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MINING – BASE METALS

May 25, 2018

Ascendant Resources Inc.

Zinc Bull Portfolio Diversification

Recommendation: **Buy**
Target Price: **\$2.00**

Company Statistics:
Stock Symbol: **ASND - TSX**
Price: **\$1.13**
Share Outstanding:
Basic: **74.2 MM**
Fully Diluted: **96.2 MM**
Management: **4.2 MM**

Market Cap: **\$83.9 MM**
Cash: **\$17.0 MM**
Long-term Debt: **Nil**
Trading Volume (100-day ave.): **151,983**
High – Low (52-Week): **\$1.23 - \$0.59**

Company Description:

Ascendant is working to re-establish low cost underground production at the recently acquired El Mochito mine in Honduras—a historic operation underpinned by a world-class CRD deposit that began production 1948. 'Pure play' zinc producer status stands to garner market attention given the metal's strong near- to medium-term pricing outlook.

◆ During the past twenty-four months, Cormark Securities Inc., either on its own or as a syndicate member, participated in the underwriting of securities for Trevali Mining Corporation.

Disclosure statements located on pages 30– 32 of this report

Unless otherwise denoted, all figures shown in C\$
We are utilizing a US\$0.78 conversion rate

- Successful ramp-up at El Mochito stands to transform Ascendant into a ~90 MMlb per annum zinc-equivalent producer (payable). The company has demonstrated notable QoQ cost reduction since taking over the mine's reins in late 2016. Key has been the implementation of a new underground mining fleet. We view continued/sustained cost reduction as a key value driver going forward given El Mochito's relatively high cost profile in the context of the market's longer-term outlook for zinc. In the meantime, higher (anticipated) pricing stands to buffer the company's optimization efforts which are progressing well.
- Ascendant's producer status clearly positions the company to attract attention in the context of compelling near- to medium-term zinc market fundamentals (emerging supply deficit). In fact, besides 'marquee' miner •Trevali, the company is one of only a few other Canadian listed 'pure play' zinc producers. Hence, we look to Ascendant as a means to diversify/expand a zinc-focused investment strategy.
- Over 70 MMt have been mined from El Mochito since 1948. Hence the CRD system, which remains open, is truly world class and stands to underpin production well beyond a current +7-year reserve life.

FYE December 31	2018E	2019E	2020E	2021E	2022E
Zinc Price, US\$/lb	\$1.55	\$1.35	\$1.15	\$1.15	\$1.15
Zinc Production, MMlb	59	61	61	61	61
Total Cash Cost, US\$/lb	\$0.85	\$0.85	\$0.80	\$0.80	\$0.80
EPS, US\$	\$0.26	\$0.16	\$0.03	\$0.03	\$0.03
CFPS, US\$	\$0.40	\$0.30	\$0.15	\$0.15	\$0.15
Price/CFPS	2.2x	3.0x	6.1x	6.1x	6.1x

Investment Highlights

Rare 'Pure Play' Zinc Producer Status

Ascendant's 100%-owned recently acquired flagship El Mochito mine in Honduras offers relatively rare 'pure play' zinc **producer** status in a market that is underpinned by an emerging global supply deficit. The company has hit the ground running with efforts well underway and on track to (re)establishing a targeted production profile underpinned by ~90 MMlb of zinc-equivalent annually and demonstrating mine-life extension potential via additional resource/reserve definition.

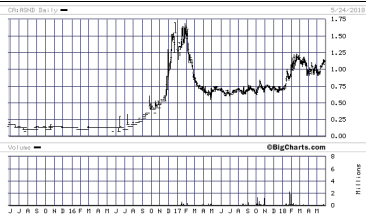
- **Notable Zinc Production Profile** – Successful ramp-up at El Mochito stands to transform Ascendant into a ~90 MMlb per annum zinc-equivalent producer (payable). Current efforts are centred on re-establishing a shaft-accessed underground mining operation to feed a ~2,300 tonnes per day conventional zinc and lead flotation circuit. We remain cognizant that El Mochito's conceptual (targeted) +10-year mine plan could enhance the zinc portfolio of a number of other junior and mid-tier base metals producers looking for established operations, noting El Mochito's profile is comparable to the operations underpinning 'marquee' pure-play producer Trevali (Cormark Top Pick; refer to May 14, 2018 Cormark Research Report).
- **Sustained Cost Reduction Key** – Ascendant has demonstrated notable QoQ cost reduction since taking over the reins at El Mochito in late 2016. Key has been the implementation of a new underground mining fleet—an effort that will be fully complete come mid-2018. **We view continued/sustained cost reduction as a key value driver going forward given El Mochito's relatively high cost profile in the context of the market's longer-term outlook for zinc (noting in part our long-term [+2020] US\$1.15 per pound price forecast). In the meantime, higher (anticipated) pricing stands to buffer the company's optimization efforts which are progressing well.**
- **Promising Exploration Upside** – Over 70 MMt have been mined from El Mochito since 1948. Hence the CRD system, which remains open in multiple directions, is truly world class (arguably on par with Arizona Mining's 101 MMt [measured and indicated] Taylor deposit). Nevertheless, prior to a recent resource and reserve update, El Mochito was underpinned by a limited ~1.5 year reserve life—arguably the mine's Achilles' heel. However, 41,600 m of definition (infill) and exploration (step-out) drilling completed over the last ~2 years now backs an updated resource and reserve estimate that was tabled in April. **The update has materially increased El Mochito's mineable inventory—now underpinned in part by a +7 year reserve life (5.8 MMt) grading 6.6% zinc-equivalent, which stands to address market scrutiny.** Ascendant is now following-up the company's 2017 exploration efforts with a 40,000 m 2018 drill program designed to further increase resources and reserves (i.e., mine life)—akin to the mine's 70-year history of resource and reserve replacement. Initial drill results are expected this quarter.
- **Timing Is Everything** – A zinc-centric profile stands to garner a premium valuation on the back of rising zinc prices. This zinc market macro narrative is underpinned by a number of recent key mine shutdowns (accounting for +10% of global supply) and a lack of new significant advanced-stage projects positioned to replace them. As a result, zinc inventories are dwindling. **Markets are cyclical and we remain cognizant that a longer-term supply response is inevitable. Hence, timing is important—a luxury that many developers do not have in the context of timely permitting, financing, and construction considerations. However, Ascendant's producer status clearly positions the company to attract near-term market**

attention. In fact, besides Trevali, Ascendant is one of only a few other Canadian listed ‘pure play’ zinc producers. Hence, we look to Ascendant as a means to diversify/expand a zinc-focused investment strategy beyond Trevali.

- **Valuation** – Our \$2.00 per share target price is based on 4.5x multiple to Ascendant’s average 2018E and 2019E CFPS in our model (US\$0.40 and US\$0.30 respectively). These operating cash flow figures are based on zinc prices of US\$1.55 and US\$1.35 per pound respectively (noting the metal has averaged US\$1.50 per pound YTD; currently US\$1.38 per pound). Peers currently trade at ~5.0x 2018E CFPS. Hence, our Buy recommendation.

Figure 1

Price Chart



Source: BigCharts.com (May 24, 2018)

Figure 2

Project Location Map



Source: Ascendant Resources Inc.

Valuation

Robust Project Economics Generate A Compelling Valuation

Our valuation is underpinned by Cormark's formal commodity price forecast, which includes a long-term (+2020) zinc price of US\$1.15 per pound, which in turn drives a fully financed after-tax corporate NAV10% of US\$94 MM or \$1.25 per fully diluted share. Our valuation, centered on Ascendant's flagship 100%-owned El Mochito mine in Honduras, is based on parameters detailed in a 2016 Technical Report, conceptual company guidance, and peer-group comparables. We note the Technical Report, tabled by Micon, does not include an annualized life-of-mine plan or project economics, but does provide a review of El Mochito's 'life-of-mine' parameters as per operations under previous owner Nyrstar. Our modelled corporate NAV10% also includes consideration for Ascendant's balance sheet, which as of March 31, 2018, included a US\$13.3 MM cash position (US\$13.7 MM in working capital net of US\$15.5 MM in short-term payables) and no long-term debt—a position that stands to improve on the back of US\$16-18 MM of 2018E free cash flow generation (~US\$15 MM in our model).

Figure 3 NAV Breakdown and Sensitivity

	Cormark Model	\$1.00	\$1.15	\$1.30	\$1.45	\$1.60	Spot Price
Long-term Zinc Price Forecast, US\$/lb		\$0.90	\$1.00	\$1.10	\$1.20	\$1.30	
Long-term LeadPrice Forecast, US\$/lb		\$10.00	\$15.00	\$20.00	\$25.00	\$30.00	
Long-term Silver Price Forecast, US\$/oz		\$1.40	\$1.30	\$1.20	\$1.10	\$1.00	
Long-term C\$/US\$ FX Rate							
Fully Financed F/D Shares, MMs	96	96	96	96	96	96	96
Corporate Adjustments							
Corporate Adjustments, US\$MM	\$(10)	\$(10)	\$(10)	\$(10)	\$(10)	\$(10)	\$(10)
Corporate Adjustments, C\$ per F/D Share	\$(0.13)	\$(0.14)	\$(0.13)	\$(0.12)	\$(0.11)	\$(0.10)	\$(0.13)
Projects							
El Mochito After-Tax Project NAV10%, US\$MM	\$94	-	\$59	\$133	\$207	\$280	\$149
El Mochito After-Tax Project NAV10%, C\$ per F/D Share	\$1.25	-	\$0.79	\$1.66	\$2.36	\$2.91	\$1.99
Total After-Tax Projects NAV10%, US\$MM	\$94	-	\$59	\$133	\$207	\$280	\$149
Total After-Tax Projects NAV10%, C\$ per F/D Share	\$1.25	-	\$0.79	\$1.66	\$2.36	\$2.91	\$1.99
Subtotal Valuation (Corporate Adjustments + Projects)							
Subtotal After-Tax Corporate NAV(10%), US\$MM	\$84	\$(10)	\$49	\$124	\$197	\$270	\$139
Subtotal After-Tax Corporate NAV(10%), C\$ per F/D Share	\$1.12	\$(0.14)	\$0.66	\$1.54	\$2.25	\$2.81	\$1.86
Resource + Exploration Upside Credit							
Total Resource Credit, US\$MM	-	-	-	-	-	-	-
Total Resource Credit, C\$ per F/D Share	-	-	-	-	-	-	-
Regional Exploration Upside Credit, US\$MM	\$10	\$10	\$10	\$10	\$10	\$10	\$10
Regional Exploration Upside Credit, C\$ per F/D Share	\$0.13	\$0.15	\$0.14	\$0.12	\$0.11	\$0.10	\$0.13
Total Valuation							
Total After-Tax Corporate NAV10%, US\$MM	\$94	-	\$59	\$134	\$207	\$280	\$149
Total After-Tax Corporate NAV10%, C\$ per F/D share	\$1.25	-	\$0.80	\$1.67	\$2.37	\$2.91	\$1.99
Implied Target Price @ 1.0x After-Tax Corp. NAV10%, C\$	\$1.25	-	\$0.80	\$1.65	\$2.35	\$2.90	\$2.00
2018E Model CFPS, US\$	\$0.40	\$0.01	\$0.16	\$0.29	\$0.41	\$0.52	\$0.32
2019E Model CFPS, US\$	\$0.30	\$(0.01)	\$0.19	\$0.32	\$0.45	\$0.59	\$0.35

Cormark model is based on a forecast zinc price of US\$1.55/lb in 2018, US\$1.35/lb in 2019, and US\$1.15/lb thereafter.

Cormark model is based on a forecast lead price of US\$1.15/lb in 2018 and US\$1.00/lb thereafter.

Cormark model is based on a forecast silver price of US\$17.00/oz and a forecast C\$/US\$ FX rate of 1.28.

Spot price scenario is based on a zinc price of US\$1.38/lb, a lead price of US\$1.13/lb, a silver price of US\$16.67/oz, and a C\$/US\$ FX rate of 1.29.

Source: Cormark Securities Inc.

Figure 4 **EI Mochito NAV Sensitivity To Zinc Pricing and Discount Rate (C\$ per share)**

Zinc Price (US\$/lb)	Project Discount Rate					
	7%	8%	9%	10%	11%	12%
\$0.85	-	-	-	-	-	-
\$1.00	\$0.32	\$0.29	\$0.26	\$0.24	\$0.22	\$0.20
\$1.15	\$1.05	\$0.99	\$0.93	\$0.88	\$0.83	\$0.78
\$1.30	\$1.73	\$1.64	\$1.55	\$1.47	\$1.40	\$1.33
\$1.45	\$2.41	\$2.29	\$2.17	\$2.06	\$1.96	\$1.87
\$1.60	\$3.09	\$2.93	\$2.78	\$2.65	\$2.52	\$2.40

Sensitivity reflects flat lined metal pricing.
Source: Cormark Securities Inc.

Figure 5 **Corporate NAV10% Sensitivity To Zinc And Lead Pricing (C\$ per share)**

Lead Price (US\$/lb)	Zinc Price (US\$/lb)					
	\$0.65	\$0.90	\$1.15	\$1.40	\$1.65	\$1.90
\$0.70	-	-	\$0.39	\$1.40	\$2.38	\$3.35
\$0.80	-	-	\$0.56	\$1.56	\$2.53	\$3.51
\$0.90	-	-	\$0.72	\$1.71	\$2.69	\$3.67
\$1.00	-	-	\$0.88	\$1.87	\$2.85	\$3.82
\$1.10	-	-	\$1.04	\$2.03	\$3.00	\$3.98
\$1.20	-	\$0.14	\$1.20	\$2.18	\$3.16	\$4.13
\$1.30	-	\$0.34	\$1.36	\$2.34	\$3.32	\$4.29

Sensitivity reflects flat lined metal pricing.
Source: Cormark Securities Inc.

Our modelled EI Mochito mine plan is underpinned by a ~2,300 tonnes per day shaft accessed underground mining operation that feeds a conventional froth flotation mill to produce separate zinc and lead concentrates (~90% metallurgical zinc recovery to a concentrate grading 51% zinc). A modelled 10.0 MMt mineable resource grading 4.2% zinc, 1.8% lead, and 50 g/t silver supports production through 2029, which averages ~90 MMlb of payable zinc-equivalent per annum (including ~60 MMlb of payable zinc) at an average total (C1 including royalties) zinc cash cost of US\$0.80 per pound net of credits. EI Mochito is an established mine. Hence capital requirements are, for the most part, limited to a ~US\$10 MM per annum sustaining budget. **Our modelled mine plan generates a US\$94 MM (\$1.25 per fully diluted share) after-tax project NAV10% at Cormark's metal price forecast that includes long-term (+2020) US\$1.15 per pound zinc (US\$1.55 per pound in 2018).**

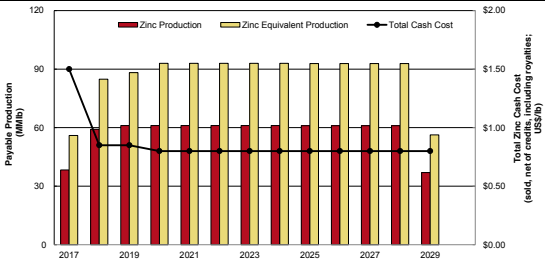
Established producer status warrants a 'premium' cash flow based valuation (versus a NAV based metric). Our \$2.00 per share target price is underpinned by a 4.5x multiple to Ascendant's average 2018E and 2019E CFPS in our model (US\$0.40 and US\$0.30 respectively), noting peers currently trade at ~5.0x 2018E CFPS. These operating cash flow figures are based on zinc prices of US\$1.55 and US\$1.35 per pound respectively (noting the metal has averaged US\$1.50 per pound YTD; currently US\$1.38 per pound).

Figure 6 Target Price Sensitivity To CFPS Multiple

	Cormark Model	Sensitivity					Current Spot
2018E Forecast Zinc Price, US\$/lb	\$1.55	\$1.00	\$1.15	\$1.30	\$1.45		\$1.38
2019E Forecast Zinc Price, US\$/lb	\$1.35	\$1.00	\$1.15	\$1.30	\$1.45		\$1.38
2018E Forecast Lead Price, US\$/lb	\$1.15	\$0.90	\$1.00	\$1.10	\$1.20		\$1.13
2019E Forecast Lead Price, US\$/lb	\$1.00	\$0.90	\$1.00	\$1.10	\$1.20		\$1.13
Forecast Silver Price, US\$/oz	\$17.00	\$10.00	\$15.00	\$20.00	\$25.00		\$16.67
Forecast C\$/US\$ FX Rate	\$1.28	\$1.40	\$1.30	\$1.20	\$1.10		\$1.29
2018E CFPS, US\$	\$0.40	\$0.01	\$0.16	\$0.29	\$0.41		\$0.32
2019E CFPS, US\$	\$0.30	\$(0.01)	\$0.19	\$0.32	\$0.45		\$0.35
Implied Target Price at 3.0x Average 2018E/2019E CFPS, C\$	\$1.30	-	\$0.65	\$1.05	\$1.40		\$1.25
Implied Target Price at 3.5x Average 2018E/2019E CFPS, C\$	\$1.55	-	\$0.75	\$1.25	\$1.65		\$1.50
Implied Target Price at 4.0x Average 2018E/2019E CFPS, C\$	\$1.75	-	\$0.90	\$1.45	\$1.85		\$1.70
Implied Target Price at 4.5x Average 2018E/2019E CFPS, C\$	\$2.00	-	\$1.00	\$1.60	\$2.10		\$1.90
Implied Target Price at 5.0x Average 2018E/2019E CFPS, C\$	\$2.20	-	\$1.10	\$1.80	\$2.35		\$2.15
Implied Target Price at 5.5x Average 2018E/2019E CFPS, C\$	\$2.45	-	\$1.25	\$2.00	\$2.60		\$2.35
Implied Target Price at 6.0x Average 2018E/2019E CFPS, C\$	\$2.65	-	\$1.35	\$2.15	\$2.80		\$2.55

Source: Cormark Securities Inc.

Figure 7 El Mochito Production Profile (Cormark model)



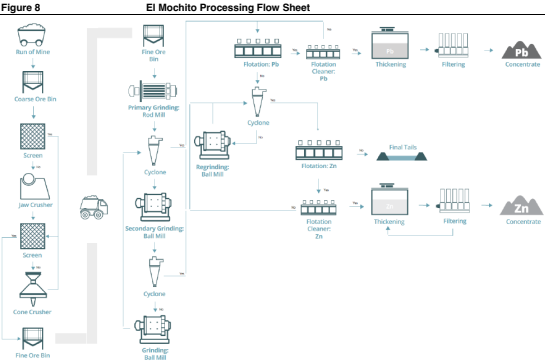
Source: Cormark Securities Inc.

Resurrecting A Historic Giant

Some (Re) Assembly Required

Ascendant acquired a 100% interest in the producing El Mochito zinc-lead-silver mine (Honduras) from Nyrstar in late 2016 (previously run by Breakwater prior to the company’s acquisition by Nyrstar). Consideration totaled US\$500,000 cash funded by a \$19.5 MM offering priced at \$0.50 per share in October 2016, which has also been utilized in part to refurbish the aged mine that has been in almost continuous production since 1948. Nyrstar retained a 10-year offtake for El Mochito’s zinc and lead concentrates at LME pricing (treatment charges tied to benchmark pricing; 2018 rate recently set at a 12-year low of US\$147/DMT, down from US\$172/DMT in 2017). Completion of a subsequent \$20.0 MM equity raise priced at \$0.85 per unit in March 2017 (included a 60-month half warrant exercisable at \$1.25 per share) is being used to further advance capital improvement efforts at El Mochito (including the purchase of additional new underground mining equipment; see below).

The shaft-accessed underground operation takes advantage of conventional (selective shrinkage) and bulk (cut-and-fill and long-hole) underground stopeing methods to mine multiple flat lying carbonate replacement manto deposits (CRD) and high-grade vertical chimneys. Underground crushing and hoisting capacity currently stands at +3,200 tonnes per day. Standard froth flotation processing technology is utilized to produce separate zinc and lead concentrates.



Source: Ascendant Resources Inc.

Although ‘mature’ (e.g., rod mill technology used for primary grinding), the processing plant has been operating well under Ascendant’s watch, with excess capacity to augment improved mining rates (see below). Metallurgical zinc and lead recoveries averaged 88.9% and 74.2% respectively in 2017, increasing to 89.3% and 76.7% respectively in Q1/18. Current mill capacity stands at ~2,300 tonnes per day, but be could be increased to ~3,000 tonnes per day at a nominal cost.

However, prior to Ascendant’s involvement, El Mochito suffered from weak underground mining metrics. Poor performance in 2016 (under Nyrstar) reflected (1) the impact of 3 fatalities, resulting in 2 months of lost production, (2) reduced development spending during 2014-2016, which limited access to high-grade chimney’s pending new development, and (3) issues prompted by the use of ‘vertical retreat’ mining, which have now been resolved.

Inaugural 2017 Efforts Put Mine Back On Track

Ascendant entered the picture with plans to initially improve performance at the undercapitalized operation by focusing on mining practices (‘back to basics approach’, in part to remedy poor behavioral practices)—namely increased productive time per shift (enhanced planning and communications; ‘hot seat’ shift changes which in part boosted productivity by ~15%), improved truck loading efforts (operator training), improved equipment maintenance practices and new equipment purchases as part of an (ongoing) effort to upgrade an existing (inherited) aging mining fleet (see below), and improved training and safety performance (better operator behavior/discipline/accountability) to boost daily underground production rates (as well as optimized mill utilization via increased mining rates).

El Mochito’s aged underground equipment fleet came with a history of poor preventative maintenance practices under previous operators. The inherited mismatched fleet was underpinned by 10 haul trucks averaging 7.0 years (up to 17 years) old (48% availability last summer) and 11 scoops (6 active) averaging 9.1 years (up to 21 years) old (38% availability last summer). Despite best efforts, Ascendant struggled to establish/maintain reasonable availability and utilization rates with the used equipment and proceeded to ‘up size’ initial plans to replace select pieces of equipment with the purchase of an entirely new fleet including 10 new trucks, 6 scoops, 2 jumbos, 2 rock bolters, and other ancillary equipment (augmented by the complete overhaul of two trucks and two scoops). Full delivery/deployment of the ~US\$20 MM fleet is expected to ensue through mid-2018 (3 remaining pieces). Nevertheless, new equipment arrivals to date have been a major driver behind El Mochito’s improved operational performance, in part illustrated by an 81% increase in monthly mill throughput and a 31% reduction in direct onsite operating costs during 2017 (which averaged US\$80.13 per tonne milled in Q4/17, versus US\$87.86 per tonne in Q3/17 and US\$98.91 per tonne in Q1/17), on the back of increased equipment availability and reduced maintenance costs. A trend that has continued into 2018, noting a Q1/18A average onsite cost of US\$72.33 per tonne milled.

Last year’s optimization efforts culminated in El Mochito posting its first quarter of positive free cash flow under Ascendant’s watch in Q4/17 (a modest figure of US\$0.75 MM; which followed first positive EBITDA in Q3/17). Q4/17A mill throughput totalled 198,354 tonnes (2,229 tonnes per operating day)—a 13% increase over Q3/17 and a 51% increase over Q1/17. The fourth quarter increase reflected the introduction of new mining equipment and the start of ‘conventional’ (i.e., shrinkage stoping; see below) underground mining operations in narrow but high-grade areas. Mill throughput continued to increase on a monthly basis, totaling 69,578 tonnes in December (2,399 tonne per operating day)—El Mochito’s strongest month since 2013 and an 81% increase relative to January 2017. The mine’s direct onsite operating cost profile correspondingly

improved through the year, noting January and December 2017 average direct onsite operating costs of US\$112.21 per tonne milled and US\$77.80 per tonne milled respectively (US\$88.22 per tonne milled 2017A average).

Q4/17A contained metal production included 14.1 MMlb of zinc, 4.6 MMlb of lead, and 169,039 ounces of silver (19.6 MMlb zinc equivalent using average metal pricing for the period—a 12% increase over Q3/17 and 43% higher than Q1/17). **Ascendant’s inaugural year at El Mochito saw the mine produce 66 MMlb of contained zinc equivalent—ahead of 2017E production guidance at 65.8 MMlb.**

Figure 9

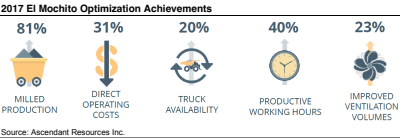
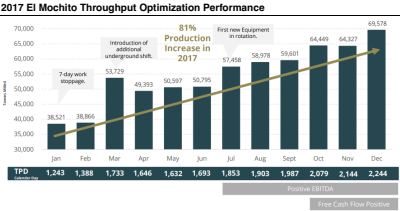


Figure 10



2018E Guidance Underpins Further Improvement

Operational improvement continued in Q1/18—headlined by record zinc equivalent production of 21.4 MMlb (15.3 MMlb of zinc, 5.1 MMlb of lead, and 215,559 ounces of silver)—marking a fifth consecutive QoQ production increase. The improvement reflects a 14% increase in zinc head grade (to 4.2%, from 3.7% in Q4/17) stemming from increased mining dilution (and grade) control, in part through the development of the higher grade Esperanza Zone’s first long hole stope. Mill throughput dropped modestly (6%) in Q1/18 to 186,955 tonnes (from 198,354 tonnes in Q4/17)—a function of wet ore and large rocks impacting El Mochito’s vibrating screen and cone crusher. However, throughput rates continue to trend higher as additional new equipment is introduced into the mining fleet and new lower cost long hole stopes constitute a greater proportion of total production. **El Mochito’s Q1/18A production profile was underpinned by an average total (C1 including royalties) zinc cash cost of ~US\$0.86 per pound sold net of credits (AISC of US\$1.34 per pound of zinc-equivalent versus a current zinc spot price of US\$1.38 per pound).** This profile underpinned Q1/18A free cash flow

generation of US\$5.2 MM, which is net of a US\$6.1 MM spend on underground mining operations (including new equipment) and a tailings dam lift to further enhance production going forward.

Ongoing efforts are focused on further cost reduction, which in part stands to be achieved through full implementation of El Mochito's new mining fleet/strategy (mid-2018; see above), noting our model includes an arguably conservative 2018E average onsite operating cost of US\$80 per tonne milled, which translates into an average total (C1 including royalties) zinc cash cost of US\$0.85 per pound net of credits and AISC of US\$1.35 per zinc-equivalent pound. These efforts are in part underpinned by a growing cash balance, which totalled US\$13.3 MM as of March 31, 2018 (increasing to ~US\$23 MM by yearend 2018 in our model). We view Ascendant's ability to demonstrate sustainable cost reduction as a key value driver going forward given El Mochito's relatively high cost profile in the context of the market's longer-term outlook for zinc (noting in part our long-term [+2020] US\$1.15 per pound zinc price forecast). In the meantime, higher (anticipated) pricing stands to buffer the company's optimization efforts.

During 2017, Ascendant worked to rehabilitate El Mochito's production profile towards historic levels and achieve operational stability—namely via throughput optimization, which as noted above, increased 81% on a monthly basis over the course of the year. The company is now focused on enhancing profitability through additional operating cost and head grade improvements. Efforts include ramping-up production in higher grade areas of the mine (namely Esperanza and Nueva Este; trial production from higher-grade 'conventional' zones began in late October 2017 [narrow chimneys]), utilizing lower-cost long hole stoping methods where advantageous (larger chimneys), and reducing equipment maintenance costs. 2018E guidance, headlined by 93-109 MMlb of zinc equivalent production (contained; including 65-73 MMlb of zinc; 70 MMlb in our model), includes an average direct onsite operating cost of US\$70-80 per tonne milled (Q1/18A of US\$72.33 per tonne; US\$80 per tonne milled this year in our model) which stands to benefit from the arrival of additional new mining equipment (less 'supplemental' reliance on old fleet that entails high maintenance costs and lower productivity). Associated capital expenditures this year are budgeted at US\$16-18 MM, noting the company spent US\$6.1 MM in Q1/18, which included ongoing new underground mining equipment purchases which are expected to ensue through mid-2018 (see above).

Figure 11 2018E Production Guidance

El Mochito (100% basis)	Q1/17A	Q2/17A	Q3/17A	Q4/17A	2017A	Q1/18A	Ascendant Guidance 2018E (Jan 2018)	Cormark Model 2018E
Production								
Mill Throughput, tpd	1,619	1,733	1,934	2,229	1,889	2,054	2,200-2,400	2,300
Metal Production								
Contained Zinc Production, MMlb	8.9	9.9	12.1	14.1	45.1	15.3	65-73	70
Contained Lead Production, MMlb	3.0	3.2	4.2	4.6	14.9	5.1	24-28	25
Contained Silver Production, koz	173.0	188.2	168.2	169.0	698.5	215.6	900-1,200	1,050
Unit Operating Cost, US\$ per tonne milled	\$98.91	\$89.97	\$87.86	\$80.13	\$88.22	\$72.33	\$70-\$80	\$80
Capital Expenditure, US\$ MM	-	-	-	-	-	-	\$16-\$18	\$18

Source: Ascendant Resources Inc. and Cormark Securities Inc.

Bottom line, the step function improvement in El Mochito performance through 2017 lends confidence that additional new equipment deployment over the coming months firmly positions Ascendant to achieve its 2018 targets, which drive 2018E free cash flow of US\$14-20 MM at US\$1.50 per pound zinc (US\$15 MM at US\$1.55 per pound zinc in our model). Looking further ahead, an expansion to 3,000 tonnes per day (from +2,200 tonnes per day currently) is envisioned on the back of resource enhancement and underground development (only minor/modest mill modifications required).

In Q1/17, Ascendant completed the negotiations for a new collective bargaining agreement with the union representing El Mochito's workers. The agreement, which appropriately aligns all parties' objectives, was signed in April 2017 and remains valid until Q4/19.

Exploration – The Key To El Mochito’s Future

Low Hanging Fruit
Significantly Boosts
Mineable Inventory

Over 70 MMt have been mined from El Mochito since 1948. Hence the CRD system, which remains open in multiple directions, is truly world class (arguably on par with Arizona Mining’s 101 MMt [measured and indicated] Taylor deposit). Nevertheless, prior to a recent resource and reserve update, El Mochito was underpinned by a limited ~1.5 year reserve life—arguably the mine’s Achilles’ heel. However, 41,600 m of definition (infill) and exploration (step-out) drilling completed over the last ~2 years with four company-owned underground rigs now backs an updated resource and reserve estimate that was tabled in April. **The update has materially increased El Mochito’s mineable inventory—now underpinned in part by a +7 year reserve life (5.8 MMt) grading 6.6% zinc-equivalent, which stands to address market scrutiny.** Additional measured and indicated resources stand to support another +2 years of mine life at 7.3% zinc equivalent and inferred resources now equate to 6 years of mine life at 6.7% zinc equivalent (at a throughput rate of 820 kt per annum)—noting El Mochito has demonstrated a high inferred resource conversion rate historically (with almost continuous production dating back to 1948). Our formal valuation is based on a 10.0 MMt mineable resource (~12 year production profile), which in part assumes continued conversion of resources to reserves overtime—a reasonable (conservative) assumption in our opinion given El Mochito’s long history of reserve replacement (see above).

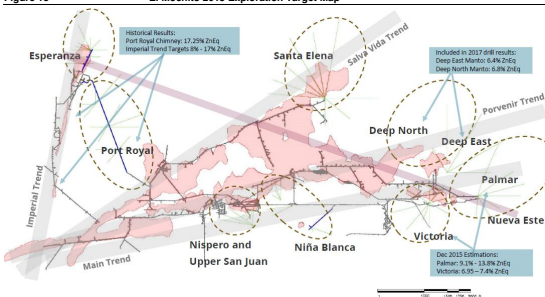
The 2017 exploration program targeted extensions of known high-grade zones including Palmar Dyke, Santa Elena, Victoria, Deep East (very high grade, including a 3.7 m step-out intersection grading 33.7% zinc-equivalent), Port Royal (very high grade, including a 4.1 m in-fill intersection grading 48.6% zinc-equivalent), and Esperanza, all of which are close to current workings and can be brought into the mine plan within the next two years (mining at Esperanza already began in Q4/17). Recent exploration results consistently included grades and widths well in excess of those currently being mined (recent drilling at Esperanza indicates the zone is bigger and thicker than previously modelled).

Figure 12

El Mochito Resource and Reserve Statement (NI 43-101 compliant)

	Tonnes (000s)	Zinc (%)	Lead (%)	Silver (g/t)	ZnEq (%)	Zinc (MMlb)	Lead (MMlb)	Silver (koz)	ZnEq (MMlb)	EV/ZnEq (US\$/lb)
Cormark Model Mineable										
El Mochito Model Mineable (RLOM)	10,000	4.2%	1.7%	48	6.8%	931	382	15,495	1,492	-
Total Model Mineable (RLOM)	10,000	4.2%	1.7%	48	6.8%	931	382	15,495	1,492	\$0.035
P&P Reserve										
El Mochito	5,789	4.7%	1.6%	38	6.9%	600	204	7,073	882	-
Total P&P Reserve	5,789	4.7%	1.6%	38	6.9%	600	204	7,073	882	\$0.059
M&I Resource										
El Mochito	1,764	6.8%	2.0%	64	10.0%	266	79	3,612	388	-
Total M&I Resource	1,764	6.8%	2.0%	64	10.0%	266	79	3,612	388	-
Inferred Resource										
El Mochito	4,972	5.1%	1.4%	33	7.0%	559	153	5,275	770	-
Total Inferred Resource	4,972	5.1%	1.4%	33	7.0%	559	153	5,275	770	-
Total Reserve and Resource	12,525	5.2%	1.6%	40	7.4%	1,425	437	15,960	2,040	\$0.025

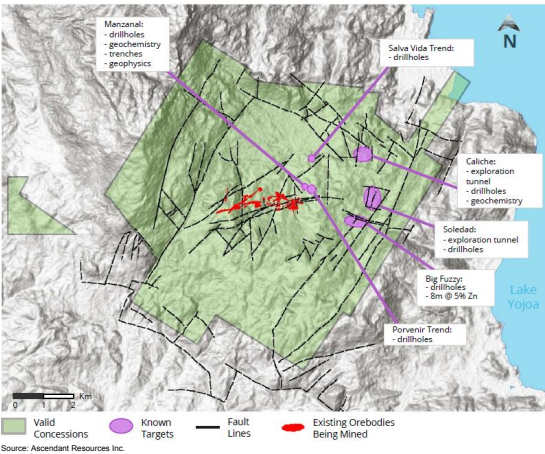
Measured and indicated resource is additional to proven and probable reserve.
ZnEq = zinc equivalent, EV = enterprise value (market capitalization - working capital + long-term debt).
ZnEq zinc price: US\$1.15/lb
ZnEq lead price: US\$1.00/lb
ZnEq silver price: US\$17.00/oz
Source: Ascendant Resources Inc. and Cormark Securities Inc.

Figure 13 **El Mochito 2018 Exploration Target Map**

Source: Ascendant Resources Inc.

Ascendant is now following up the company's 2017 exploration efforts with a 40,000 m 2018 drill program designed to further increase resources and reserves (i.e., mine life)—akin to the mine's 70-year history of resource and reserve replacement (~20,000 m directed at resource conversion and ~20,000 m allocated to exploration a near-mine and regional targets). Initial drill results are expected this quarter. These efforts will extend beyond the immediate El Mochito mine to a number of promising regional targets on Ascendant's 11,000 ha land package that have received little (no) attention by previous owners over the last +5 years. The company benefits from owning its own drill rigs (4 underground and 2 surface rigs; all-in drilling cost averaging < US\$50 per m versus ~US\$120 per m via third party outfits).

Figure 14 Regional Exploration Target Map



Politics, Location, and Infrastructure

Long Operational History in a Challenging Jurisdiction Speaks Volumes To Local Support

Honduras is relatively unknown with respect to mining, noting a lack of data excluded the country from the Frazer Institute's 2017 survey of mining companies. That said, in 2016, Honduras scored 46% (ranked 89th out of 104 international jurisdictions) for its Investment Attractiveness given the country's current political environment and geological potential—a figure reflected in part by a Political Perception score of 50% (82nd out of 104). This relatively low score stems from apparent corruption that has fueled political unrest. Nevertheless, Honduras appears to be gaining recognition as an improved jurisdiction for mining, noting the country ranked 107th (of 109) on the Fraser Institute's 2015 Investment Attractiveness index. Furthermore, Standard & Poor raised Honduras' credit rating to BB- (from B+) last year, and changed the country's risk outlook from stable to positive.

Honduras' politics are underpinned by a democratic constitution. President Juan Orlando Hernández was re-elected for another 4-year term in 2017 on a platform focused on security and business development. That said, until the mid-1980s Honduras' politics were dominated by the military, which enthusiastically supported U.S. efforts to stem revolutionary movements in the region. Since then, civilian leaders have sought to curb the power of the military, with varying degrees of success. Inequalities in wealth are high—once dominated by foreign-owned banana companies, the country remains a major fruit exporter. It is also Central America's second largest coffee producer. However, gang violence, drug wars, and extortion are commonplace. Furthermore, the country is notorious for having the world's highest murder rate per capita.

Aside from Ascendant, the only other two producers of note in Honduras are Aura Minerals (San Andres gold mine) and Glen Eagle Resources (Cobra Oro gold processing plant). **During 2016 mining accounted for ~3% of the country's total export value (albeit a marginal year at El Mochito, see above). However, the adaptation of a new mining law in 2013, which now allows foreign companies to receive mining concessions, stands to attract additional foreign interest (noting the sector did not receive any new investment from 2005-2013).** Honduras' corporate tax rate is 25% noting Ascendant has access to US\$53 MM in tax losses in 2018/2019. The government is also entitled to a 5% net-smelter return (NSR) royalty, which equates to ~US\$5 MM per annum in our model (noting Q1/18A royalties totalled US\$1.3 MM).

Honduras' government is decentralized—municipalities have autonomy. **El Mochito itself receives overwhelming community support—The town of Las Vegas (~37,000 population) is a product of the mine.** El Mochito is located at low elevation, 88 km (2-3 hour drive via paved road) southwest of an international airport in San Pedro Sula (~1.5 MM population) and 220 km northwest of the capital city, Tegucigalpa. Concentrate is trucked daily to the Puerto Cortés (~10 loads per day)—noting Ascendant plans to make one zinc concentrate shipment per month and one lead concentrate shipment per quarter (currently underpinned by a remaining 9-year 100% off take agreement with Nyrstar; see above).

Electrical power at El Mochito is supplied by the national grid belonging to government owned Empresa Nacional de Energía Eléctrica. The mine's peak 10.4 MW demand is fed by a 34.5 kV powerline originating from an 80 MW hydroelectric dam near Peña Blanca. The mature grid power supply is not reliable, especially during the rainy season—until recently, brownouts at the mine lasting upwards of an hour were common (50-60 times per annum). However, discussions are underway with the government for more reliable (lower cost; to ~US\$0.12/kWh from ~US\$0.15/kWh currently) power via connection to a partially existing 69 kV line. In the interim, Ascendant has also installed

capacitors to partially manage power fluctuations. The company has also upgraded El Mochito's emergency backup power generation system (diesel), albeit a higher cost source relative to grid (~US\$0.22/kWh).

Water requirements are met by local surface creeks and springs which are covered by an environmental permit and an annual tax. **We note El Mochito is a very 'wet' mine and requires significant pumping infrastructure (+80 pumps removing +8,000 gallons per minute to avoid flooding/ramp washout in the ~3,200 ft deep mine). Hence, a stable/reliable (low cost) power supply is very important to ensure continuous underground operations.** Current pumping infrastructure stands to be optimized (~US\$5 MM investment to generate ~US\$1.3 MM per annum in savings). In addition to being wet, El Mochito's underground workings are also very hot, which necessitates significant ventilation and labour (shift length) considerations (~8 hours currently utilized in hot areas of the mine; versus more 'standard' ~12 hours shifts in 'cooler' mines globally).

The El Mochito complex includes three tailings storage facilities (TSF). The El Bosque and Pozo Azul TSFs are in the process of being reclaimed. La Soledad (lined) is currently active—taking ~70% of the operation's tailings production. The remaining ~30% volume is returned underground as backfill. **A fourth lift (5 m; ~US\$4.6 MM) is well underway at La Soledad, which will increase the TSF's capacity to 6 MMt—supporting deposition into Q2/21.** The new Douglas TFS is in the design and permitting stage. The ~US\$17.5 MM facility (including ~US\$2.9 MM and ~US\$1.5 MM H2/18E and 2019E spends respectively) is expected to be functional well before La Soledad reaches capacity in 2021 (see above). Douglas' initial phase(s) of major earth works will take ~2 years to complete once permits are in hand (anticipated later this year).

Financial Forecast

Figure 15

Financial Forecast (Cormark Model)

	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E
Commodity Prices									
Forecast Zinc Price, US\$/lb	\$1.55	\$1.35	\$1.15	\$1.15	\$1.15	\$1.15	\$1.15	\$1.15	\$1.15
Forecast Lead Price, US\$/lb	\$1.15	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
Forecast Silver Price, US\$/oz	\$17.00	\$17.00	\$17.00	\$17.00	\$17.00	\$17.00	\$17.00	\$17.00	\$17.00
C\$/US\$ FX Rate	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28	1.28
Average Shares O/S, MM	74	74	74	74	74	74	74	74	74
Metal Sales									
Zinc, MMlb	62	61	61	61	61	61	61	61	61
Lead, MMlb	26	24	24	24	24	24	24	24	24
Silver, koz	763	729	729	729	729	729	729	728	728
Total Zinc Cash Cost (IR, NoC), US\$/lb Sold	\$0.85	\$0.85	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80
Yearend Balance Sheet									
Cash, US\$MM	\$23	\$33	\$32	\$32	\$33	\$34	\$37	\$43	\$49
Working Capital, US\$MM	\$21	\$31	\$30	\$30	\$31	\$32	\$35	\$41	\$47
Long-term Debt, US\$MM	-	-	-	-	-	-	-	-	-
Financials									
Sales, US\$MM	\$124	\$107	\$93	\$93	\$93	\$93	\$93	\$93	\$93
Operating Costs, US\$MM	\$(83)	\$(74)	\$(71)	\$(71)	\$(71)	\$(71)	\$(71)	\$(71)	\$(71)
Depreciation, US\$MM	\$(7)	\$(9)	\$(9)	\$(9)	\$(9)	\$(9)	\$(9)	\$(9)	\$(9)
Corporate G&A, US\$MM	\$(8)	\$(8)	\$(8)	\$(8)	\$(8)	\$(8)	\$(8)	\$(8)	\$(8)
Exploration, US\$MM	-	-	-	-	-	-	-	-	-
Net Earnings, US\$MM	\$19	\$12	\$2	\$2	\$2	\$2	\$2	\$2	\$2
EPS, US\$	\$0.26	\$0.16	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03
Current Price / EPS	3.4x	5.3x	-	-	-	-	-	-	-
Target Price / EPS	6.0x	9.5x	-	-	-	-	-	-	-
OCF (before WC changes), US\$MM	\$30	\$22	\$11	\$11	\$11	\$11	\$11	\$11	\$11
CFPS, US\$	\$0.40	\$0.30	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15	\$0.14	\$0.14
Current Price / CFPS	2.2x	3.0x	6.1x	6.1x	6.1x	6.1x	6.1x	6.1x	6.1x
Target Price / CFPS	3.9x	5.3x	10.7x	10.7x	10.7x	10.7x	10.7x	10.8x	10.8x
CAPEX, US\$MM	\$(18)	\$(12)	\$(12)	\$(10)	\$(10)	\$(10)	\$(7)	\$(5)	\$(5)
Investing Cash Flow, US\$MM	\$(18)	\$(12)	\$(12)	\$(10)	\$(10)	\$(10)	\$(7)	\$(5)	\$(5)
Proceeds from Shares Issued, US\$MM	-	-	-	-	-	-	-	-	-
Proceeds from Debt, US\$MM	-	-	-	-	-	-	-	-	-
Debt Principal Repayment, US\$MM	-	-	-	-	-	-	-	-	-
Debt Interest Payment, US\$MM	-	-	-	-	-	-	-	-	-
Financing Cash Flow, US\$MM	\$(1)	\$(0)	\$(0)	\$(0)	\$(0)	\$(0)	-	-	-
Free Cash Flow, US\$MM	\$15	\$10	\$(1)	\$1	\$1	\$1	\$4	\$6	\$6
FCFPS, US\$	\$0.20	\$0.13	\$(0.02)	\$0.01	\$0.01	\$0.01	\$0.05	\$0.08	\$0.08

Source: Cormark Securities Inc.

Figure 16 Corresponding El Mochito Production Profile (Cormark Model)

El Mochito (100% owned)	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E	RLOM
Ore Mined, MMt	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	10.0
Ore Milled, MMt	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	10.0
Average Zinc Head Grade, %	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%	4.2%
Average Zinc Metallurgical Recovery, %	90%	90%	90%	90%	90%	90%	90%	90%	90%
Average Lead Head Grade, %	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%
Average Lead Metallurgical Recovery, %	75%	75%	75%	75%	75%	75%	75%	75%	75%
Average Silver Head Grade, g/t	52	50	50	50	50	50	50	50	50
Average Silver Metallurgical Recovery, %	75%	75%	75%	75%	75%	75%	75%	75%	75%
Zinc Production (in concentrate), MMlb	70	72	72	72	72	72	72	72	831
Lead Production (in concentrate), MMlb	25	26	26	26	26	26	26	26	296
Silver Production (in concentrate), koz	1,050	1,042	1,042	1,042	1,042	1,042	1,042	1,040	12,092
Payable Zinc Production, MMlb	59	61	61	61	61	61	61	61	706
Payable Lead Production, MMlb	24	24	24	24	24	24	24	24	281
Payable Silver Production, koz	735	729	729	729	729	729	729	728	8,465
Payable Zinc Equivalent Production, MMlb	85	88	93	93	93	93	93	93	1,076
Average Onsite Operating Cost, US\$/t Milled	\$80	\$75	\$70	\$70	\$70	\$70	\$70	\$70	\$75
Average ZnEq Operating Cash Cost, US\$/lb sold	\$0.75	\$0.75	\$0.65	\$0.65	\$0.65	\$0.65	\$0.65	\$0.65	\$0.70
Average ZnEq AISC, US\$/lb sold	\$1.35	\$1.20	\$1.15	\$1.15	\$1.15	\$1.15	\$1.10	\$1.10	\$1.15
Avg. Total Zinc Cash Cost, US\$/lb sold (IR; NoC)	\$0.85	\$0.85	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80	\$0.80
Average Zinc AISC, US\$/lb sold (NoC)	\$1.25	\$1.15	\$1.15	\$1.10	\$1.10	\$1.10	\$1.05	\$1.05	\$1.10
Total Capital Expenditures, US\$MM	\$18	\$12	\$12	\$10	\$10	\$10	\$7	\$5	\$99

Source: Cormark Securities Inc.

Management & Directors

Chris Buncic, President, CEO, and Director – Mr. Buncic was directly involved in the acquisition of El Mochito from Nyrstar NV in 2016. Prior to co-founding Ascendant, he served in senior management roles at several Canadian corporations in the technology and resources sectors. Mr. Buncic also previously spent six years in Institutional Equity Research at leading Canadian independent full service brokerage firms. He is a CFA Charterholder and has an MBA from Schulich School of Business. Mr. Buncic is also a member of the Professional Engineers of Ontario.

Cliff Hale-Sanders, Executive VP – Mr. Hale-Sanders was directly involved in the acquisition of El Mochito from Nyrstar NV in 2016. Prior to co-founding Ascendant he spent ~20 years in the capital markets industry working as a leading Base Metals and Bulk Commodities research analyst at a number of banks and an independent full service brokerage firm in Canada. During this period, Mr. Hale-Sanders visited and reviewed numerous mining operations and corporate entities around the world. He holds a B.Sc. in Geology and Chemistry, an MBA from McMaster University, and is a CFA Charterholder.

Rohan Hazelton, CFO – Mr. Hazelton is a Chartered Professional Accountant with over 20 years of international finance experience including 15 years in the mining sector. He was formerly Vice President, Strategy, at Goldcorp Inc. where he held a variety of roles including Vice President Finance, Chief Financial Officer of Mexican Operations, and Corporate Controller. Mr. Hazelton holds a B.A. in Applied Mathematics and Economics from Harvard University.

Neil Ringdahl, COO – Mr. Ringdahl is a senior mining executive with over 23 years of international mining, development, and executive management experience. He has a strong technical background in a career that has been primarily focused on underground and open-pit mining in Latin America and Africa. Previously, Mr. Ringdahl held the roles of Chief Operating Officer at Orvana Minerals Corp. and Chief Executive Officer at Apogee Silver. At Apogee, he significantly de-risked the rehabilitation project at the Pulacayo mine in Bolivia while fostering proactive community relations improvements and agreements. Prior to this, Mr. Ringdahl held various senior positions with Korea Zinc, Volcan Compania Minera, Anglo Platinum, and AngloGold. He holds a Bachelor's Degree with Honors in Mining Engineering from the University of the Witwatersrand in South Africa.

Mark Brennan, Chairman – Mr. Brennan is a founding partner of Ascendant Resources Inc. and has over 30 years of financing and operating experience in North America and Europe. He most recently served as President and CEO of Sierra Metals Inc. where he overhauled the corporate structure and led a campaign to rehabilitate the Yaricocha mine, a zinc-lead-silver-copper mine in Peru, and oversaw the growth of the resource base and production at its Cusi and Bolivar mines in Mexico. Prior to Sierra, Mr. Brennan served as President and CEO at Largo Resources Ltd. where he facilitated the acquisition of its flagship Maracas Vanadium Project in 2006 and advanced the project through a maiden resource, definitive feasibility, completion of US\$300 MM of financing, and first production. Prior to Largo, Mr. Brennan was a founder or founding member of several resource companies, including Desert Sun Mining, Linear Capital, Brasoil Corporation, James Bay Resources, Morumbi Oil and Gas, and Admiral Bay Resources. He began his professional career as an investment banker in London, England.

Board of Directors
Mark Brennan – Chairman
Stephen Shefsky – Lead Director
Renaud Adams
Chris Buncie
Robert Campbell
Petra Decher
Guillermo Kaelin
Kurt Menchen

Figure 17 Ascendant Capital Structure

	Number	Strike (C\$)	Value (US\$)	Expiry Date
Total Shares O/S	74,214,593			
Warrants	15,102,000	\$1.09	\$12,801,126	-
Options	570,334	\$0.64	\$286,067	-
RSUs	6,333,334	-	-	-
Total Shares FD	96,220,261			
	Number (O/S)		Number (FD)	
Major Shareholders	(MM)	%(O/S)	(MM)	%(FD)
CQS	11.9	16.0%	11.9	12.4%
Steve Laciak	11.9	16.0%	11.9	12.3%
MM Asset Management	9.9	13.3%	9.9	10.3%
CIBC Asset Management	3.8	5.1%	3.8	4.0%
Vestor Investment Management	2.0	2.7%	2.0	2.1%
Management & Directors	4.2	5.6%	4.8	5.0%
Total Major Shareholders	43.7 ^F	58.8%	44.2	46.0%
Recent Equity Financings				
March 7, 2017 - C\$20.0 MM PP (23.6 MM units @ C\$0.85/ unit; incl. 1/2 warrant @ C\$1.25 for 60 months)				
December 20, 2016 - C\$19.5 MM PP (39 MM subscription receipts @ C\$0.50/SR)				

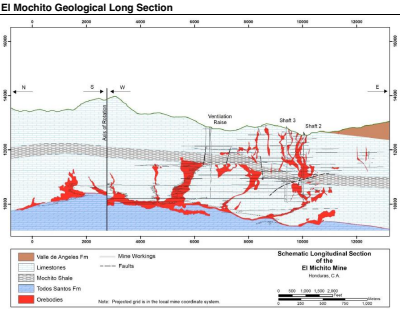
Source: Ascendant Resources Inc. and Bloomberg

Appendix I – El Mochito Geology

Economic mineralization at El Mochito occurs as both manto and chimney carbonate replacement deposits (CRD; see below). The laterally extensive mantos follow the bedding planes of flat lying Lower Cretaceous limestone host rocks, making them ideally suited for cut-and-fill (room-and-pillar) mining methods. In contrast, generally higher grade (historically +17% zinc equivalent) steeply dipping chimney style mineralization cross cuts host rock morphology (likely the feeder conduits for the mantos themselves) and is principally mined via long hole and ‘conventional’ (shrinkage) stoping methods. Overall ~70% of the total known tonnage at El Mochito occurs in chimney form.

The structurally complex deposits exhibit typical high-temperature zinc skarn mineralogy, consisting of pyroxene and garnet with sphalerite (zinc sulphide), argentiferous galena (silver-rich lead sulphide), magnetite, pyrrhotite, pyrite, chalcocopyrite (copper sulphide) and arsenopyrite. Garnet/pyroxene ratios progressively decrease away from fault zones toward unaltered limestone and along the trend of the deposits (northeast to southwest). Changes in zinc/lead, zinc/copper, lead/copper and copper/silver ratios along trend also appear to reflect the direction of hydrothermal fluid flow (northeast to southwest) and increased distance from a potential source region. Cross-cutting relationships indicate that mineralization is post mid-Tertiary in age.

Figure 19



Appendix II – CRD Primer

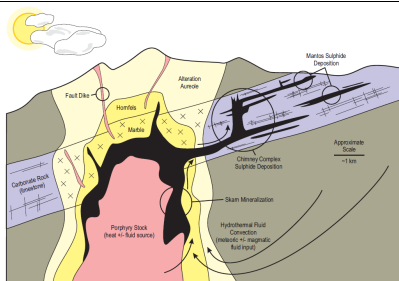
Carbonate Replacement Deposits 101

Carbonate replacement manto deposits are formed by the replacement of sedimentary (carbonate) rock by hydrothermal metal-bearing solutions driven by proximal igneous intrusion(s). The term manto is used to describe mineralization that forms stratiform (tabular/blanket shaped) bodies, typically along bedding planes and/or other conduits of higher permeability in the host rock. In some deposits, the mantos are stacked. Other geometries include structurally controlled (high grade) chimneys and veins. In several districts, karst development associated with unconformities is believed to have led to the formation of open spaces subsequently filled by ore. A given district or mine may contain a single, massive orebody or a series of orebodies aligned along stratigraphic and/or structural features.

Proximity to igneous activity (and the heat it entails, with ore fluids typically +300°C) lends itself to polymetallic mineralization; namely, zinc, lead, copper, silver, and/or gold as opposed to Mississippi Valley Type (MVT) deposits, which although similar in geometry, host-rock lithology, and the presence of lead and zinc, do not have a direct association with igneous activity and in turn do not have significant copper and/or precious metal content. Directly adjacent to an intrusion, hot fluids can react with carbonate host rocks to form massive (irregular) polymetallic (copper-rich) skarn deposits, whereas distal deposits, controlled by fluid movement along stratigraphic and structural conduits, tend to favour relatively lower temperature zinc- and lead-rich manto mineralization. Despite the sulphide mineralogy of manto deposits, their chemistry is buffered by carbonate host-rock geology, which can mitigate (neutralize) many environmental issues that acidic fluid flow might otherwise entail. Other topical examples of CRD deposits include Trevali's Santander mine in Peru and Arizona Mining's Taylor project in Arizona.

Figure 20

Schematic CRD Model



Source: Cormark Securities Inc.

Appendix III: Zinc Primer

Think Zinc

LME inventories broke below the 300 kt threshold last June (now 229 kt)—continuing to set their lowest level since January 2009. SHME inventories have followed suit, down 56% over the last year, suggesting the zinc price, up just 33% over the same period, is poised to move higher on the back of supply deficit fundamentals (noting ‘visible’ inventories now stand at ~1.2 weeks of global consumption versus an ‘anticipated inflection point’ of ~1.0 week [~250 kt]). Recently this move to higher pricing has taken a breather, noting the zinc spot price has decreased 8% QTD (now US\$1.38 per pound). The zinc spot price’s muted YTD performance (-10%) is in line with counterpart base metal ‘staple’ copper (-4%), in part reflecting global trade uncertainty—namely as it pertains to the U.S. Trump administration. Nevertheless, since early January 2016, the zinc price has gained ~109% (from US\$0.66 per pound). Key points underpinning our bullish zinc thesis include:

- ***Lack of new mines to replace supply*** – Our zinc market outlook is underpinned by a number of relatively recent key mine shutdowns (accounting for +10% of global supply), including Century (~4% of global supply) and Lisheen through early 2016, and by a lack of new significant advanced-stage projects positioned to replace them (including a delayed/decreased production outlook at Dugald River).
- ***LME inventory reaching critical levels*** – Despite skepticism regarding the sustainability of Chinese growth rates, we look to recent LME inventory drawdown rates as an indication of global supply dynamics. As noted above, LME inventories, now convincingly well below the 300 kt level, equate to ~1.2 weeks of global consumption. **Furthermore, ‘available’ or ‘on-warrant’ LME zinc inventories are now testing the 216 kt level. We note that a similar move in late 2005, which saw ‘available’ LME zinc stocks dive below ~200 kt, essentially marked the start of +12-month price spike to +US\$2.00 per pound (as LME inventories preceded to decline further below the ~100 kt level).**
- ***Declining TC’s a good leading indicator*** – Earlier this quarter Teck signed deals with European smelters Glencore and Nyrstar for annual zinc concentrate supply with 2018 treatment charges (TCs) set at US\$147/DMT—consolidating what is a benchmark for many zinc miners and smelters in the industry. TCs are the fees paid to smelters for the costs of processing concentrates into refined metal. **The US\$147/DMT figure is well below a 2017 benchmark charge of US\$172/DMT, and sets a new 12-year low.** Furthermore, price participation, which had historically given miners and smelters the ability to share in LME zinc price gains and losses, has been taken out of the contracts by the removal of a base price aspect and zeroing of scales (debated 85% pay factor maintained). **The benchmark decrease speaks volumes to the state of the zinc market—namely fierce competition between top smelters for zinc concentrate in a market plagued by dwindling global mine supply. This concentrate (and metal) constraint stands to bolster near- to medium-term pricing—good news for the zinc miners including Ascendant, Trevali, Lundin, Nevsun, and to a lesser extent (partially) integrated producers such as ♦Hudbay and Teck.** We note relatively low TCs stemming from a concentrate shortage prompted a number of Chinese smelter closures and cutbacks last year (including cutbacks by Zhuzhou Smelter Group Co., China’s largest refined zinc producer; ~4% of global capacity), setting the stage for decreased Y/Y refined production out of the country in 2017.

♦ During the past twenty-four months, Cormark Securities Inc., either on its own or as a syndicate member, participated in the underwriting of securities for Hudbay Minerals Inc.

Furthermore, Korea Zinc announced plans to cut refined production by 7.7% last year (to just under 600 kt) on the back of low mine concentrate supply and reduced TCs. **Benchmark 2018 lead TCs have also dropped to ~US\$98/DMT (from ~US\$125/DMT last year) for high silver lead concentrates.**

- **Longer-term response** – As noted above, the zinc price spiked to just over US\$2.00 per pound in late 2006. The cyclical high was prompted by a sharp drop in global supply, noting LME inventories dropped 86% to ~88 kt between December 31, 2004, and December 31, 2006. Market skeptics point toward increased (albeit stricter given environmental considerations) Chinese zinc production in response to higher pricing, noting ~40% of the world's zinc production comes from Chinese mines. **Markets are cyclical and we agree that a longer term supply response is inevitable, which will moderate zinc pricing over time—hence timing is important (a luxury that many developers do not have in the context of timely permitting, financing, and construction considerations).** However, there are arguably no obvious 'tier 1' (+500 ktpa) replacement projects for the Century mine that are poised for near-term production start-up. Looking further ahead, there are a few (very) large projects that warrant consideration (for example Ivanhoe Mines' Kipushi project in the DRC, which is targeting production start-up in ~2020, cognizant of political risk considerations that now appear to be a reality with respect to tax reforms). That said, the fact that ~50% of the world's refining capacity is located in China suggests that (new) Chinese zinc mine production is higher cost (arguably requires 'sustained' pricing above US\$1.15 per pound to justify development). Given China's (increasing) contribution to global production, the country's higher cost mines stand to 'dictate' zinc (floor) pricing (noting in part Cormark's long-term forecast zinc price of US\$1.15 per pound; +2020).

Figure 21

Zinc Supply And Demand

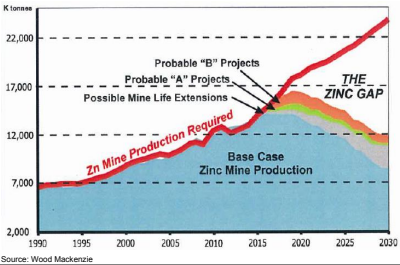
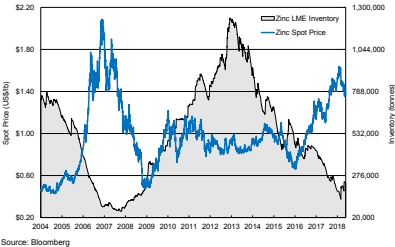


Figure 22 Zinc Spot Price and LME Inventory



Source: Bloomberg

Approximately 14 MMt of zinc is produced and consumed annually around the world, of which ~60% is utilized for its corrosion resistance via the galvanization of steel (rebar, autos, structural steel) to prevent it from rusting. The remainder is mostly used in die-casting, production of brass and bronze, and in the chemical industry. However, new potentially significant demand points include battery technology and zinc's usage as a nutrient additive in fertilizers. China's Ministry of Agriculture is now recommending the use of zinc in fertilizers. The addition, which increases costs by ~5%, can boost crop yields by ~25%. By 2020, China's consumption of zinc for fertilizers is expected to total ~500 ktpa, which is essentially equal to the annual production of a Century-sized mine being put back into the ground every year. Furthermore, over time we would not be surprised to see India follow China's lead regarding zinc in fertilizers.

Appendix IV: Risks To Target

Geopolitical Risk

This risk deals with policies such as permitting and tax laws that are managed by governments and the perceived stability and investment environment. These policies can greatly affect mining companies, and in some cases prevent mining from occurring. Generally, developing countries are seen as being more risky because of the potential of a quick change in power to drastically change policies. Developed countries have their own geopolitical risk issues, and jurisdictions with powerful environmental lobbies can also make mining or exploration difficult.

Honduras is relatively unknown with respect to mining, noting a lack of data excluded the country from the Frazer Institute's 2017 survey of mining companies (and the nation scored poorly in previous years). Apparent corruption has fueled political unrest. Nevertheless, Standard & Poor raised Honduras' credit rating to BB- (from B+) last year, and changed the country's risk outlook from stable to positive.

Honduras' politics are underpinned by a democratic constitution. President Juan Orlando Hernández was re-elected for another 4-year term in 2017 on a platform focused on security and business development. That said, until the mid-1980s Honduras' politics were dominated by the military, which enthusiastically supported U.S. efforts to stem revolutionary movements in the region. Since then, civilian leaders have sought to curb the power of the military, with varying degrees of success. Inequalities in wealth are high, and gang violence, drug wars, and extortion are commonplace.

Financing Risk

Mining and exploration companies may require external capital, particularly when building new mines. In order to finance these endeavors, equity or project dilution may be taken in order to fund the equity portion of the capital costs if the project is to be developed. Shareholders may also be subordinated by lenders in order to finance a mining project.

Commodity Price Risk

Our short- and long-term commodity price assumptions are based on detailed research, and viewed to be reasonable based on current information. However, the timing and magnitude of commodity price fluctuations are always a significant risk that, in most cases, strongly affects the value of mining and mineral exploration/development companies focused on a specific commodity. Currently, the primary metal exposure for Ascendant is zinc (and to a lesser extent lead and silver).

Technical Risk

Mining operations are subject to unforeseen risks such as labor strikes, rock bursts, geological interruptions, and equipment failure, all of which may negatively affect a company's performance. Ore reserve and resource risk is another technical risk that is derived from the subjective nature of geological interpretation. Competent, qualified personnel calculate ore reserves and resources, and in most cases have a high accuracy, but any significant variation on reserves could drastically impact a company's operations and the value of its shares.

Exploration Risk	In some cases, the market may build in expectations for exploration success before the actual exploration work has taken place. In the event that results do not meet the market's expectation, the company's shares may be negatively affected.
Cost Risk	Both capital and operating costs may be affected by changes in input prices (fuel, steel, chemicals, etc.) and by relative currency changes. The company may be at risk of unexpected cost escalation as a result of these potential threats.

Recommendation Terminology	<p>Cormark's recommendation terminology is as follows:</p> <table><tr><td>Top Pick</td><td>our best investment ideas, the greatest potential value appreciation</td></tr><tr><td>Buy</td><td>expected to outperform its peer group</td></tr><tr><td>Market Perform</td><td>expected to perform with its peer group</td></tr><tr><td>Reduce</td><td>expected to underperform its peer group</td></tr></table> <p>Our ratings may be followed by "(S)" which denotes that the investment is <i>speculative</i> and has a higher degree of risk associated with it.</p> <p>Additionally, our target prices are based on a 12-month investment horizon.</p>	Top Pick	our best investment ideas, the greatest potential value appreciation	Buy	expected to outperform its peer group	Market Perform	expected to perform with its peer group	Reduce	expected to underperform its peer group
Top Pick	our best investment ideas, the greatest potential value appreciation								
Buy	expected to outperform its peer group								
Market Perform	expected to perform with its peer group								
Reduce	expected to underperform its peer group								
Disclosure Statements and Dissemination Policies	<p>A full list of our disclosure statements as well as our research dissemination policies and procedures can be found on our web-site at: www.cormark.com</p>								
Analyst Certification	<p>We, Stefan Ioannou and Yakun Liu, hereby certify that the views expressed in this research report accurately reflect our personal views about the subject company(ies) and it's (their) securities. We also certify that we have not been, and will not be receiving direct or indirect compensation in exchange for expressing the specific recommendation(s) in this report.</p>								

Figure 23 Ascendant Resources Inc. – Disclosure Chart

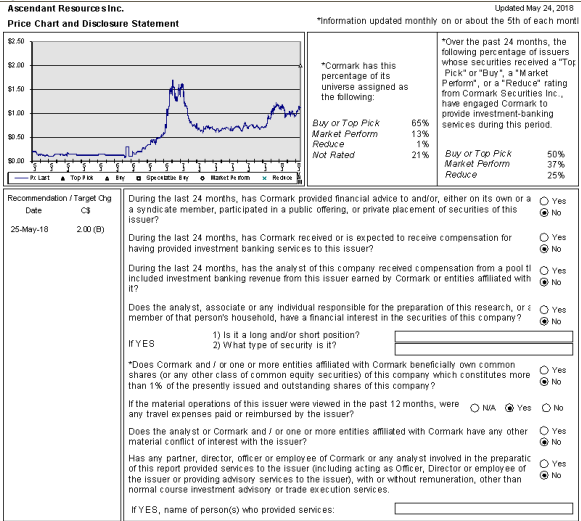


Figure 24 Trevali Mining Corp. – Disclosure Chart

Trevali Mining Corporation

Updated May 24, 2018

Price Chart and Disclosure Statement

*Information updated monthly on or about the 5th of each month

Recommendation / Target Chg	Date	C\$
22-Jan-18	2.00	(TP)
10-Jan-18	2.15	(TP)
01-Sep-17	2.00	(TP)
10-Apr-17	1.85	(TP)
01-Mar-17	1.85	(B)

*Cormark has this percentage of its universe assigned as the following:

Buy or Top Pick	65%
Market Perform	13%
Reduce	1%
Not Rated	21%

*Over the past 24 months, the following percentage of issuers whose securities received a "Top Pick" or "Buy", a "Market Perform", or a "Reduce" rating from Cormark Securities Inc., have engaged Cormark to provide investment-banking services during this period.

Buy or Top Pick	50%
Market Perform	37%
Reduce	25%

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☒ Yes
☐ No

During the last 24 months, has Cormark received or is expected to receive compensation for having provided investment banking services to this issuer?

☒ Yes
☐ No

During the last 24 months, has the analyst of this company received compensation from a pool that included investment banking revenue from this issuer earned by Cormark or entities affiliated with it?

☒ Yes
☐ No

Does the analyst, associate or any individual responsible for the preparation of this research, or is member of that person's household, have a financial interest in the securities of this company?

☐ Yes
☒ No

If YES

1) Is it a long and/or short position?
2) What type of security is it?

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☐ N/A
☒ Yes
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