



**NOBLE CAPITAL MARKETS NEWSLETTER**  
**METALS AND MINING**  
**QUARTERLY REVIEW Q4 2019**

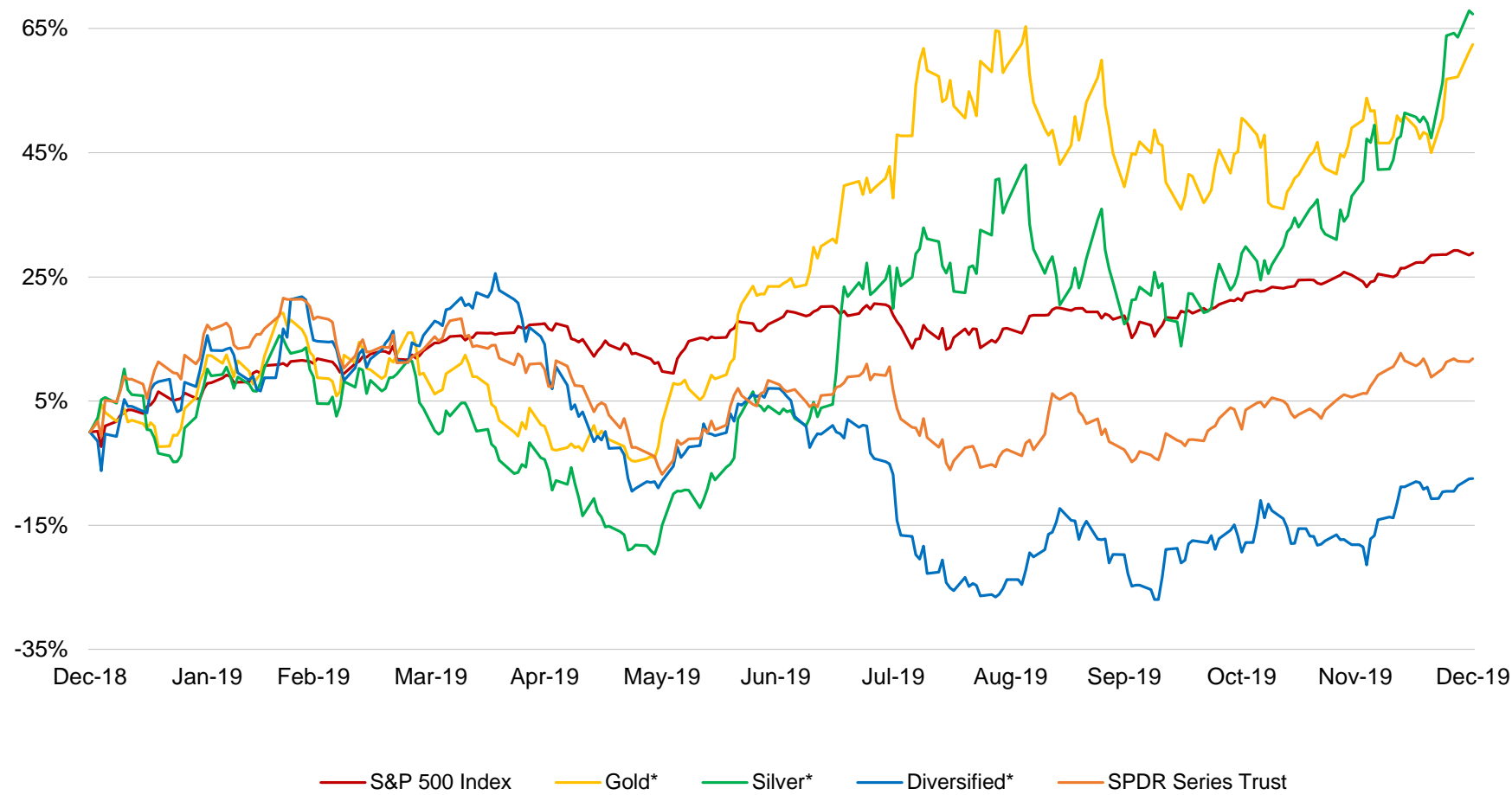
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# MINING SECTOR NEWSLETTER

## MINING SECTOR LTM EQUITY PERFORMANCE



\* Noble Proprietary Sector (index composed of companies in the comparable table)  
\*\* MINING Select Sector SPDR ETF (refer to disclosure section for more information)

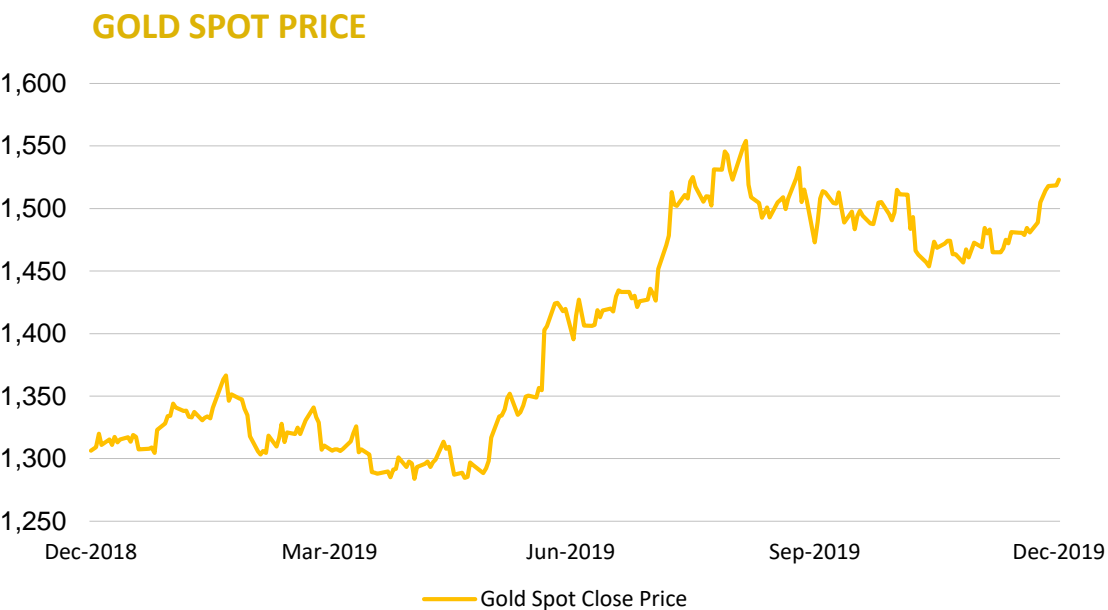
Source: Capital IQ as of 12/31/2019

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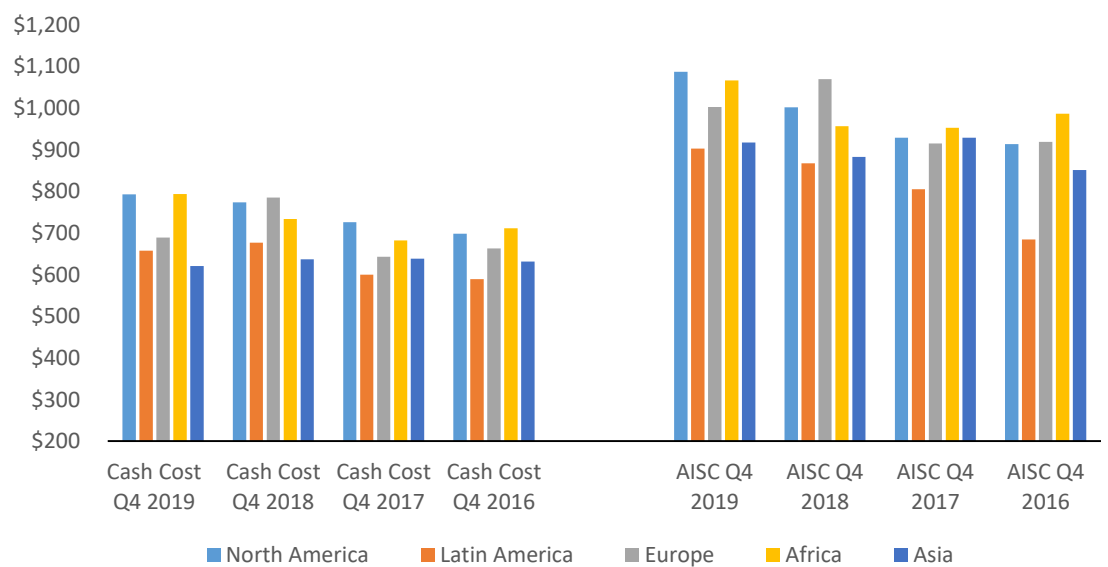
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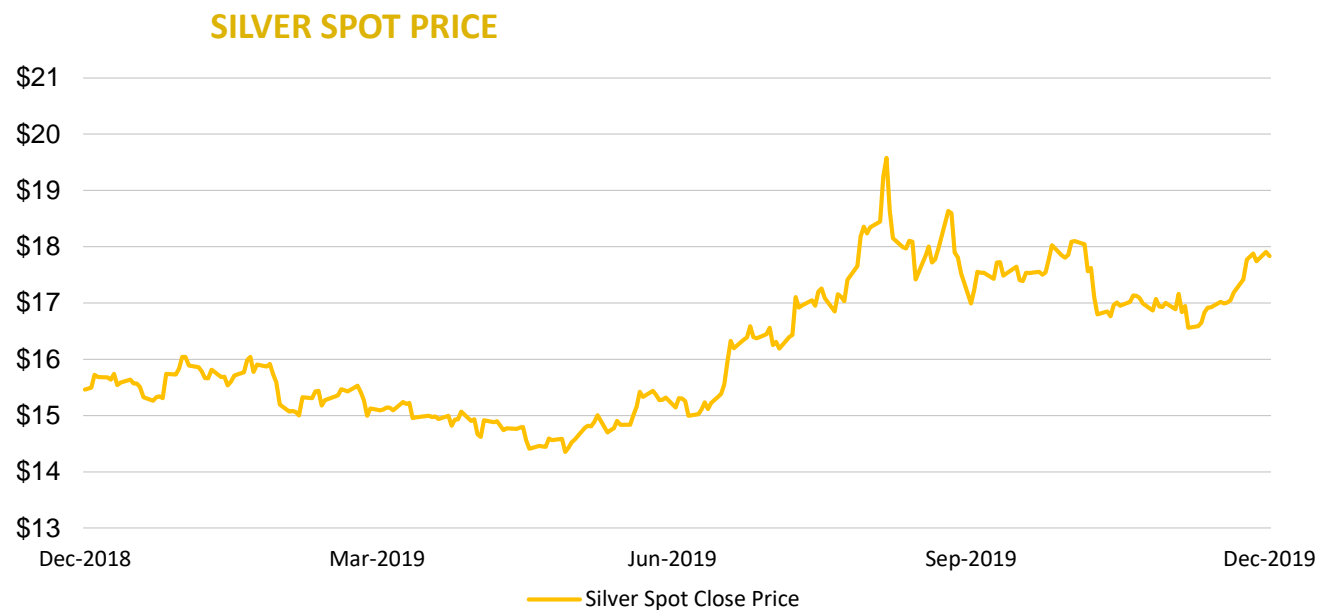
# MINING – FUNDAMENTAL DATA



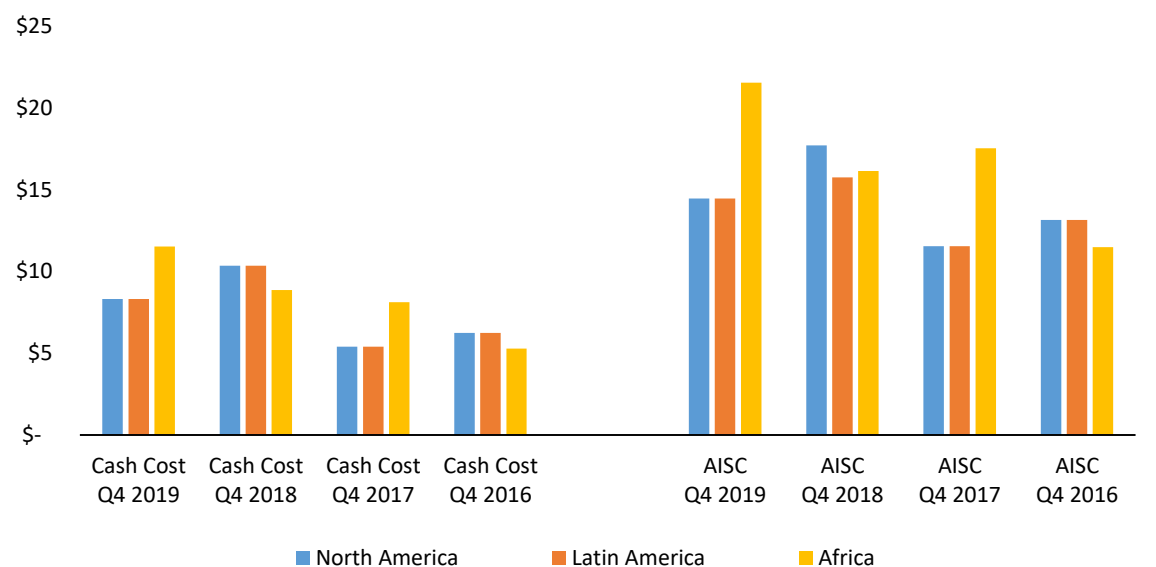
### GOLD CASH COSTS AND AISC BY REGION



Source: Capital IQ as of 12/31/2019



### SILVER CASH COSTS AND AISC BY REGION





# METALS AND MINING INDUSTRY OUTLOOK

## Metals & Mining Fourth Quarter & 2019 Review and Outlook

In 2019, mining companies (as measured by the XME) appreciated 11.8% compared to 28.9% for the broader market as measured by the S&P 500 index. During the fourth quarter, the XME outpaced the broader market and rose 15.1% versus 8.5% for the S&P 500. For the full year, gold and silver futures prices rose 16.0% and 13.4%, respectively, while copper increased 5.7%. We note that copper futures prices rose 8.5% during the fourth quarter and outpaced both silver and gold. In 2019, precious metals prices reacted to changes in monetary policy, economic growth and geopolitical expectations. For base metals, the key catalysts were economic growth expectations and issues around trade.

As we move into the new year, the outlook for precious metals remains favorable in our view. Increasing geopolitical tensions, notably in the Middle East, increased risk of equity market volatility and a modest interest rate environment along with the potential for higher inflation may cause investors to increase allocations to precious metals for their defensive characteristics in a diversified portfolio.

Central banks have increased gold reserves. According to the World Gold Council, reported 2019 net central bank purchases amounted to 562 tonnes through October 2019 which brought reported global gold reserves to 34,500.8 tonnes.

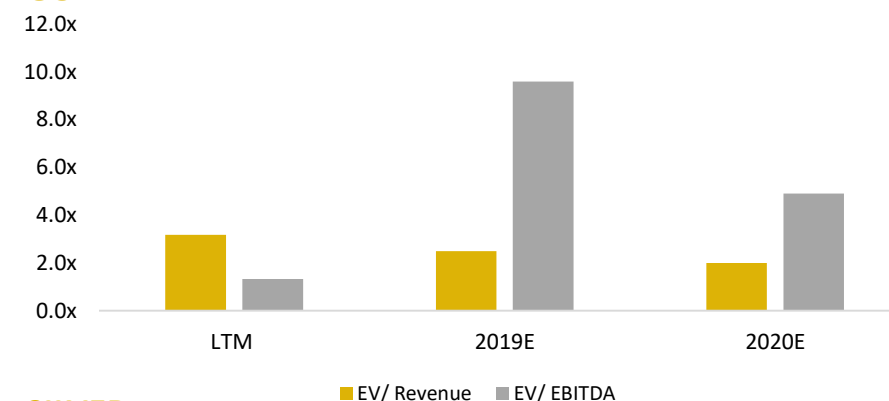
In 2019, exchanged traded products were a popular vehicle for investment exposure to gold. While 2019 global gold-backed ETF flows were a significant driver of gold demand, U.S. Mint sales of American Eagle gold bullion declined to 152,000 ounces in 2019 compared to 245,500 ounces in 2018. We think publicly-traded equities of metals producers offer an attractive way to invest given the disproportionate percentage impact higher commodity prices may have on a company's bottom line and valuation for a given percentage increase in the commodity itself.

With respect to base metals, economic growth expectations and issues around trade will influence pricing. While the theme of "electrification" gained attention in 2019, sources and supplies of metals needed to support development of electric vehicles and green technologies will likely come into focus in 2020. As a result, investor interest in base metals-oriented companies could grow as the market begins to assess longer-term supply/demand and pricing trends for metals such as copper, zinc, cobalt and manganese. We note that for copper, the International Copper Study Group (ICSG) recently released preliminary data for September 2019. The data indicates that world mine production declined by 0.4% in the first nine months of 2019 due to reduced output in major producing countries such as Chile. World refined production was unchanged, while world refined copper balance in the first nine months of 2019 was a deficit of 390,000 tonnes.

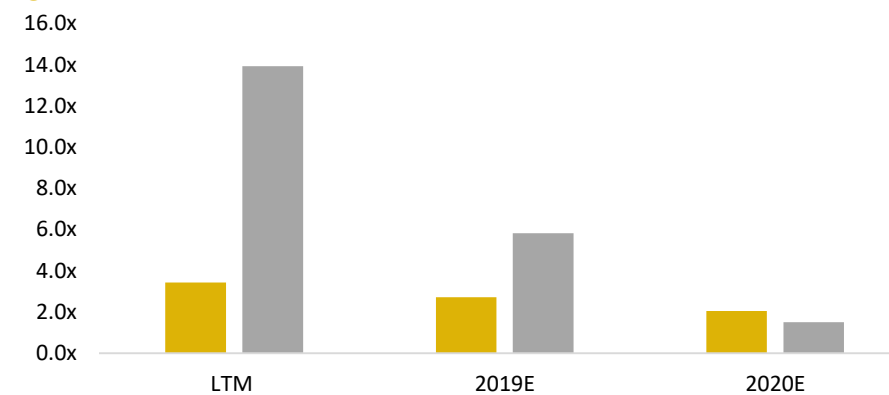
In our view, mining stocks are an attractive way to gain exposure to metals given their leverage to strengthening metals prices. Precious metals equities may provide a hedge against volatility in the equity markets and offer diversification benefits.

Source: Mark Reichman, January 07, 2020

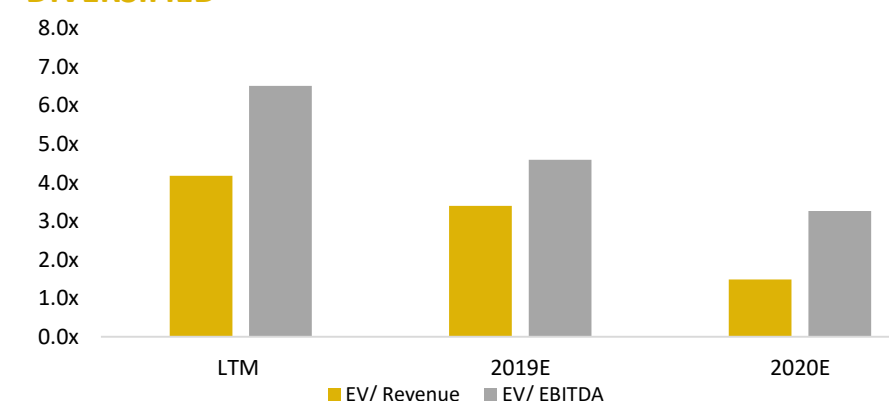
### GOLD



### SILVER



### DIVERSIFIED





# GOLD MINING

## COMPARABLE TABLES

### Major Gold Miner Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	LTM	2019E	2020E	LTM	2019E	2020E	
Kinross Gold Corporation	TSX:K	(55%)	47%	\$4.75	66%	5,953	1,884	7,461	3,288	1,157	2.3x	2.2x	2.1x	6.5x	5.6x	4.8x	35%
B2Gold Corp.	TSX:BTO	84%	37%	\$4.02	75%	4,121	366	4,404	1,247	590	3.5x	3.7x	3.0x	7.5x	6.9x	5.0x	47%
Yamana Gold Inc.	TSX:YRI	103%	68%	\$3.96	76%	3,766	1,132	4,847	1,712	663	2.8x	3.0x	3.1x	7.3x	6.4x	6.0x	39%
Alamos Gold Inc.	TSX:AGI	(32%)	68%	\$6.04	60%	2,361	1	2,155	660	260	3.3x	3.2x	3.2x	8.3x	7.5x	7.3x	39%
Detour Gold Corporation	TSX:DGC	189%	129%	\$19.38	75%	3,439	112	3,406	824	284	4.1x	4.0x	3.9x	12.0x	10.1x	8.7x	34%
Eldorado Gold Corporation	TSX:ELD	4%	174%	\$8.04	60%	1,274	510	1,714	519	138	3.3x	2.7x	1.9x	NM	7.3x	4.1x	27%

<b>Mean</b>	3.2x	3.1x	2.9x	8.3x	7.3x	6.0x	37%
<b>Median</b>	3.3x	3.1x	3.1x	7.5x	7.1x	5.5x	37%

### Intermediate Gold Miner Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	LTM	2019E	2020E	LTM	2019E	2020E	
Wesdome Gold Mines Ltd.	TSX:WDO	74%	142%	\$7.84	76%	1,077	9	1,057	113	49	9.3x	6.3x	5.9x	NM	12.0x	11.4x	43%
Golden Star Resources Ltd.	TSX:GSC	32%	19%	\$3.79	59%	415	95	377	256	51	1.5x	1.4x	1.2x	7.4x	6.5x	2.9x	20%
Teranga Gold Corporation	TSX:TGZ	47%	83%	\$5.41	77%	582	175	761	323	60	2.4x	2.2x	1.4x	12.7x	5.7x	3.3x	19%
Premier Gold Mines Limited	TSX:PG	8%	29%	\$1.52	60%	320	28	314	85	(15)	3.7x	2.5x	1.9x	-20.9x	72.3x	6.9x	NM
Argonaut Gold Inc.	TSX:AR	(5%)	32%	\$1.50	52%	270	14	248	248	50	1.0x	0.9x	0.8x	5.0x	2.8x	1.7x	20%
Corvus Gold Inc.	TSX:KOR	1%	(14%)	\$1.66	57%	206	-	202	-	(8)	NM	NM	NM	-24.9x	NM	NM	NM

<b>Mean</b>	3.6x	2.7x	2.2x	-4.2x	19.9x	5.2x	25%
<b>Median</b>	2.4x	2.2x	1.4x	5.0x	6.5x	3.3x	20%

Source: Capital IQ as of 12/31/2019



# GOLD MINING

## COMPARABLE TABLES

### Junior Gold Miner Index

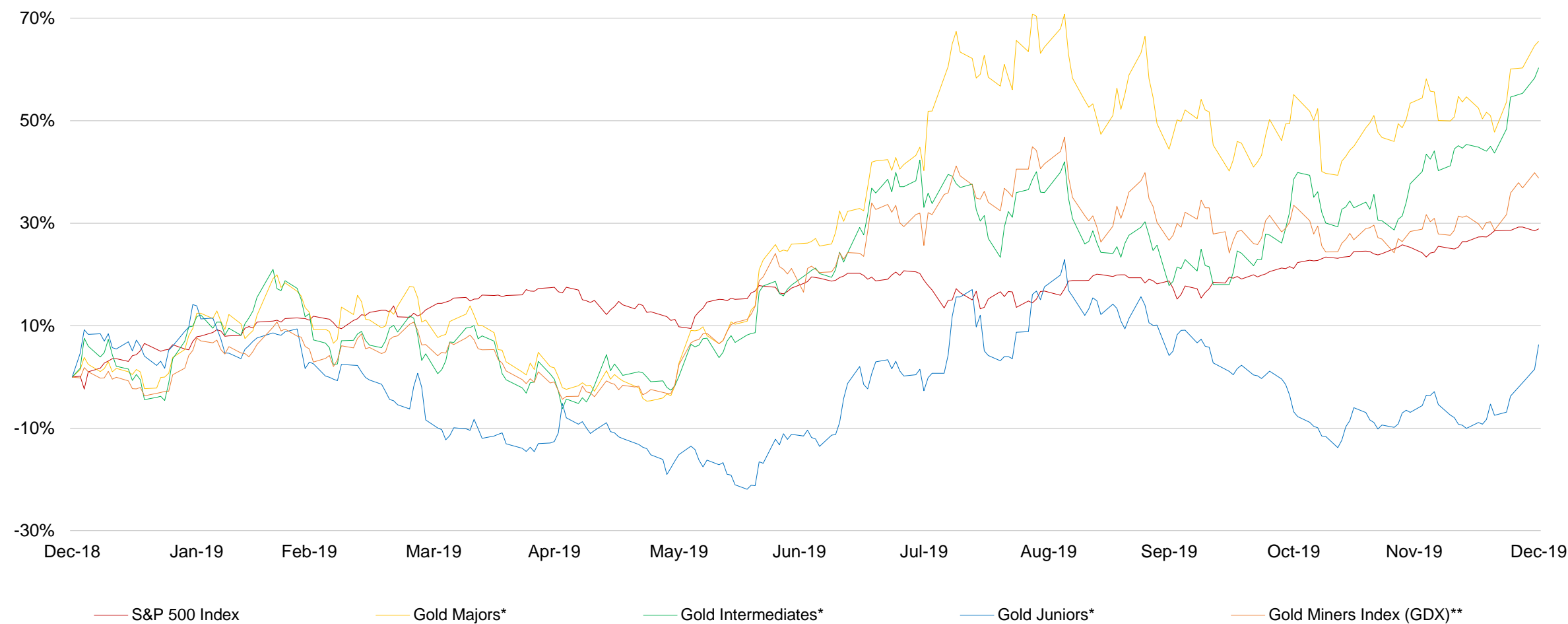
	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	LTM	2019E	2020E	LTM	2019E	2020E	
Asanko Gold Inc.	TSX:AKG	2%	49%	\$0.95	65%	215	-	201		(23)	NM	0.6x	0.6x	-8.6x	5.6x	2.6x	NM
Guyana Goldfields Inc.	TSX:GUY	(24%)	(54%)	\$0.54	29%	94	4	73	182	24	0.4x	0.4x	0.2x	3.1x	3.6x	NM	13%
Contango Ore, Inc.	OTCPK:CTGO	NA	(17%)	\$14.50	58%	94	-	87	-	-	NM	NM	NM	NM	NM	NM	NM
Alio Gold Inc.	TSX:ALO	26%	(8%)	\$0.78	56%	67	8	62	114	(22)	0.5x	0.5x	0.5x	-2.8x	-1.0x	2.7x	NM
GoGold Resources Inc.	TSX:GGD	2%	161%	\$0.48	60%	89	-	82	27	(1)	3.0x	NM	NM	NM	NM	NM	NM
Mako Mining Corp.	TSXV:MKO	70%	117%	\$0.27	77%	158	-	146	16	(12)	9.0x	6.2x	1.8x	NM	NM	NM	NM
Mean											3.3x	1.9x	0.8x	-2.8x	2.7x	2.7x	13%
Median											1.8x	0.6x	0.5x	-2.8x	3.6x	2.7x	13%

Source: Capital IQ as of 12/31/2019



# GOLD MINING LTM EQUITY PERFORMANCE

(NOBLE INDEX SELECTION)



\* Noble Proprietary Sector (index composed of companies in the comparable table)  
\*\* SPDR Gold Shares (refer to disclosure section for more information)

Source: Capital IQ as of 12/31/2019





# SILVER MINING

## COMPARABLE TABLES

### Major Silver Miner Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN	
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	LTM	2019E	2020E	LTM	2019E	2020E		
Pan American Silver Corp.	TSX:PAAS	51%	62%	\$23.72	76%	4,971	381	5,185	1,120	288	4.6x	4.0x	3.2x	NM	12.2x	9.1x	26%	
SSR Mining Inc.	TSX:SSRM	33%	59%	\$19.27	76%	2,370	284	2,123	533	178	4.0x	2.7x	2.4x	11.9x	7.0x	5.3x	33%	
First Majestic Silver Corp.	TSX:FR	35%	109%	\$12.28	74%	2,515	163	2,554	342	75	7.5x	5.2x	4.1x	NM	NM	12.0x	22%	
Coeur Mining, Inc.	NYSE:CDE	68%	81%	\$8.08	97%	1,943	355	2,233	660	80	3.4x	3.1x	2.6x	NM	15.5x	7.5x	12%	
Hecla Mining Company	NYSE:HL	93%	44%	\$3.39	97%	1,716	616	2,299	585	101	3.9x	3.5x	3.2x	22.7x	13.5x	10.0x	17%	
											Mean	4.7x	3.7x	3.1x	17.3x	12.1x	8.8x	22%
											Median	4.0x	3.5x	3.2x	17.3x	12.9x	9.1x	22%

### Intermediate Silver Miner Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN	
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	LTM	2019E	2020E	LTM	2019E	2020E		
MAG Silver Corp.	TSX:MAG	11%	61%	\$11.83	64%	1,023	1	927	-	(9)	NM	NM	NM	NM	NM	NM	NM	
Fortuna Silver Mines Inc.	TSX:FVI	32%	11%	\$4.08	67%	654	136	719	248	94	2.9x	2.8x	1.8x	7.7x	8.2x	3.7x	38%	
Silvercorp Metals Inc.	TSX:SVM	46%	171%	\$5.65	73%	974	2	907	173	81	5.3x	5.0x	4.4x	11.2x	9.5x	8.5x	47%	
Endeavour Silver Corp.	TSX:EDR	8%	12%	\$2.41	57%	338	9	324	121	(4)	2.7x	2.1x	1.7x	NM	NM	NM	NM	
Great Panther Mining Limited	TSX:GPR	(27%)	(27%)	\$0.52	33%	161	52	186	147	8	1.3x	0.7x	0.5x	NM	NM	2.0x	5%	
											Mean	3.0x	2.7x	2.1x	9.4x	8.8x	4.8x	30%
											Median	2.8x	2.5x	1.8x	9.4x	8.8x	3.7x	38%

Source: Capital IQ as of 12/31/2019



# SILVER MINING

## COMPARABLE TABLES

### Junior Silver Miner Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	LTM	2019E	2020E	LTM	2019E	2020E	
Americas Gold and Silver Corporation	TSX:USA	26%	92%	\$3.14	60%	260	18	277	64	(2)	4.3x	3.2x	1.4x	NM	NM	5.5x	NM
Alexco Resource Corp.	TSX:AXU	33%	149%	\$2.31	62%	275	1	267	24	(6)	11.0x	11.2x	3.9x	NM	NM	NM	NM
Bear Creek Mining Corporation	TSXV:BCM	41%	177%	\$2.11	72%	218	1	192	-	(15)	NM	NM	NM	-12.7x	-10.0x	-26.7x	NM
Excellon Resources Inc.	TSX:EXN	13%	57%	\$0.79	53%	88	-	80	26	(5)	3.1x	1.7x	1.1x	-17.6x	-4.4x	-20.6x	NM
Avino Silver & Gold Mines Ltd.	TSX:ASM	(2%)	(6%)	\$0.58	54%	44	9	50	30	1	1.7x	1.2x	0.8x	81.8x	NM	5.6x	2%
Kootenay Silver Inc	TSXV:KTN	45%	165%	\$0.26	77%	75	-	68	-	(2)	NM	NM	NM	NM	NM	NM	NM

Mean	5.0x	4.3x	1.8x	17.2x	-7.2x	-9.0x	2%
Median	3.7x	2.5x	1.3x	-12.7x	-7.2x	-7.5x	2%

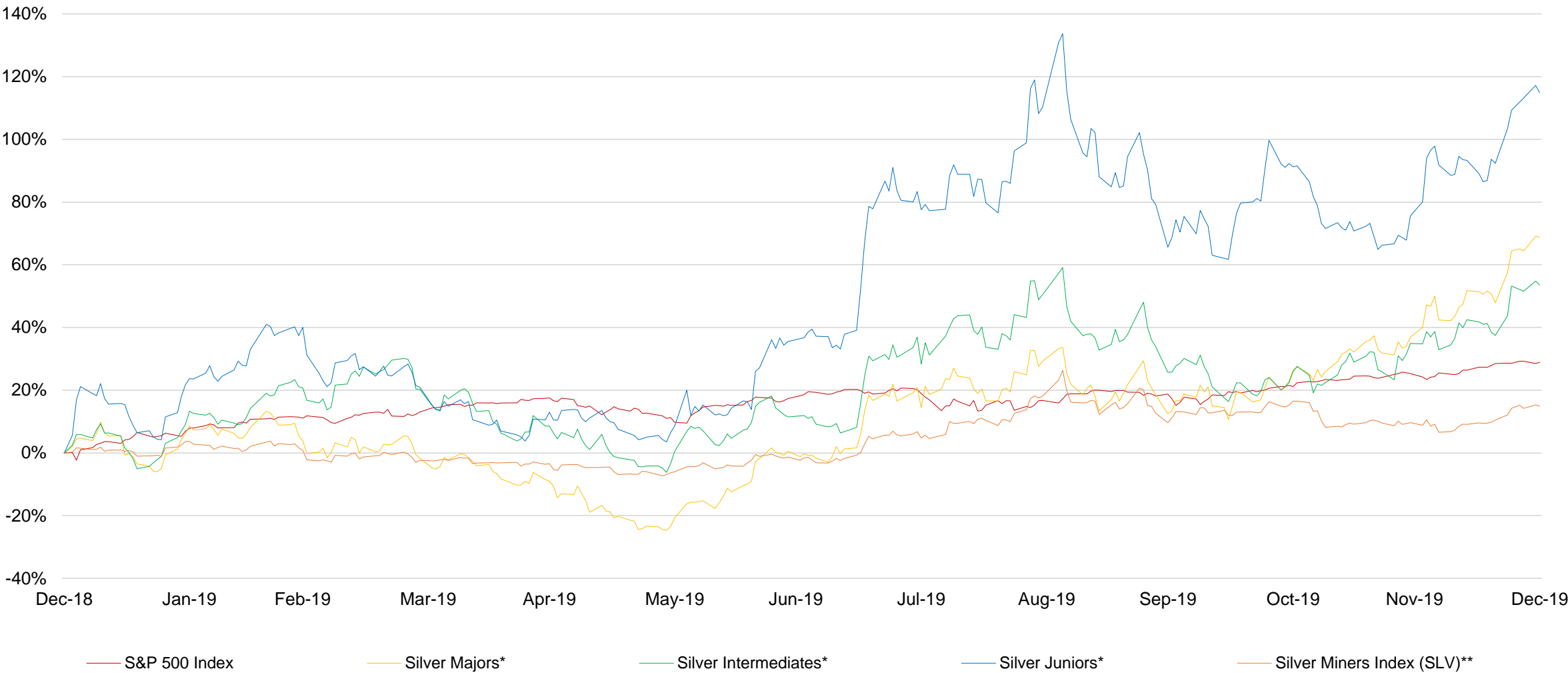
Source: Capital IQ as of 12/31/2019



# SILVER MINING

## LTM EQUITY PERFORMANCE

(NOBLE INDEX SELECTION)



\* Noble Proprietary Sector (index composed of companies in the comparable table)  
\*\* SPDR Gold Shares (refer to disclosure section for more information)

Source: Capital IQ as of 12/31/2019



## GOLD & SILVER LTM GLOBAL M&A ACTIVITY

Date	Buyer	Target	Transaction Value	EV/ Revenue	EV/ EBITDA
12/24/2019	-	Dundee Precious Metals Inc.	1.9	2.0	6.9
12/18/2019	Austral Gold Limited	Rawhide Acquisition Holding LLC	4.0	-	-
11/22/2019	-	ZYQC Group Holding Limited	0.1	-	-
11/21/2019	Talisker Resources Ltd.	Bralorne Gold Mines Ltd.	11.1	-	-
11/20/2019	Aldoro Resources Limited	Altium Metals Limited	1.1	-	-
11/17/2019	Saracen Goldfields Pty Limited	Barrick (Australia Pacific) Limited	749.2	-	-
11/08/2019	-	Guyana Goldstrike Inc.	0.1	-	-
11/07/2019	2176423 Ontario Ltd.	Amex Exploration Inc.	1.5	-	-
10/16/2019	GBM Resources Limited	Millstream Resources Pty Limited	0.5	-	-
10/08/2019	Canal Front Investments Inc.	True Grit Resources Ltd.	0.0	-	-
09/30/2019	TerraX Minerals Inc.	Gold Matter Corporation	1.3	-	-
09/26/2019	Tintina Mines Limited	NSR Resources Inc.	0.6	-	-
09/23/2019	Osisko Gold Royalties Ltd	Barkerville Gold Mines Ltd.	169.8	-	-
09/16/2019	Pretium Exploration Inc.	Brucejack gold offtake contract	41.3	-	-
09/10/2019	-	Lydian International Limited	0.8	-	-
08/27/2019	Northern Star Resources Limited	Echo Resources Limited	127.1	-	-
08/27/2019	England Communications Ltd.	Golden Lake Exploration Inc.	0.0	-	-
08/23/2019	O3 Mining Inc.	Harricana River Mining Corporation Inc.	1.5	-	-
08/20/2019	Avesoro Jersey Limited	Avesoro Resources Inc.	26.9	1.1	10.3
08/19/2019	Gandel Metals Pty Ltd	Alliance Resources Limited	5.3	-	-
08/19/2019	Tempus Resources Limited	Sona Resources Corp.	0.4	-	-
08/14/2019	Benchmark Metals Inc.	PPM Phoenix Precious Metals Corp.	3.2	-	-
07/31/2019	Resolute Mining Limited	Toro Gold Limited	302.4	1.7	-
06/14/2019	AEON Corporation	GeoProMining Investment (CYP) Limited	126.0	1.7	3.8
06/04/2019	-	Maverix Metals Inc.	39.3	13.5	18.9
06/03/2019	-	Maverix Metals Inc.	16.7	13.5	18.9
05/21/2019	Barrick Gold Corporation	Acacia Mining plc (nka:Barrick TZ Limited)	427.2	1.7	19.3
05/14/2019	Nord Pacific Ltd.	Atlantic Gold Corporation	595.4	5.3	9.5
05/02/2019	Monazita Resources Ltd.	Aura Minerals Inc.	7.4	0.6	2.1
04/11/2019	-	Red 5 Limited	21.4	1.1	10.7
03/05/2019	Jiangxi Copper Company Limited	Shandong Humon Smelting Co., Ltd.	443.7	0.6	11.0
02/25/2019	Evolution Mining Limited	Tribune Resources Limited	29.6	0.4	0.9
01/14/2019	Newmont Mining Corporation (nka:Newmont Corporation)	Goldcorp Inc.	13,084.5	4.3	40.1
MEAN				3.6x	12.7x
MEDIAN				1.7x	10.5x

Source: Capital IQ as of 12/31/2019



# DIVERSIFIED MINING

## COMPARABLE TABLES

### Major Diversified Miner Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN	
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	- LTM	- 2019E	- 2020E	- LTM	- 2019E	- 2020E		
Teck Resources Limited	TSX:TECK.B	(3%)	(27%)	\$15.79	46%	8,752	4,407	12,607	9,462	3,108	1.3x	1.1x	1.1x	4.1x	2.9x	3.2x	33%	
First Quantum Minerals Ltd.	TSX:FM	17%	21%	\$9.81	59%	6,719	9,697	16,847	3,837	1,567	4.4x	4.1x	3.0x	10.8x	10.7x	6.7x	41%	
Lundin Mining Corporation	TSX:LUN	25%	43%	\$5.90	73%	4,335	368	5,045	1,732	543	2.9x	2.6x	2.1x	9.3x	7.3x	4.9x	31%	
Turquoise Hill Resources Ltd.	TSX:TRQ	51%	(57%)	\$0.71	25%	1,419	4,237	2,878	1,291	445	2.2x	2.6x	2.5x	6.5x	9.2x	NM	34%	
Hudbay Minerals Inc.	TSX:HBM	(1%)	(25%)	\$3.56	34%	929	1,063	1,604	1,265	441	1.3x	1.3x	1.3x	3.6x	4.3x	4.0x	35%	
Nexa Resources S.A.	NYSE:NEXA	(11%)	(29%)	\$8.42	66%	1,115	1,457	2,120	2,330	410	0.9x	0.9x	1.0x	5.2x	5.9x	4.6x	18%	
											Mean	2.2x	2.1x	1.8x	6.6x	6.7x	4.7x	32%
											Median	1.8x	1.9x	1.7x	5.8x	6.6x	4.6x	34%

### Intermediate Diversified Miner Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN	
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	LTM	2019E	2020E	LTM	2019E	2020E		
Energy Fuels Inc.	TSX:EFR	(6%)	(36%)	\$1.81	36%	179	18	178	8	(35)	21.7x	22.5x	2.1x	NM	NM	NM	NM	
Imperial Metals Corporation	TSX:III	5%	51%	\$1.71	49%	220	3	144	246	20	0.6x	3.2x	NM	NM	NM	NM	8%	
Sierra Metals Inc.	AMEX:SMTS	44%	(3%)	\$1.70	87%	282	99	376	219	60	1.7x	1.2x	0.9x	6.2x	3.9x	2.3x	27%	
Capstone Mining Corp.	TSX:CS	46%	46%	\$0.65	76%	260	213	542	403	87	1.3x	1.3x	1.2x	6.3x	5.0x	4.6x	21%	
Panoramic Resources Limited	ASX:PAN	6%	(19%)	\$0.21	43%	143	33	170	18	0	NM	2.0x	1.0x	NM	NM	3.6x	1%	
											Mean	6.3x	6.0x	1.3x	6.2x	4.4x	3.5x	14%
											Median	1.5x	2.0x	1.1x	6.2x	4.4x	3.6x	15%

Source: Capital IQ as of 12/31/2019



# DIVERSIFIED MINING

## COMPARABLE TABLES

### Junior Diversified Miner Index

	TICKER	CHANGE IN STOCK PRICE		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$M)	TOTAL DEBT (\$M)	ENT. VALUE (\$M)	LTM		EV / REVENUE			EV / EBITDA			EBITDA MARGIN
		3-MONTH	12-MONTH						REVENUES (\$M)	EBITDA (\$M)	LTM	2019E	2020E	LTM	2019E	2020E	
Taseko Mines Limited	TSX:TKO	40%	24%	\$0.59	56%	145	289	406	265	39	1.5x	1.2x	1.1x	10.3x	8.0x	4.8x	15%
Western Copper and Gold Corporation	TSX:WRN	13%	62%	\$0.74	64%	79	-	77	-	-	NM	NM	NM	NM	NM	NM	NM
Tinka Resources Limited	TSXV:TK	8%	(46%)	\$0.13	33%	34	-	28	-	(2)	NM	NM	NM	NM	NM	NM	NM
Falco Resources Ltd.	TSXV:FPC	36%	6%	\$0.23	60%	47	8	54	-	(3)	NM	NM	NM	NM	-8.2x	-4.8x	NM
Atico Mining Corporation	TSXV:ATY	12%	41%	\$0.30	74%	35	8	47	50	16	0.9x	0.6x	0.6x	2.9x	1.7x	2.3x	32%
Tasman Resources Ltd	ASX:TAS	(12%)	(29%)	\$0.03	39%	16	1	23	2	(6)	13.8x	NM	NM	NM	NM	NM	NM

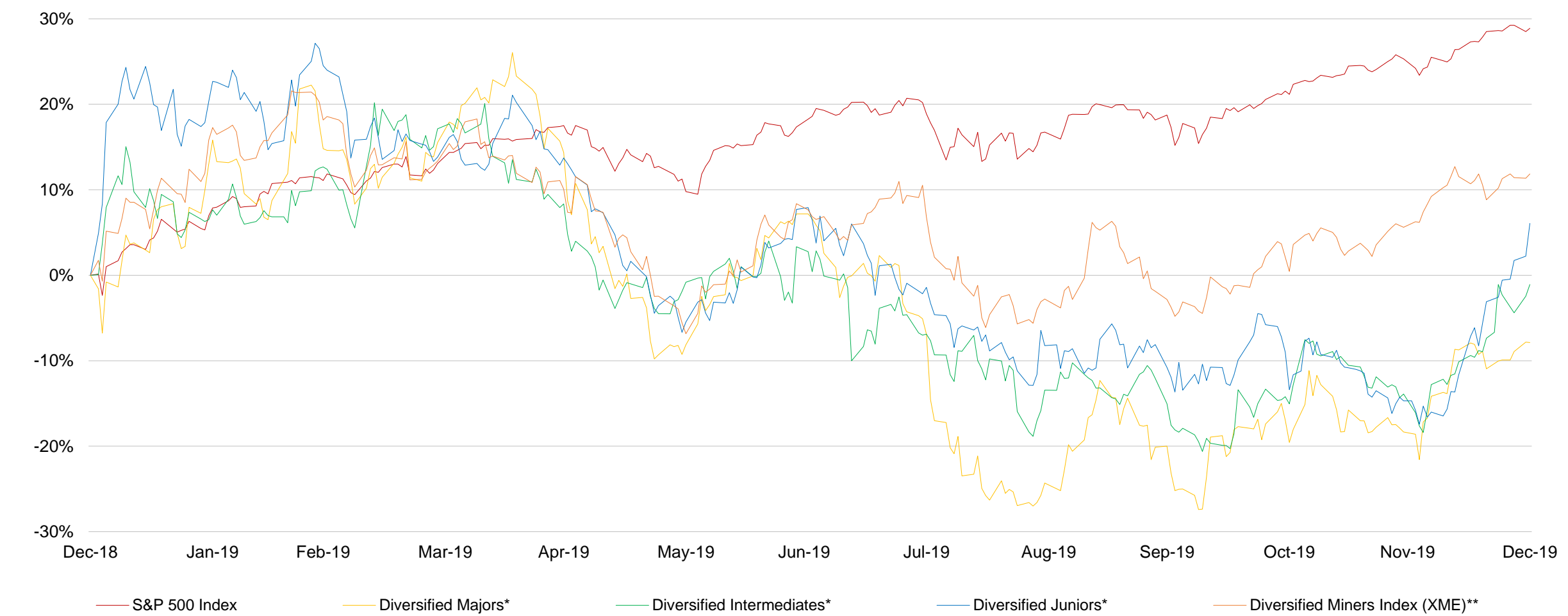
<b>Mean</b>	5.4x	0.9x	0.9x	6.6x	0.5x	0.8x	24%
<b>Median</b>	1.5x	0.9x	0.9x	6.6x	1.7x	2.3x	24%

Source: Capital IQ as of 12/31/2019



# DIVERSIFIED MINING LTM EQUITY PERFORMANCE

(NOBLE INDEX SELECTION)



\* Noble Proprietary Sector (index composed of companies in the comparable table)  
\*\* SPDR Gold Shares (refer to disclosure section for more information)

Source: Capital IQ as of 12/31/2019



## DIVERSIFIED MINING LTM GLOBAL M&A ACTIVITY

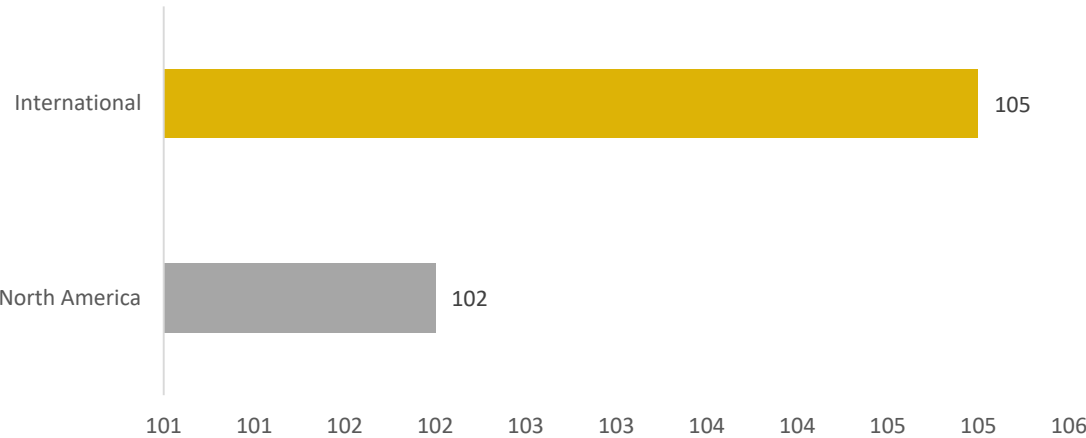
Date	Buyer	Target	Transaction Value	EV/ Revenue	EV/ EBITDA
12/19/2019	Valley Holdings, Inc.	Tata Chemicals (Soda Ash) Partners, Inc.	195.0	1.7	7.7
12/12/2019	Yunnan Tin Company Limited	Yunnan Hualian Zinc and Indium Co., Ltd.	133.0	3.8	-
12/10/2019	Hargreaves Raw Material Services Gmbh	Dk Recycling Und Roheisen Gmbh	1.1	0.0	-
12/07/2019	Wuxi Industry Development Group Co., Ltd.	Falcon Tech Co., Ltd.	17.9	10.5	-
11/28/2019	Gränges AB (publ)	Impexmetal S.A.	606.5	0.6	7.9
11/14/2019	Fitzroy River Corporation Limited	Royalco Resources Limited	4.5	13.4	75.6
11/07/2019	Acerinox, S.A.	VDM Metals GmbH	587.6	-	5.5
11/04/2019	Independence Group NL	Panoramic Resources Limited	249.7	14.4	-
10/03/2019	2176423 Ontario Ltd.	MacDonald Mines Exploration Ltd.	1.1	82.5	-
09/25/2019	Qinghai Western Resources Co. Ltd.	Tibet Huayu Mining Co., Ltd.	99.2	7.6	27.5
08/30/2019	Tibet Aotecar Investment Co., Ltd.	Qinghai Hengxin Rongliye Technology Co., Ltd.	22.2	6.7	-
08/16/2019	-	Suzhou Vico Material Technology Co.,LTD	3.0	0.3	3.9
06/25/2019	Yongshan International Co., Ltd.	Altura Mining Limited	17.5	18.9	-
06/05/2019	Bennelong Resource Capital Pty Ltd	Apollo Minerals Limited	1.0	64.5	-
05/29/2019	Hunan Caixin Changqin No. 1 Fund Partnership Enterprise (Limited Partnership)	Chenzhou City Jingui Silver Industry Co., Ltd.	45.1	0.8	13.8
05/22/2019	Shanghai Haitong Securities Asset Management Company Ltd	Tibet Huayu Mining Co., Ltd.	39.6	6.1	21.4
05/03/2019	Orefinders Resources Inc.	Mistango River Resources Inc.	0.1	-	-
05/02/2019	Wesfarmers Limited	Kidman Resources Limited	538.9	-	-
05/01/2019	First Cobalt Corp.	eCobalt Solutions Inc.	2.5	-	-
04/15/2019	AMCI Euro-Holdings BV	Jupiter Mines Limited	31.7	39.8	2.7
04/01/2019	Jervois Mining Limited	eCobalt Solutions Inc.	41.5	-	-
03/15/2019	Sichuan Jiangxi Copper Rare Earth Co., Ltd.	Liangshan Mining & Smelting Investment Holding Co., Ltd.	11.2	-	-
03/12/2019	-	Rosehearty Energy Inc.	0.0	-	-
03/11/2019	CD Capital Asset Management Ltd.; CD Capital Natural Resources Fund III L.P.	Verdant Minerals Ltd	16.2	-	-
03/09/2019	Puyang Refractories Group Co., Ltd.	Tibet Changdu Xiangchen Magnesium Industry Co., Ltd.	89.4	-	-
03/08/2019	Phoenix Bridge International Holdings Group Investment Company, Limited	Anchor Resources Limited	12.8	-	-
03/07/2019	-	Greenland Resources Inc	1.5	-	-
02/27/2019	Xuchen International Co., Ltd.	Nzuri Copper Limited	82.8	-	-
01/29/2019	Chengyu Vanadium Titano Technology Ltd	Huili County Caitong Iron and Titanium Co., Ltd.	81.7	-	-
01/22/2019	Jervois Mining Limited	M2 Cobalt Corp.	12.6	-	-
01/15/2019	Pluspetrol Resources Corporation B.V.	LSC Lithium Corporation	85.1	-	-
01/01/2019	Cobalt 27 Capital Corp.	Highlands Pacific Limited	201.4	-	26.7
05/06/2019	Pala Investments Limited	Nevada Copper Corp.	9.3	-	-
MEAN				17.0X	19.3X
MEDIAN				7.2X	10.8X

Source: Capital IQ as of 12/31/2019

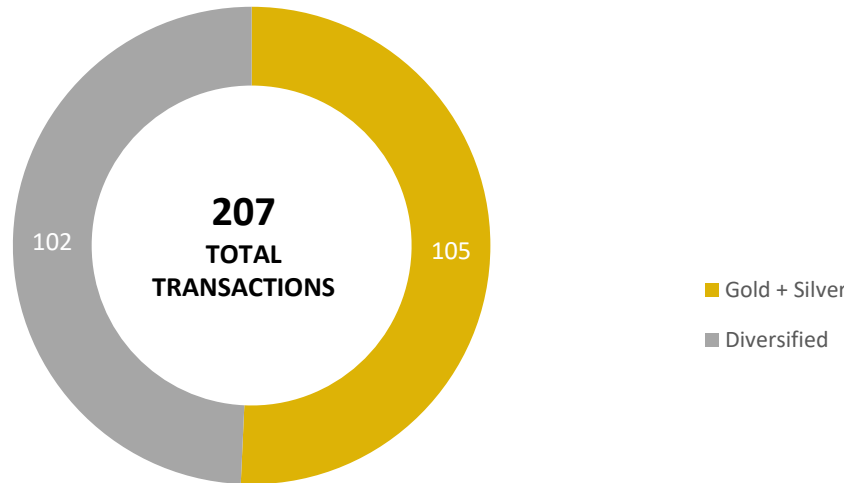


# LTM MINING INDUSTRY M&A SUMMARY

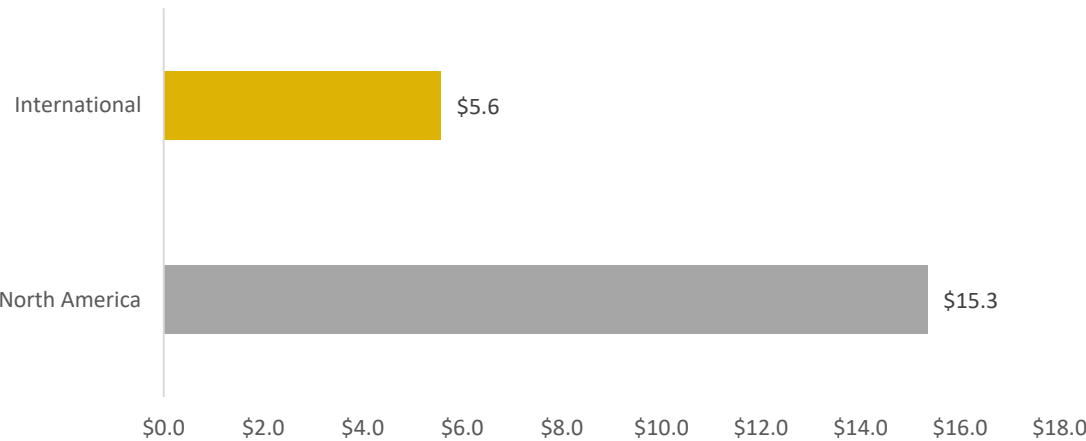
**NORTH AMERICA VS INTERNATIONAL**  
**TOTAL TRANSACTIONS** *(Number of transactions)*



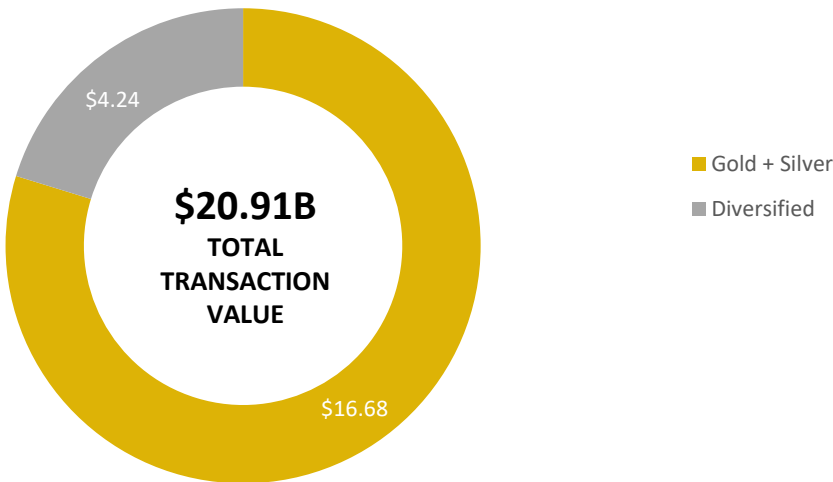
**DEAL VALUE PER SECTOR**  
*(Number of transactions)*



**NORTH AMERICA VS INTERNATIONAL**  
**TOTAL TRANSACTIONS** *(Values in \$B)*



**TOTAL TRANSACTION VALUE**  
*(Values in \$B)*



Source: Capital IQ as of 12/31/2019





## NOBLE QUARTERLY HIGHLIGHTS

### Golden Valley Mines Ltd. (TSXV:GZZ)

#### Industry: Metals and Mining – Diversified

Golden Valley Mines Ltd. identifies, acquires and developmental exploration and evaluation of minerals in Canada. The company currently holds 100 properties located across Canada, ranging from the Abitibi Greenstone Belt, to James Bay, Mistassini. Golden Valley is also involved in the acquisition and management of royalties.

#### 4<sup>th</sup> Quarter News Highlight:

December 5, 2019: The company announces exercise of its option to acquire 100% interest in a group of properties. The properties included: Abitibi Greenstone Belt of North-Eastern Ontario and North-Western Québec. The exercise is in accordance to the terms of the amended and restated mining option agreement between Golden Valley and VZZ dated November 28, 2019. Golden Valley holds approximately 31% of the issued shares of VZZ.



Golden Valley Mines Ltd.  
Mines de la Vallée de l'Or Itée

### Mako Mining Corp. (TSXV:MKO)

#### Industry: Metals and Mining – Gold

Mako Mining Corp. engages in the acquisition, exploration, and development of mineral properties in Nicaragua and Mexico. Mako focuses primarily on gold deposits with silver as its second interest. The company holds interest in the San Albino-Murra Property and the El Jicaro Property, which covers an aggregate area of 13,771 hectares located in north-central Nicaragua. Mako also has an interest in the La Trinidad open pit heap leach gold mine located in Sinaloa, Mexico.

#### 4<sup>th</sup> Quarter News Highlight:

December 17, 2019: Mako announces that it has entered into a non-binding LOI (Letter of Intent) with Goldplay Exploration Ltd. Pursuant to which it is proposed that Goldplay shall have the right to acquire 100% of the common shares of Mako's wholly-owned subsidiary, Marlin Gold Mining Ltd, from Mako.



### U.S. Gold Corp. (NasdaqCM:USAU)

#### Industry: Metals and Mining – Gold; Diversified

U.S. Gold Corp operates as a gold exploration and development company in the United States. The company explores for gold, copper, silver and zinc minerals. The company's properties include the Copper King project located in south-east Wyoming and the Keystone project, an exploration property, located on the Cortez Trend in Nevada.

#### 4<sup>th</sup> Quarter News Highlight:

November 12, 2019: U.S. Gold Corp announces the results of its 2019 drilling program and receipt of drill-hole assays from the Keystone project. The program included six reverse circular holes and one core hole that further explores results from the 2018 Key18-09rc drill hole. Included in the drillings was the first ever test of the Nina Skarn target area, where the thickest intervals of strong, continuous gold mineralization ever drilled at Keystone have been encountered.



U.S. GOLD  
CORP

Source: Company Press Releases

$$R + (e^2 + p^2) = \pi$$

# NOBLE CAPITAL MARKETS

## NOBLE CAPITAL MARKETS

NOBLE CAPITAL MARKETS is a research-driven investment and merchant bank focused on small cap, emerging growth companies in the healthcare, technology, media and natural resources sectors. That's what we are. Who we are is what makes us different.

Our people are talented, dedicated, experienced professionals who come together with a common cause; advising on long-term client solutions by employing innovative, collaborative and responsive strategies. We're passionate and personable. We approach things from our clients' perspective.

We know that developing lasting relationships is reliant upon putting our clients' interests before ours. We understand the impact of our services. Insightful advisory and effective capital procurement can change lives. Empowering our clients to create employment, engineer technological and medical breakthroughs, producing products and services that lay the foundation for the future. For more than 30 years these have been our guiding principles. While much has changed over the three decades since we began, these core values and our reputation have not. Our clients must know what to expect from us. Then we can strive to exceed expectations.

## A SIMPLE FORMULA

### OUR VALUE PROPOSITION.

It starts with research with a fundamental belief that information guides the management process, NOBLE understands that there is no short-path to success. With this as a solid foundation, apply experience and execution delivered by people with passion. This is our formula to add value to your creation.

Research + Experience & Execution + People with Passion = Value

### FULL-SERVICE INVESTMENT BANK

- Established 1984.
- Private firm, employee owned.
- Built on commitment to provide value and support for our clients.

### FOCUSED INSTITUTIONAL SALES AND TRADING

- Seasoned sales and sales trading team.
- Long standing relationships with premier growth- focused investors.

### INVESTMENT BANKING COMMITMENT

- Proven track record.
- Senior level attention to every client and transaction.
- Ability to deliver complete "mind share" of NOBLE on all transactions.

### RESEARCH DRIVEN CAPITAL MARKETS PLATFORM

- Experience team of Research Analysts covering approximately 100 companies.
- Focus on Technology, Media, Healthcare and Natural Resources.
- Strong Institutional Sponsorship.

$$R + (e^2 + p^2) = \gamma f$$

## INVESTMENT BANKING

Our investment banking team, together with our well-recognized equity research analysts and the equity capital markets group, provide our clients with fundamental capital markets advisory and support - prior, during and most importantly, after a transaction. NOBLE's investment banking team works closely with the management and Board of our corporate clients in order to fully understand operational and financial objectives. With this knowledge our banking team will develop an efficient and effective advisory program which offers a variety of services including:

### EQUITY CAPITAL MARKETS

- Secondary and Follow-on Offerings
- Registered Direct Offerings
- Initial Public Offerings
- At the market Offerings (ATM's)
- PIPEs/Private Sale Offerings

### DEBT CAPITAL MARKETS

- Senior Debt
- Mezzanine
- Convertible Debt
- Bridge Financings

### ADVISORY SERVICES

- Merger & Acquisitions
- Fairness Opinions
- Valuation Services

## SELECT NATURAL RESOURCES TRANSACTIONS

**Gravitas**  
Resources Corporation  
(PRIVATE)

**\$4,200,000**

Private Placement  
Placement Agent

  
February 2019

**SAILFISH**  
ROYALTY CORP.  
(TSX-V: FISH)

**Restructuring Advisory**

Fairness Opinion

  
August 2018

**ORCHLIGHT**  
ENERGY  
(TRCH)

**Advisory**

Corporate Advisory

  
March 2018

**SIERRA**  
METALS

**\$55,000,000**

At-The-Market  
Offering (ATM)  
Agent

  
October 2017

**MARLIN**  
GOLD MINING LTD.  
(MLN)

**Advisory**

Corporate Advisory

  
February 2017

**SES**  
SYNTHESIS ENERGY SYSTEMS  
(SYMx)

**Advisory**

Corporate Advisory

  
January 2017

**AVINO SILVER & GOLD MINES LTD.**  
(ASM)

**\$800,000**

Private Placement of  
Registered Securities  
Sole Placement Agent

  
March 2016



$$R + (e^2 + p^2) = \pi$$

## VALUATION SERVICES

NOBLE's Valuation and Advisory Services team specializes in providing business and intangible asset valuations, fairness opinions, financial and strategic analysis, and transaction support services covering a broad spectrum of industries and situations from early stage, middle market and Fortune 500 companies and capital market constituents. NOBLE's team is made up of professionals with numerous accreditations and bring excellence in accounting, taxation, and financial due diligence to provide companies with valuation advice for a multitude of purposes.

**Valuation** – NOBLE's professionals have significant experience in the valuation of privately owned and public businesses across a wide range of industries. We perform an extensive analysis of the business as well as evaluate industry trends and various other factors in order to inform our clients as to the likely range of value they can expect. Our services are characterized by intellectual and analytical rigor and our conclusions are backed by thorough documentation.

Chief Accounting Officers, Corporate Controllers, CFOs, and Corporate Boards rely on Noble's experienced valuation professionals to produce sophisticated, supportable, and timely valuations to assist in complying with financial reporting requirements, including:

- Purchase price allocation and fresh start accounting
- Goodwill and long-lived asset impairment testing
- Tangible asset valuation
- Fair Value measurement of financial assets & liabilities

**Opinions** - Whether our clients are looking to fulfill their fiduciary duties, mitigate risk or determine corporate value, we are there throughout the transaction process to offer objective advice based on rigorous analysis. We work on behalf of boards of directors, investors, trustees and other corporate leaders to advise and provide opinions on a wide range of transactions.

We have advised Corporate Boards, special transaction committees, independent trustees, management and other fiduciaries of middle market public and private companies on the financial aspects of a transaction. Our independent advice withstands scrutiny from shareholders, bondholders, the SEC, IRS, or counterparties to a transaction

## MERCHANT BANKING

Our Principal Investment focus is primarily on private and small-cap public (\$10mill to \$50mill market caps) companies in industries within NOBLE's research verticals. Investments are made directly by NOBLE and its affiliates and may also involve syndicate participants. We work to identify those companies with game-changing or superior products and technologies that have management teams with proven track-records of success. NOBLE structures investments to meet a company's capital needs whether its growth capital, liquidity or debt repayment. Capital commitment ranges from \$200k to \$2million principal and \$2million above with syndicate.

The scope of our Merchant Banking activities includes:

- Targeting domestic companies within our areas of focus and expertise
- Analyzing a company's opportunities and assessing its risks within their respective industry
- Structuring, negotiating and executing the transaction
- Work in assessing the appropriate time and manner in which to harvest the investment

NOBLE's Merchant Banking Team works continuously with our portfolio companies to assist the management team and Board of Directors to create value and grow their businesses to facilitate long-term shareholder value. Through our extensive sector research coverage, institutional investor non-deal road shows, equity conferences and market making, we blend a powerful mix of capital markets acumen to procure success.

$$R + (e^2 + p^2) = \gamma f$$

## INVESTMENT BANKING TEAM

### Richard Giles, Managing Director

rgiles@noblecapitalmarkets.com – 617.692.9346

- Joined NOBLE in 2010 as Head of the Technology, Media & Telecommunications Investment Banking Group
- 25 years of investment banking experience.
- Executed more than 100 M&A and capital raising transactions totaling \$10+ billion
- Former head of Stifel Nicolaus' Technology Group.
- Former head of A.G. Edwards' Emerging Growth Group and member of Investment Committee for A.G. Edwards Capital
- A.B. Harvard College; M.B.A., Harvard Business School

### Francisco Penafiel, Managing Director

fpenafiel@noblecapitalmarkets.com – 561.994.5740

- Executed M&A and capital raising transactions totaling over \$1 billion dollars in value
- 7 years of sell side equity research experience, covering enterprise & infrastructure software, business services, media, communications, and banks
- 6 years of portfolio managing experience
- Manage the business development efforts in LATAM for NOBLE
- Engineering, IT & Statistics, Escuela Superior Politecnica (Guayaquil, Ecuador); M.S. Economics, Florida Atlantic University

### Juan Arvelo, Director

jarvelo@noblecapitalmarkets.com – 561.994.5731

- More than 18 years of corporate finance and capital markets experience, with a special focus on M&A, restructuring and capital raising transactions.
- Previous Director at Enkeros Investments and Activa Capital Markets
- Former CFO of LS Energia
- Main focus in the QSR, financial institutions and energy sectors
- Managed corporate finance and recoveries division at PricewaterhouseCoopers (PwC)
- B.S. Economics UCAB; M.S. Finance IESA; MBA Babson College

### Mark Suarez, Managing Director

msuarez@noblecapitalmarkets.com – 646.790.5875

- Prior experience holding senior positions at McQuilling Partners and Euro Pacific Capital
- Main focus in marine shipping and surface transportation
- B.Com McGill University with concentrations in Economics and Finance; M.S. in Economics University of Toronto
- Holds a CFA and various FINRA licenses

### Stephen McGee, Analyst Intern

smcgee@noblecapitalmarkets.com – (561) 994-5726

- Recently joined Noble and is assisting the IB team in a broad range of capacities
- Previously spent 6+ years in the MILB for various affiliated teams
- B.S. Hospitality Management Florida State University
- Level I CFA candidate December 2019

### Guranda Kurdgelashvili, Analyst

gk@noblecapitalmarkets.com – (561) 912-1734

- Joined Noble in December 2017 and moved to the IB team in May 2019
- Previously worked as an Investment Analyst for a Tech startup in Boca Raton, FL
- M.B.A specializing in Financial Valuation and Investment Management from Lynn University

$$R + (e^2 + p^2) = \pi$$

## SALES & TRADING

**David Lean**

**Head Trader, Director of Institutional Sales and  
Trading, Chief Compliance Officer**

dlean@noblecapitalmarkets.com – 561.994.5737

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