xstrata, which significantly reduced the project's financial risk profile. The Company has since shifted focus to underground development and mine planning ahead of the recently announced restart of its own Caribou mill, which was formally acquired in November 2012. The \$22 million purchase price was made in the form of Trevali equity. Outstanding funding to refurbish the mine and mill complex, where pre-commercial production is now underway, is more than covered, in theory, by a \$46 million equity financing (November 2013) and \$60.9 million debt financing (May 2014; amended in December 2015). Hence, Trevali is fully funded to establish commercial production in Peru (done) and New Brunswick this year.
- In late December, Trevali proceeded to amend (expand and extend) its \$52.5 million Senior Secured Notes debt facility with an additional \$8.4 million in new notes and received a waiver for the Company's \$7.5 million amortization payment, originally scheduled on August 30, 2016, to August 30, 2017 (increasing total 2017 principal repayments to \$15.0 million). The senior notes are underpinned by a 12.5% interest rate and are secured against Trevali's Canadian assets, which include the Company's 100% owned Caribou mine in New Brunswick (refer to *Radar Screen*, January 4, 2015). The amendment stood to provide a 1 to 2 quarter financial buffer/lifeline at/near current spot zinc (and lead) pricing, in an effort to address the market's immediate-term concern regarding the Company's financial wellbeing. **However, given Santander's all-in breakeven zinc price of ~US\$0.80 per pound (and a modestly higher breakeven price for Caribou), Trevali's upside was still contingent on a move in the zinc price—all indications are pointing to +H2/16 for higher zinc prices driven by supply pressure, but time will tell.** Fast Forward to March 2016, and Trevali subsequently completed a \$15.0 million equity financing, which now stands to bolster the Company's balance sheet (cash position) through ~Q3/17 at/near current zinc spot pricing. **Nevertheless, recent market (metal price) weakness continues to test the vitality of Trevali's near-term free-cash-flow profile. Hence, we would not be surprised to see the Company's share price garner market scrutiny underpinned by concern that additional near-term (re)financing could be required ahead of an anticipated medium-term zinc price rally.**

Our Risk Profile Parameters ratings and Overall Risk Rating are set out on the cover page and are explained in our Rating Structure section under "Overall Risk Rating" and "Risk Profile Parameters". These ratings are an integral part of our Report.



Trevalli Mining Corp. (TV-T)

Rating: **BUY**
Target Price: **C\$0.75**
Target Price Metric: 1.0x multiple to after-tax corporate NAV10%

Target Price, C\$	\$0.75	Shares O/S, million	378.8
Current Price, C\$	\$0.43	Shares FID, million	397.8
Return, %	74%	Market Capitalization, US\$M	\$122.0
52-Week High / Low, C\$	\$1.24 / \$0.25	Company CEO	Mark Cruise
Daily Volume (100-day avg)	1,625,601	Company Web Site	www.trevalli.com

Balance Sheet and Capitalization

	US\$M	US\$ / O/S Share	C\$M	C\$ / O/S Share
Market Capitalization	\$122.0	\$0.32	\$162.9	\$0.43
Current Cash	\$23.2	\$0.06	\$30.9	\$0.08
FID Cash Adds	\$4.8	\$0.01	\$6.4	\$0.02
Working Capital	\$19.4	\$0.05	\$25.9	\$0.07
Long-term Debt	(\$60.2)	(\$0.16)	(\$80.4)	(\$0.21)
Book Value	\$241.0	\$0.64	\$321.7	\$0.85
Enterprise Value (EV)	\$162.8	\$0.43	\$217.4	\$0.57

EV = Market Capitalization + Working Capital + Long-term Debt
C\$/US\$ FX Rate: 1.34

Financial Forecast

	2016	2017	2018	2019	2020	2021
Forecast Zinc Price, US\$/lb	\$0.80	\$1.00	\$1.20	\$1.15	\$1.15	\$1.15
Forecast Lead Price, US\$/lb	\$0.70	\$0.90	\$1.10	\$1.05	\$1.05	\$1.05
Forecast Silver Price, US\$/oz	\$15.50	\$15.50	\$15.50	\$15.50	\$15.50	\$15.50
C\$/US\$ FX Rate	1.34	1.28	1.22	1.18	1.16	1.16
Shares O/S, millions	372	379	379	379	379	379
Gross Sales Revenue, US\$M	\$199	\$238	\$277	\$349	\$573	\$466
Net Revenue, US\$M	\$146	\$187	\$224	\$268	\$447	\$362
Cost of Sales, US\$M	(\$109)	(\$123)	(\$129)	(\$151)	(\$261)	(\$202)
Corporate G&A, US\$M	(\$5)	(\$5)	(\$5)	(\$5)	(\$5)	(\$5)
EBITDA, US\$M	\$30	\$59	\$88	\$115	\$158	\$157
EV / EBITDA	5.5x	2.8x	1.9x	1.4x	1.0x	1.0x
DD&A, US\$M	(\$30)	(\$32)	(\$36)	(\$45)	(\$83)	(\$71)
Gain on Derivative Instruments, US\$M	\$0	\$0	\$0	\$0	\$0	\$0
Earnings, US\$M	(\$11)	\$9	\$11	\$27	\$24	\$39
EPS, US\$	(\$0.03)	\$0.02	\$0.03	\$0.07	\$0.06	\$0.10
Current Price / EPS	-	13.9x	12.6x	5.1x	5.8x	3.6x
Target Price / EPS	-	24.3x	22.0x	10.1x	8.2x	6.2x
Operating Cash Flow, US\$M	\$24	\$35	\$76	\$93	\$134	\$131
CFPS, US\$	\$0.06	\$0.15	\$0.20	\$0.25	\$0.35	\$0.35
Current Price / CFPS	5.8x	2.3x	1.8x	1.5x	1.8x	1.1x
Target Price / CFPS	8.7x	4.0x	3.1x	2.6x	1.8x	1.9x
Operating Cash Flow, US\$M	\$28	\$59	\$88	\$103	\$143	\$139
Current EV / Operating Cash Flow	5.7x	2.8x	1.9x	1.6x	1.1x	1.2x
Implied EV / Operating CF Target Price Multiple	8.9x	4.5x	3.2x	2.8x	2.0x	2.1x
CAPEX, US\$M	(\$26)	(\$22)	(\$52)	(\$142)	(\$52)	(\$36)
Proceeds from Equity Financing, US\$M	\$12	\$0	\$0	\$0	\$0	\$0
Proceeds from Debt Financing, US\$M	\$0	\$0	\$150	\$0	\$0	\$0
Debt Repayment, US\$M	(\$1)	(\$16)	(\$13)	(\$25)	\$0	(\$30)
Free Cash Flow, US\$M	(\$3)	\$6	\$120	(\$87)	\$71	\$55
FCFS, US\$	(\$0.01)	\$0.02	\$0.32	(\$0.23)	\$0.19	\$0.14

Operating Cash Flow and Debt Adjusted Cash Flow (DACF) excludes working capital changes.

Santander Production Profile (100% owned)

	2016	2017	2018	2019	2020	RLOM
One Tonnes Milled, millions	0.7	0.7	0.7	1.5	1.5	11.5
One Tonnes Milled, tonnes per day	2,000	2,000	2,000	4,000	4,000	4,000
Zinc Grade Milled, %	4.3%	3.6%	3.6%	3.6%	4.0%	4.3%
Lead Grade Milled, %	1.8%	1.3%	1.3%	1.3%	0.9%	0.8%
Zinc Recovery, %	90%	90%	90%	90%	90%	90%
Lead Recovery, %	88%	88%	88%	88%	88%	88%
Payable Zinc Production, Mlb	53	45	45	89	99	825
Payable Lead Production, Mlb	24	18	18	35	25	167
Payable Silver Production, Moz	0.9	0.7	0.7	1.4	1.1	7.8
Total On-Site Operating Cost, C\$/tonne milled	\$50	\$50	\$50	\$45	\$45	\$45
Total Zinc Cash Cost (NoC; IR), US\$/lb	\$0.45	\$0.55	\$0.55	\$0.55	\$0.65	\$0.65

NoC = net of credits; ER = excluding royalties; IR = including royalties.

Caribou Production Profile (100% owned)

	2016	2017	2018	2019	2020	RLOM
One Tonnes Milled, millions	1.0	1.1	1.1	1.1	1.1	5.9
One Tonnes Milled, tonnes per day	2,700	3,000	3,000	3,000	3,000	3,000
Zinc Grade Milled, %	6.0%	6.2%	6.1%	6.2%	6.2%	6.1%
Lead Grade Milled, %	2.5%	2.6%	2.5%	2.5%	2.4%	2.5%
Zinc Recovery, %	84%	84%	84%	84%	84%	84%
Lead Recovery, %	65%	65%	65%	65%	65%	65%
Payable Zinc Production, Mlb	94	107	104	107	107	568
Payable Lead Production, Mlb	34	38	37	38	37	200
Payable Silver Production, Moz	0.7	0.8	0.8	0.8	0.7	4.3
Total On-Site Operating Cost, C\$/tonne milled	\$110	\$110	\$110	\$100	\$100	\$100
Total Zinc Cash Cost (NoC; IR), US\$/lb	\$0.70	\$0.65	\$0.65	\$0.65	\$0.75	\$0.65

NoC = net of credits; ER = excluding royalties; IR = including royalties.

Halfmile/Stratford Production Profile (100% owned)

	RLOM	2017	2018	2019	2020	2021
One Tonnes Milled, millions	15.2	-	-	-	1.4	1.4
One Tonnes Milled, tonnes per day	4,000	-	-	-	4,000	4,000
Zinc Grade Milled, %	6.2%	-	-	-	5.9%	5.9%
Lead Grade Milled, %	2.1%	-	-	-	2.1%	2.1%
Zinc Recovery, %	85%	-	-	-	85%	85%
Lead Recovery, %	70%	-	-	-	70%	70%
Payable Zinc Production, Mlb	1,793	-	-	-	135	135
Payable Lead Production, Mlb	563	-	-	-	44	44
Payable Silver Production, Moz	4.4	-	-	-	0.3	0.3
Total On-Site Operating Cost, C\$/tonne milled	\$90	-	-	-	\$90	\$90
Total Zinc Cash Cost (NoC; IR), US\$/lb	\$0.65	-	-	-	\$0.65	\$0.65

NoC = net of credits; ER = excluding royalties; IR = including royalties.

Corporate Production Profile

	2016	2017	2018	2019	2020	RLOM
Zinc Production (in concentrate), Mlb	173	179	176	230	402	3,748
Lead Production (in concentrate), Mlb	62	59	58	77	112	978
Payable Zinc Production, Mlb	147	152	149	196	342	3,186
Payable Lead Production, Mlb	59	56	55	73	106	929
Zinc Sales, Mlb	149	152	149	195	341	3,189
Lead Sales, Mlb	59	56	55	72	106	930
Total Zinc Cash Cost (net of credits), US\$/lb	\$0.60	\$0.60	\$0.60	\$0.60	\$0.65	\$0.65

Hedge Position

	2016	2017	2018	2019	2020	RLOM
Forward Gold Sales, oz	-	-	-	-	-	-
Forward Gold Sales Price, US\$/oz	-	-	-	-	-	-
Forward Silver Sales, koz	-	-	-	-	-	-
Forward Silver Sales Price, US\$/oz	-	-	-	-	-	-

Stefan Ioannou, Ph.D. - Mining Analyst
sioannou@haywood.com 416-507-2309

Share Capital Dilution

	Number	Price	Proceeds	Expiry
Warrants	8.0M	C\$0.06	US\$0.4M	July 2015 - May 2019
Options	6.3M	C\$0.94	US\$4.4M	Sept 2014 - Jan 2020
Warrants + Options	14.3M	C\$0.45	US\$4.8M	

C\$/US\$ FX Rate: 1.34

Recent Equity Financings

March 16, 2016 - C\$15.0M market offering (406.7M shares @ C\$0.32 per share)
Q4/15 - C\$0.5M private placement flow through financing (0.9M shares @ C\$0.55 per share)
Q4/15 - C\$3.3M private placement flow through financing (5.1M shares @ C\$0.65 per share)
June 11, 2015 - C\$30.6M bought deal public offering (30.0M shares @ C\$1.02 per share)
March 2, 2015 - C\$5.1M non-brokered FT financing (4.4M FT shares @ C\$1.15 per share)
November 28, 2013 - C\$46.0M bought deal private placement (55.4M shares @ C\$0.83 per share)

Major Shareholders

	O/S (millions)	O/S (%)	FID (millions)	FID (%)
IA Michael Investments	27.9	7%	27.9	7%
MMC Holding	18.7	5%	18.7	5%
JP Morgan Chase	15.5	4%	15.5	4%
Management and Directors	3.0	1%	3.0	1%
Total	378.8	17%	397.8	16%

Corporate NAV Summary and Sensitivity

	Haywood Model	O/S (\$ millions)	O/S (%)	FID (\$ millions)	FID (%)	Spot
Forecast Zinc Price, US\$/lb		\$0.75	\$1.00	\$1.25	\$1.50	\$0.84
Forecast Lead Price, US\$/lb		\$0.65	\$0.90	\$1.15	\$1.40	\$0.77
Forecast Gold Price, US\$/oz		\$1,000	\$1,200	\$1,400	\$1,600	\$1,225
Forecast Silver Price, US\$/oz		\$12.50	\$15.00	\$17.50	\$20.00	\$16.16
Forecast C\$/US\$ FX Rate		1.30	1.20	1.10	1.00	1.28
Corporate Adjustments, US\$M	(\$289)	(\$289)	(\$289)	(\$289)	(\$289)	(\$289)
Caribou After-Tax Project NAV10%, US\$M	\$128	(\$49)	\$87	\$182	\$273	\$24
Caribou After-Tax Project NAV10%, US\$M	\$114	(\$37)	\$79	\$151	\$208	\$22
Halfmile/Stratford After-Tax Project NAV10%, US\$M	\$228	(\$56)	\$155	\$268	\$366	\$56
Additional Exploration Credit, US\$M	\$42	\$42	\$42	\$42	\$42	\$42
Corporate NAV, US\$M	\$222	(\$359)	\$73	\$354	\$599	(\$145)
Corporate Adjustments, C\$ / FID share	(\$0.97)	(\$0.96)	(\$0.87)	(\$0.80)	(\$0.73)	(\$0.93)
Santander After-Tax Project NAV10%, C\$ / FID share	\$0.43	(\$0.16)	\$0.26	\$0.50	\$0.69	\$0.08
Caribou After-Tax Project NAV10%, C\$ / FID share	\$0.38	(\$0.12)	\$0.24	\$0.42	\$0.52	\$0.07
Halfmile/Stratford After-Tax Project NAV10%, C\$ / FID share	\$0.76	(\$0.08)	\$0.47	\$0.74	\$0.92	\$0.18
Additional Exploration Credit, C\$ / FID share	\$0.14	\$0.14	\$0.13	\$0.12	\$0.10	\$0.13
Corporate NAV, C\$ / FID share	\$0.75	(\$1.17)	\$0.22	\$0.98	\$1.51	(\$0.47)
Current Price / Corporate NAV	0.6x	-	1.9x	0.4x	0.3x	-
Target Price / Corporate NAV	1.0x	-	3.4x	0.8x	0.5x	-
2016E CFPS, US\$	\$0.06	\$0.03	\$0.10	\$0.15	\$0.21	\$0.07
2017E CFPS, US\$	\$0.15	\$0.00	\$0.12	\$0.22	\$0.29	\$0.07

Model shares FID (fully financed): 398M

Corporate Metal Inventory - Model Mineable, Reserve, and Resource

	Tonnes (000's)	Zn Grade (%)	ZnEq Grade (%)	Zinc (Mlb)	ZnEq (Mlb)	EV/lb ZnEq (US\$/lb)
Santander Model Mineable (100%)	13,187	4.25%	5.99%	1,236	1,741	-
Santander Model Payable (100%)	-	-	-	946	1,288	-
Caribou Model Mineable (100%)	6,152	6.05%	11.68%	821	1,584	-
Caribou Model Payable (100%)	-	-	-	595	911	-
Halfmile/Stratford Model Mineable (100%)	18,271	6.17%	9.31%	2,485	3,751	-
Halfmile/Stratford Model Payable (100%)	-	-	-	1,796	2,568	-
Total Model Mineable	37,609	5.48%	8.53%	4,542	7,075	\$0.023
Total Model Payable	-	-	-	3,336	4,767	\$0.034
Santander P&P Reserve (100%)	-	-	-	-	-	-
Caribou P&P Reserve (100%)	-	-	-	-	-	-
Halfmile/Stratford P&P Reserve (100%)	-	-	-	-	-	-
Total P&P Reserve	-	-	-	-	-	-
Santander M&I Resource (100%)	7,920	3.44%	5.19%	600	906	-
Caribou M&I Resource (100%)	7,230	6.99%	13.80%	1,114	2,200	-
Halfmile/Stratford M&I Resource (100%)	10,962	6.92%	11.00%	1,673	2,659	-
Total M&I Resource	26,112	5.88%	10.91%	3,387	5,765	-
Santander Inferred Resource (100%)	13,845	4.62%	5.68%	1,410	1,735	-
Caribou Inferred Resource (100%)	3,660	6.95%	13.76%	561	1,110	-
Halfmile/Stratford Inferred Resource (100%)	8,478	6.14%	9.34%	1,148	1,746	-
Total Inferred Resource	45,733	3.73%	6.51%	3,759	6,561	-
Santander Reserve and Resource (100%)	21,765	4.19%	5.50%	2,010	2,641	-
Caribou Reserve and Resource (100%)	10,890	6.98%	13.79%	1,675	3,310	-
Halfmile/Stratford Reserve and Resource (100%)	19,440	6.58%	10.28%	2,821	4,405	-
Total Reserve and Resource	71,845	4.51%	7.78%	7,146	12,325	\$0.013

Measured and indicated resource is additional to proven and probable reserve.

Trevalli Mining Corp. Consensus Estimate Summary (Reuters data sourced via Capital IQ)

	Analysts	Mean EPS	High / Low	Mean CFPS	High / Low	Reported on Date
2016 Consensus Estimate	4	US\$0.04	US\$0.17 / US\$0.04	US\$0.11	US\$0.12 / US\$0.10	-
2017 Consensus Estimate	2	US\$0.06	US\$0.08 / US\$0.04	US\$0.24	US\$0.26 / US\$0.21	(73%)
	Analysts	SO Rating	SP Rating	SU Rating	Mean Target	High / Low
Consensus Valuation	6	6	-	-	US\$0.92	US\$0.25 / US\$0.15

Peer-Group Comparables (Haywood Securities estimates)

	Share Price	Corp NAV	Price / NAV	2016E CFPS	Price / CFPS	2017E CFPS	Price / CFPS
Trevalli Mining Corp. (TV-T)	C\$0.43	C\$0.75	0.6x	US\$0.06	5.0x	US\$0.15	2.3x
Capstone Mining Corp. (CS-T)	C\$0.55	C\$0.45	1.2x	US\$0.22	1.8x	US\$0.15	2.8x
Copper Mountain Mining Corp. (CLM-T)	C\$0.50	C\$2.15	0.2x	US\$0.15	2.5x	US\$0.25	1.5x
Foran Mining Corp. (FOM-V)	C\$0.11	C\$0.24	0.4x	(US\$0.01)	-	(US\$0.00)	-
Highland Copper Co. (H-CV)	C\$0.09	C\$0.25	0.3x	(US\$0.02)	-	(US\$0.00)	-
Hudbay Minerals Inc. (HBM-T)	C\$4.32	C\$7.34	0.6x	US\$1.20	2.7x	US\$1.50	2.3x
Lundin Mining Corp. (LUN-T)	C\$0.15	C\$0.15	0.8x	US\$0.55	5.7x	US\$0.80	4.0x
Novus Resources Ltd. (NSU-T)	C\$4.25	C\$4.97	0.9x	US\$0.15	-	US\$0.15	-
NovaCopper Inc. (NCO-T)	C\$0.51	C\$0.65	0.8x	(US\$0.09)	-	(US\$0.13)	-
Reservoir Minerals Inc. (RMC-V)	C\$0.30	C\$8.50	0.8x	(US\$0.03)	-	(US\$0.03)	-
Royal Nickel Corp. (RNX-T)	C\$6.95			Restricted			
Titan Metals Corp. (TLO-T)	C\$0.08	C\$0.25	0.3x	(US\$0.01)	-	(US\$0.01)	-
Peer-Group Average (producers)			0.7x		2.5x		2.1x
Peer-Group Average (developers)			0.4x				
Peer-Group Average (all)			0.6x		3.2x		2.6x



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	TSX:CUM	Copper Mountain Mining Corp.			X					
	TSXV:FOM	Foran Mining Corp.			X			X		
	TSXV:HI	Highland Copper Company Inc.			X		X	X		
	TSX:HBM	Hudbay Minerals, Inc.			X					
	TSX:LUN	Lundin Mining Corporation	X		X		X			
	TSX:NSU	Nevsun Resources Ltd.			X					
	TSX:NCQ	NovaCopper Inc.			X		X			
	TSXV:RMC	Reservoir Minerals Inc.								
	TSX:RXN	Royal Nickel Corporation			X			X	X	
	TSX:TLO	Talon Metals Corp.			X					
	TSX:TV	Trevali Resources Corp.			X	X				
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Risk Profile Parameters – Mining and Minerals Sector

Forecast Risk: High (7-10) – The Company's primary project(s) is at an earlier stage of exploration and/or resource delineation whereby grades, tonnages, capital and operating costs, and other economic/operational parameters are not yet reliably established. **Moderate (4-6)** – The Company has taken steps to de-risk its primary producing, or soon to be producing project(s) and has established reasonably reliable operational and economic parameters. **Low (1-3)** – The Company has de-risked the majority of its primary project(s) through operational history and established production profile(s).

Financial Risk: High (7-10) – The Company's near- and medium-term (capital) expenditure considerations, including the current year or next forecast year, are not fully funded through a combination of established debt facilities, cash on hand, and/or anticipated cash flow from existing operations—successful project execution depends, in part, on future (equity) financing(s). Existing and/or forecast levels of leverage are above average relative to the Company's peer group. The risk of a significant capital cost overrun(s) is high given the early stage of project development. **Moderate (4-6)** – The Company's near-term (capital) expenditure program, in the current year or next forecast year, is fully funded through a combination of established debt facilities, cash on hand, and/or anticipated cash flow from existing operations. Medium-term funding requirements will likely require additional financing consideration, but should be achievable assuming no significant uncontrollable events impede



access to capital. Existing and/or forecast levels of leverage are in-line with the Company's peer group. The risk of a significant capital cost overrun(s) is moderate given the advanced stage of project development. **Low (1-3)** – the Company's near- and medium-term (capital) expenditure program is fully funded through a combination of established debt facilities, cash on hand, and/or anticipated cash flow from existing operations. Existing and/or forecast levels of leverage are below average relative to the Company's peer group.

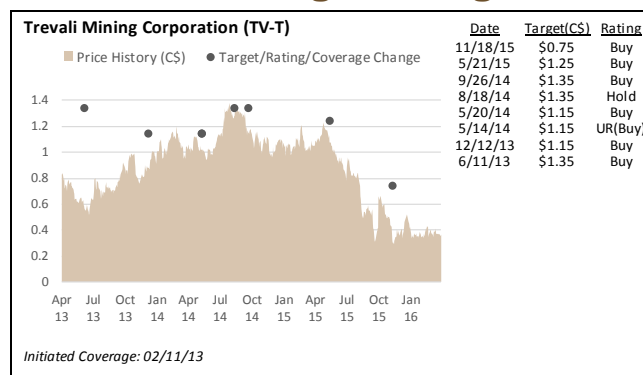
Valuation Risk: High (7-10) – The current valuation is at a premium to peers. The valuation reflects considerable future exploration success and/or commodity appreciation. Where applicable, the current capitalization exceeds the "DCF" evaluation by more than 50%. **Moderate (4-6)** – The current valuation is within historic ranges and generally consistent with peers. The valuation reflects reasonable exploration success and/or commodity appreciation. Where applicable, the current capitalization exceeds the DCF valuation by 15% to 50%. **Low (1-3)** – The current valuation is at the low end of historic ranges and at a discount to peer valuations. The valuation reflects limited new exploration success and no commodity appreciation. Where applicable, the current capitalization exceeds the DCF valuation by less than 15% or falls below the current market value.

Political Risk: High (7-10) – Obtaining permits is challenging. Properties are located in an area(s) with high geo-political uncertainty, limited access, and/or have significant new infrastructure requirements. **Moderate (4-6)** – Properties are located in an area(s) with moderate geo-political risk, reasonable or manageable access, and some established infrastructure. **Low (1-3)** – Properties are located in areas with a manageable geo-political risk profile and established access/infrastructure.

Distribution of Ratings (as of April 14, 2016)

	Distribution of Ratings		IB
	%	#	Clients (TTM)
Buy	73.8%	76	95.0%
Hold	4.9%	5	5.0%
Sell	0.0%	0	0.0%
Tender	1.9%	2	0.0%
UR (Buy)	0.0%	0	0.0%
UR (Hold)	0.0%	0	0.0%
UR (Sell)	0.0%	0	0.0%
dropped (TTM)	19.4%	20	0.0%

Price Chart, Rating and Target Price History (as of April 14, 2016)



B: Buy; H: Hold; S: Sell; T: Tender; UR: Under Review

Source: Capital IQ and Haywood Securities