

METALS AND MINING QUARTERLY REVIEW



MINING SECTOR NEWSLETTER

NOBLE MINING SECTOR LTM EQUITY PERFORMANCE



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Source: Capital IQ



^{*} Noble Proprietary Sector (index composed of companies in the comparable table)
** SPDR S&P Metals and Mining ETF (refer to disclosure section for more information)

MINING DATA - FUNDAMENTAL INFORMATION

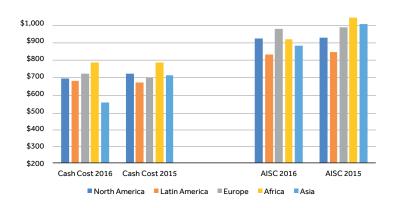
GOLD SPOT PRICE



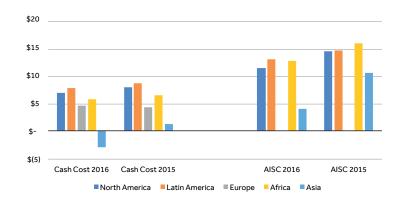
SILVER SPOT PRICE



GOLD CASH COSTS AND AISC BY REGION



SILVER CASH COSTS AND AISC BY REGION





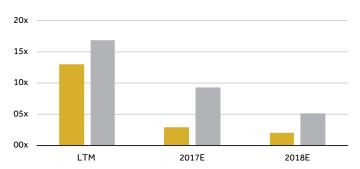


MINING AND METALS INDUSTRY OUTLOOK

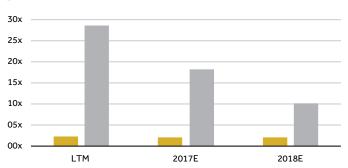
MINING AND METALS INDUSTRY OUTLOOK

Mining companies started out the year on a roll rising more than 10% in January, but declined sharply in the second half of the quarter. Gold prices have been stuck in a range of \$1,250-\$1,300 per ounce with weakness in February and March being the root cause of mining stock weakness. Silver prices have performed better than gold rising back above \$18 per ounce on a surge in the last week of the quarter. Results for the fourth quarter were slightly disappointing as companies have cut back production in this lower price environment. We expect continued low production and investment to reduce the current supply glut and eventually lead to higher prices. We favor companies willing to invest for the future and believe they will be rewarded over the next several years.

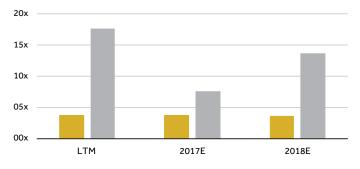
GOLD



SILVER



DIVERSIFIED



■ EV/ Revenue ■ EV/ EBITDA



GOLD MINING

COMPARABLE TABLES

Major Gold Miner Index

			E IN STOCK RICE						LTI	1	EV	/REVEN	UE	ΕV	//EBITD	A	
	TICKER	3-MONTH		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	EBITDA MARGIN
Royal Gold, Inc.	NasdaqGS:RGLD	9.3%	35.0%	\$69.23	78.9%	4,523	593	5,167	410	284	12.6x	11.3x	10.0x	18.2x	15.0x	13.6x	69.1%
Kinross Gold Corporation	TSX:K	10.7%	4.7%	4.64	61.4%	5,785	895	7,039	3,472	977	1.5x	1.6x	1.7x	7.2x	4.9x	4.6x	28.2%
Yamana Gold Inc.	TSX:YRI	-1.6%	-5.8%	3.71	47.1%	3,517	1,465	5,576	1,788	573	2.3x	2.5x	2.0x	9.7x	7.3x	5.0x	32.1%
B2Gold Corp.	TSX:BTO	17.9%	74.1%	3.76	79.3%	3,659	342	4,131	683	317	4.5x	4.6x	2.7x	13.0x	15.0x	5.6x	46.5%
Eldorado Gold Corporation	TSX:ELD	7.4%	13.7%	4.64	69.2%	3,319	-325	3,002	433	149	5.2x	4.2x	3.2x	20.1x	10.5x	6.8x	34.5%
Alamos Gold Inc.	TSX:AGI	15.8%	55.8%	10.72	78.5%	3,203	39	3,255	482	140	5.0x	4.7x	4.4x	23.2x	14.1x	11.9x	29.1%

 Mean
 5.2x
 4.8x
 4.0x
 15.2x
 11.1x
 7.9x
 39.9%

 Median
 4.8x
 4.4x
 3.0x
 15.6x
 12.3x
 6.2x
 33.3%

Intermediate Gold Miner Index

			E IN STOCK RICE						LTI	1	EV	/REVEN	UE	E	V/EBITD	A	
	TICKER	з-монтн	12-MONTH	SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	EBITDA MARGIN
Klondex Mines Ltd.	TSX:KDX	-17.4%	48.7%	\$5.16	64.9%	915	-17	892	198	51	3.3x	2.6x	2.0x	17.5x	7.3x	4.5x	25.7%
Asanko Gold Inc.	TSX:AKG	-14.3%	27.9%	3.53	58.0%	718	95	846	176	75	3.6x	2.2x	1.9x	11.3x	6.5x	4.8x	42.6%
Premier Gold Mines Limited	TSX:PG	21.1%	0.0%	3.10	61.4%	625	-67	558	151	77	3.7x	2.8x	4.2x	7.3x	6.5x	13.0x	51.0%
Teranga Gold Corporation	TSX:TGZ	1.2%	13.7%	0.83	59.3%	445	-83	352	269	103	1.0x	1.1x	1.0x	3.4x	3.5x	3.4x	38.2%
Argonaut Gold Inc.	TSX:AR	8.0%	20.5%	2.29	51.5%	405	-41	350	145	43	1.8x	1.8x	1.1x	8.1x	6.2x	3.0x	29.8%
Golden Star Resources Ltd.	TSX:GSC	13.1%	89.8%	1.12	76.7%	421	86	445	221	21	1.5x	1.0x	0.9x	21.1x	5.6x	2.5x	9.5%

Mean Median	2.5x	1.9x	1.9x	11.5x	6.0x	5.2x	32.8%
Median	2.6x	2.0x	1.5x	9.7x	6.4x	4.0x	34.0%





GOLD MINING

COMPARABLE TABLES

Junior Gold Miner Index

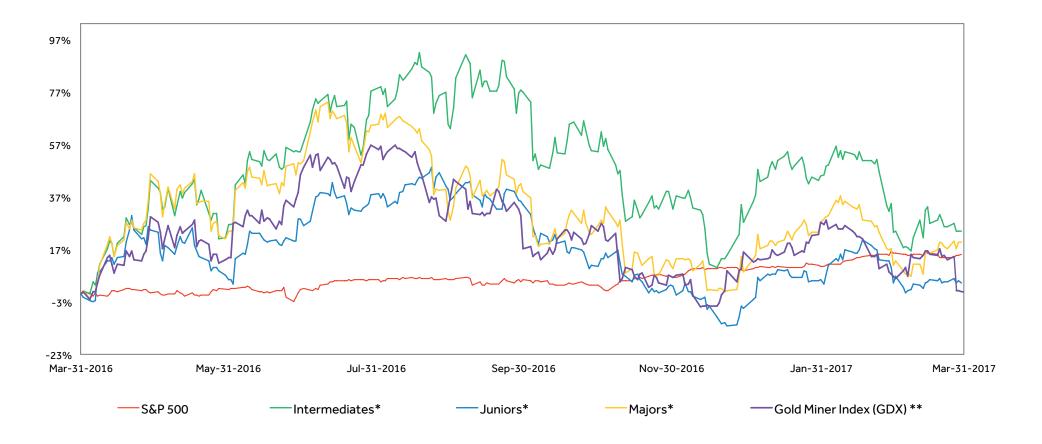
			E IN STOCK RICE						LTN	1	EV	/REVEN	UE	E	V/EBITD	A	
	TICKER	3-MONTH	12-MONTH	SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	EBITDA MARGIN
Columbus Gold Corporation	TSX:CGT	58.3%	137.5%	\$0.95	87.2%	145	-4	141	0	-4	NM	NA	NA	NM	NM	NA	NM
Rye Patch Gold Corp.	TSXV:RPM	-1.6%	79.4%	0.31	64.9%	118	-10	108	7	0	15.2x	0.8x	0.7x	NM	2.3x	2.7x	-3.3%
GoGold Resources Inc.	TSX:GGD	31.5%	-33.0%	0.71	43.0%	122	37	171	21	7	6.2x	2.3x	1.2x	23.4x	NA	NA	35.6%
Marlin Gold Mining Ltd.	TSXV:MLN	20.7%	59.1%	0.70	93.3%	121	43	164	12	-21	13.7x	NA	NA	NM	NA	NA	NM
Luna Gold Corp.	TSX:LGC	10.1%	29.6%	1.75	50.0%	77	39	128	3	-21	32.8x	NA	NA	NM	NA	NA	NM
Corvus Gold Inc.	TSX:KOR	49.1%	15.5%	0.82	59.4%	76	-5	71	0	-5	NM	NA	NA	NM	NA	NA	NM

Mean Median	11.3x	1.5x	1.0x	23.4x	NM	NM	16.1%
Median	9.9x	1.5x	1.0x	23.4x	NM	NM	16.1%



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)

SILVER MINING

COMPARABLE TABLES

Major Silver Miner Index

			E IN STOCK RICE						LTN	1	EV	/REVEN	UE	E	//EBITC	A	
	TICKER	3-MONTH		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	EBITDA MARGIN
Silver Wheaton Corp.	TSX:SLW	4.4%	25.7%	\$27.08	66.4%	11,955	1,069	13,391	892	606	11.2x	11.4x	10.6x	22.1x	17.2x	15.7x	67.9%
Tahoe Resources Inc.	TSX:THO	-16.3%	-18.7%	10.59	47.9%	3,301	-112	3,150	785	384	3.0x	2.7x	2.3x	8.2x	7.0x	5.7x	48.9%
Pan American Silver Corp.	TSX:PAAS	15.1%	65.1%	23.31	83.3%	3,569	-154	3,366	775	276	3.2x	3.2x	2.9x	12.2x	9.4x	7.5x	35.7%
Hecla Mining Company	NYSE:HL	-1.0%	86.7%	5.19	67.9%	2,052	314	2,366	646	247	3.7x	3.6x	3.5x	9.6x	9.7x	8.9x	38.2%
Coeur Mining, Inc.	NYSE:CDE	-13.5%	39.9%	7.86	47.9%	1,427	49	1,476	666	193	2.2x	2.0x	1.8x	7.6x	6.3x	4.7x	29.0%
First Majestic Silver Corp.	TSX:FR	2.5%	24.9%	10.52	42.1%	1,735	-91	1,614	278	107	4.3x	4.2x	3.1x	15.0x	10.4x	6.8x	38.6%

 Mean
 4.6x
 4.5x
 4.0x
 12.5x
 10.0x
 8.2x
 43.1%

 Median
 3.4x
 3.4x
 3.0x
 10.9x
 9.6x
 7.2x
 38.4%

Intermediate Silver Miner Index

			IN STOCK RICE						LTN	1	EV	/REVEN	UE	E	V/EBITD	Α	
	TICKER	3-MONTH		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	EBITDA MARGIN
MAG Silver Corp.	TSX:MAG	20.9%	45.8%	\$17.87	76.6%	1,443	-140	1,259	0	-8	NM	NA	9.8x	NM	NM	51.2x	NM
Fortuna Silver Mines Inc.	TSX:FVI	-14.1%	28.9%	6.52	51.2%	1,036	-61	955	189	55	3.8x	3.1x	2.7x	17.3x	7.1x	5.7x	29.2%
Endeavour Silver Corp.	NYSE:EXK	-10.5%	28.0%	3.15	52.9%	537	-63	447	157	33	2.1x	NA	NA	13.5x	NA	NA	21.1%
Silvercorp Metals Inc.	TSX:SVM	43.1%	142.2%	4.48	75.9%	750	-93	701	149	73	3.5x	3.5x	NA	9.6x	NA	NA	49.1%
Great Panther Silver Limited	TSX:GPR	-2.3%	75.0%	2.17	73.6%	364	-57	288	62	16	3.5x	2.9x	2.7x	18.4x	9.9x	NA	25.3%
Alexco Resource Corp.	TSX:AXR	16.6%	68.8%	2.11	63.7%	198	-25	173	11	-5	15.2x	NA	NA	NM	NA	NA	-39.8%

 Mean
 4.7x
 3.2x
 5.1x
 14.7x
 8.5x
 28.4x
 17.0%

 Median
 3.5x
 3.1x
 2.7x
 15.4x
 8.5x
 28.4x
 25.3%





SILVER MINING

COMPARABLE TABLES

Junior Silver Miner Index

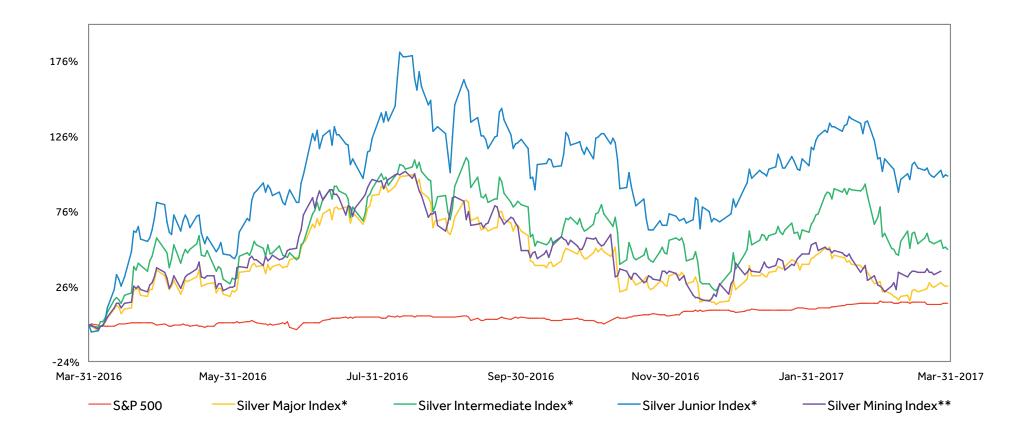
			E IN STOCK RICE						LTI	м	EV	/REVEN	UE	E	V/EBITD	A	
	TICKER	3-MONTH	12-MONTH	SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	EBITDA MARGIN
Americas Silver Corporation	TSX:USA	10.0%	33.7%	\$3.85	66.8%	152	-17	130	59	5	1.6x	2.3x	2.1x	27.6x	3.9x	3.0x	8.0%
Excellon Resources Inc.	TSX:EXN	-4.9%	155.7%	1.56	65.0%	119	-4	113	17	-2	5.0x	NA	NA	NM	NA	NA	-10.1%
Avino Silver & Gold Mines Ltd.	TSXV:ASM	26.2%	76.3%	2.31	57.0%	121	-10	111	40	10	2.8x	1.9x	1.2x	10.7x	2.5x	1.5x	26.1%
Minco Silver Corporation	TSX:MSV	20.6%	61.3%	1.29	62.9%	78	-52	37	0	-3	NM	NA	NA	NM	NA	NA	NM
IMPACT Silver Corp.	TSXV:IPT	1.5%	73.7%	0.66	51.6%	56	-8	48	17	1	2.9x	2.2x	2.2x	37.2x	NA	NA	7.8%
Silver Bear Resources Inc.	TSX:SBR	60.0%	433.3%	0.40	75.5%	65	80	145	0	-8	NM	NA	NA	NM	NA	NA	NM

Mean	2.5x	2.2x	1.8x	25.2x	3.2x	2.3x	7.9%
Median	2.8x	2.2x	2.1x	27.6x	3.2x	2.3x	7.9%



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)



GOLD & SILVER LTM GLOBAL M&A ACTIVITY

DATE	BUYER	TARGET	TV (\$M)	EV / EBITDA	EV / REVENUE
10/05/2016	Independence Group	Windward Resources Limited	12.56	-	-
09/29/2016	Kirkland Lake Gold	Newmarket Gold	720.81	8.6x	2.5x
09/26/2016	GMP Securities	Lundin Gold Inc.	23.36	-	-
08/16/2016	Minjar Gold	Pajingo Gold Mine	34.64	-	-
08/15/2016	JDL Gold Corp.	Gold Mountain Mining Corporation	17.09	-	-
08/15/2016	JDL Gold Corp.	Anthem United Inc.	16.93	-	1.4x
08/08/2016	Osisko Mining Inc.	Barkerville Gold Mines	29.28	-	-
08/04/2016	Combined Success Investments Limited	Tongguan County Xiangshun Mining Development Co.	59.16	-	5.9x
08/03/2016	Lumina Gold Corp.	Ecuador Gold and Copper Corp.	25.76	-	-
07/28/2016	Premier Gold Mines Limited	Meridian Gold Holdings Mexico	143.57	-	-
07/28/2016	UFG Asset Management	Trans-Siberian Gold plc	16.45	2.9x	1.2x
07/25/2016	Klondex Holdings	Carlin Resources	91.13	-	-
07/19/2016	Emerald Resources NL	Renaissance Minerals Limited	27.22	-	-
06/20/2016	Teranga Gold Corporation	Gryphon Minerals Ltd.	62.44	-	-
06/07/2016	Fortuna Silver Mines Inc.	Goldrock Mines Corp.	96.04	-	-
05/16/2016	First Mining Finance Corp.	Tamaka Gold Corporation	55.24	-	-
05/03/2016	First Mining Finance Corp.	Cameron Gold Operations	20.59	-	-
04/28/2016	Petropavlovsk	Amur Zoloto	180.22	-	-
04/07/2016	Probe Metals	Adventure Gold, Inc.	18.01	-	-
04/04/2016	Polymetal International	Orion Minerals	180	-	-
03/07/2016	Silver Standard Resources Inc.	Claude Resources, Inc.	259.14	6.1x	2.9x
03/04/2016	Endeavour Mining Corporation	True Gold Mining Inc.	178.74	-	-
02/29/2016	Perseus Mining Limited	Amara Mining plc	75.86	-	-
02/29/2016	MNG ORKO MADENCILIK ANONIM SIRKETI	Burkina Mining Company	25.3	-	-
02/26/2016	Arizona Mining Inc.	Arizona Minerals	11.36	-	-
02/16/2016	Anfield Gold Corp.	Magellan Minerals Limited	10.7	-	-
02/08/2016	Tahoe Resources Inc.	Lake Shore Gold Corp.	651.14	8.5x	3.0x
		Mean	112.69	6.5x	37.5x





DIVERSIFIED MINING

COMPARABLE TABLES

Major Diversified Miner Index

			E IN STOCK RICE						LTN	1	EV	/REVEN	UE	E	V/EBITD	A	
	TICKER	3-MONTH	12-MONTH	SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	EBITDA MARGIN
Teck Resources Limited	TSX:TECK.B	10.5%	201.5%	\$29.70	83.3%	17,145	6,936	24,248	9,300	2,836	2.6x	2.0x	2.2x	8.5x	4.2x	5.3x	30.5%
Turquoise Hill Resources Ltd.	TSX:TRQ	-4.9%	23.5%	4.10	81.5%	8,250	2,721	10,801	1,203	388	6.7x	9.2x	8.5x	NM	NM	NM	32.3%
Lundin Mining Corporation	TSX:LUN	19.1%	86.3%	7.62	85.2%	5,535	268	6,518	1,546	598	3.1x	2.5x	2.6x	10.9x	5.5x	6.0x	38.7%
Pretium Resources Inc.	TSX:PVG	29.3%	106.3%	14.38	87.3%	2,585	483	3,068	0	-16	NM	12.8x	4.8x	NM	38.4x	6.5x	NM
Hudbay Minerals Inc.	TSX:HBM	22.4%	97.5%	9.40	78.7%	2,230	1,085	3,688	1,129	463	2.4x	2.1x	2.1x	8.0x	4.7x	4.4x	41.1%
McEwen Mining Inc.	TSX:MUX	1.8%	63.9%	4.00	62.1%	912	-44	856	60	6	14.2x	NA	NA	132.0x	NA	NA	10.7%

 Mean
 4.8x
 5.7x
 4.0x
 37.4x
 34.2x
 18.1x
 30.6%

 Median
 2.9x
 2.5x
 2.6x
 10.9x
 5.5x
 6.0x
 32.3%

Intermediate Diversified Miner Index

			CHANGE IN STOCK PRICE						LTM		EV/REVENUE			EV/EBITDA			
	TICKER	3-MONTH		SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E		EBITDA MARGIN
Nevsun Resources Ltd.	TSX:NSU	-19.8%	-20.7%	\$3.33	69.2%	1,005	-199	980	231	97	3.2x	2.5x	2.1x	10.1x	8.8x	7.5x	41.9%
Arizona Mining Inc.	TSX:AZ	-9.4%	170.7%	2.22	63.6%	554	-19	528	0	-2	NM	NA	NA	NM	NM	NM	NM
Capstone Mining Corp	TSX:CS	1.6%	146.2%	1.28	70.7%	501	195	912	529	116	1.3x	1.4x	1.6x	7.9x	4.8x	4.5x	21.8%
Nemaska Lithium Inc.	TSX:NMX	5.6%	92.6%	1.31	66.5%	417	-54	363	0	-8	NM	16.9x	2.8x	NM	NM	NA	NM
Sierra Metals Inc.	TSX:SMT	68.9%	148.6%	3.48	92.8%	564	37	648	143	40	3.4x	1.9x	NA	16.4x	NA	NA	27.6%
Alexco Resource Corp.	TSX:AXR	16.6%	68.8%	2.11	63.7%	198	-25	173	11	-5	15.2x	NA	NA	NM	NA	NA	-39.8%

 Mean
 3.8x
 5.7x
 2.2x
 11.5x
 37.8x
 6.0x
 12.9%

 Median
 2.2x
 2.2x
 2.1x
 10.1x
 8.8x
 6.0x
 24.7%





DIVERSIFIED MINING

COMPARABLE TABLES

Junior Diversified Miner Index

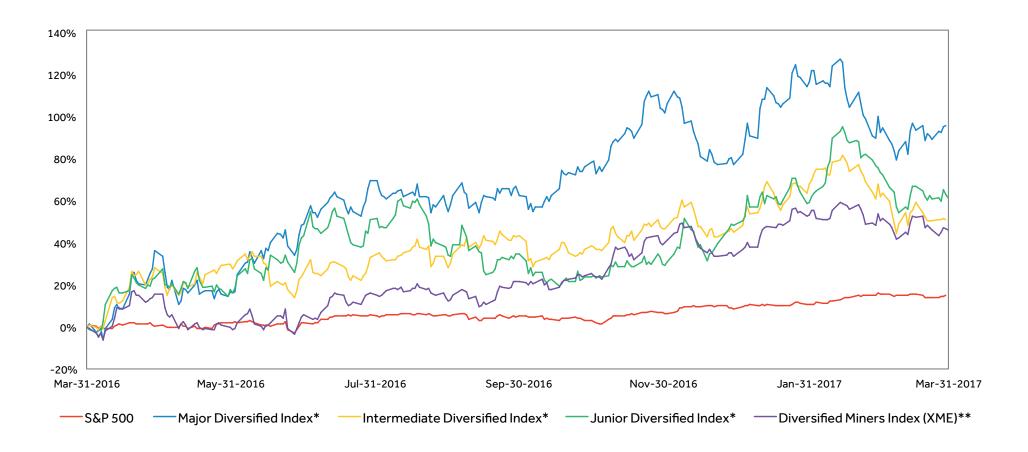
		CHANGE IN STOCK PRICE							LTM		EV/REVENUE			EV/EBITDA			
	TICKER	3-MONTH	12-MONTH	SHARE PRICE	% OF 52 WEEK HIGH	MARKET CAP (\$MM)	NET DEBT (\$MM)	ENT. VALUE (\$MM)	REVENUES (\$MM)	EBITDA (\$MM)	LTM	2017E	2018E	LTM	2017E	2018E	EBITDA MARGIN
Western Copper and Gold Corporation	TSX:WRN	-6.5%	152.2%	\$1.74	77.7%	165	-7	158	0	0	NM	NA	NA	NM	NA	NA	NM
Energy Fuels Inc.	AMEX:UUUU	29.9%	-3.6%	2.13	74.3%	151	13	222	55	-33	3.0x	NA	NA	NM	NA	NA	-59.7%
Panoramic Resources Limited	ASX:PAN	1.8%	154.5%	0.28	68.3%	120	-26	108	50	45	2.2x	5.2x	1.0x	2.4x	NM	3.0x	90.5%
Almaden Minerals Ltd.	TSX:AMM	7.6%	53.3%	1.41	57.8%	127	-10	117	0	-4	NM	NA	NA	NM	NA	NA	NM
Crystal Peak Minerals Inc.	TSXV:CPM	11.1%	85.2%	0.50	89.3%	98	-9	85	0	-2	NM	NA	NA	NM	NA	NA	NM
Coro Mining Corp.	TSX:COP	0.0%	275.0%	0.15	71.4%	73	-3	70	0	-4	NM	NA	NA	NM	NA	NA	NM

Mean	0.9x	5.2x	1.0x	NM	NM	3.0x	15.4%
Median	0.0x	5.2x	1.0x	NM	NM	3.0x	15.4%



DIVERSIFIED MINING LTM EQUITY PERFORMANCE

(NOBLE INDEX SELECTION)



^{*} Noble Proprietary Sector (index composed of companies in the comparable table)
** iShares MSCI Global Metals & Mining Producers (refer to disclosure section for more information)



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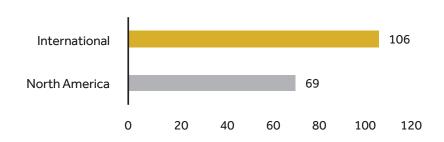
DIVERSIFIED MINING LTM GLOBAL M&A ACTIVITY

DATE	BUYER	TARGET	TV (\$M)	EV / EBITDA	EV / REVENUE
30/12/16	EMR Capital	MMG Golden Grove	210.00	-	-
22/12/16	IAMGOLD Corporation	Merrex Gold Inc.	22.21	-	-
19/12/16	Great Panther Silver Peru	Nyrstar Coricancha	10.10	-	-
07/12/16	Ural Mining and Metallurgical Company	Public Joint-Stock Company Chelyabinsk Zinc Plant	25.66	9.7x	1.7x
06/12/16	A.B. Aterra Resources	GB Minerals Ltd.	16.44	-	-
02/12/16	Sichuan Development Xingcheng Equity Investment Fund Partnership Enterprise	Nanjing Yinmao Lead-Zinc Mine Co.	137.94	-	7.3x
18/11/16	Viking Mines Limited	Argo Metals Group Limited	2.49	-	-
31/10/16	Ma San Horizon Corporation	Ma San Resources Corporation	135.42	-	-
24/10/16	A.B. Aterra Resources	GB Minerals Ltd.	2.27	-	-
19/10/16	Fitzroy River Corporation Limited	Royalco Resources Limited	6.08	-	8.9x
20/09/16	Rare Earth Minerals	Bacanora Minerals	5.84	-	-
15/09/16	Sumitomo Metal Mining Co.	Taganito HPAL Nickel Corporation	41.97	-	-
04/08/16	Agence des participations de l'Etat	ERAMET	273.93	-	0.8x
01/08/16	Iluka Resources Limited	Sierra Rutile Limited	346.45	-	3.1x
30/05/16	Galaxy Resources Limited	General Mining Corporation Limited	163.64	-	-
24/05/16	Hecla Mining Company	Mines Management	34.27	-	-
11/05/16	Leading Edge Materials Corp.	Tasman Metals	11.89	-	-
09/05/16	Bushveld Minerals Limited	Strategic Minerals Corporation	22.11	-	-
25/04/16	ERAMET	Strand Minerals (Indonesia)	99.02	-	-
24/04/16	Nevsun Resources	Reservoir Minerals Inc.	396.36	-	-
08/04/16	Droxford International Limited	Atlantic Ltd	217.04	-	-
19/03/16	Jinzhou Xintian Trading Co.	Xingguo Hengxin Mining Co.	30.92	-	-
01/03/16	Dalian Longtai Venture Investment Co.	Ningxia Orient Tantalum Industry Co.	229.96	-	6.2x
11/02/16	First Mining Finance Corp.	Clifton Star Resources, Inc.	13.80	-	-
02/02/16	China Tungsten and Hightech Materials Co.	Hunan Shizhuyuan Nonferrous Metals Co.	352.99	-	1.4x
01/02/16	RNC Minerals	VMS Ventures Inc.	17.15	5.7x	1.0x
		Mean	108.69	7.7x	3.8x



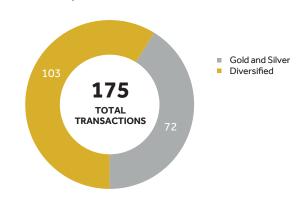
LTM MINING INDUSTRY M&A SUMMARY

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

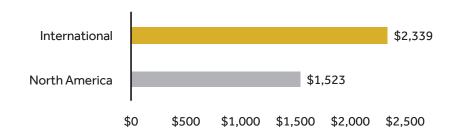


DEAL VOLUME PER SECTION

(Number of transactions)

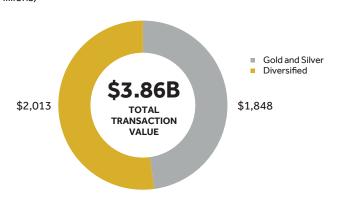


NORTH AMERICA VS. INTERNATIONAL TRANSACTION VALUE (in Millions)



TOTAL TRANSACTION VALUE

(in Millions)







NOBLE QUARTERLY HIGHLIGHTS

AVINO SILVER & GOLD MINES

Avino Silver and Gold Mines Ltd is a Canada-based resource company. It is focused on silver, gold, and copper exploration, extraction and processing. It extracts resources and processes a bulk concentrate at the San Gonzalo Mine and a copper concentrate from the Avino Mine, both of which are located on the Avino property in Durango, Mexico.



LATEST NEWS:

■ Avino and San Gonzalo Mines announced 2,679,334 oz. in silver equivalent production, 7,119 oz. in gold production, and 4,206,585 lbs. in copper production. – 01/17

ENERGY FUELS

Energy Fuels is based in Lakewood California. The company is engaged in conventional and in situ ("ISR") uranium extraction and recovery, along with the exploration, permitting, and evaluation of uranium properties in the United States. Energy Fuels owns the Nichols Ranch Uranium Recovery Facility in Wyoming (the "Nichols Ranch Project"), which is one of the newest uranium recovery facilities operating in the United States, and the Alta Mesa Project in Texas (the "Alta Mesa Project"), which is an ISR production center currently on care and maintenance.



LATEST NEWS:

■ Energy Fuels announces that it has received the final amendment to the Source Material License for the expansion of its Nichols Ranch ISR Project. With this License Amendment in hand, the Company now holds all of the permits, licenses, and approvals required to expand the Nichols Ranch ISR Project into the Jane Dough wellfields in the future. – 03/17

GREAT PANTHER SILVER

Great Panther Silver Limited is a primary silver mining and exploration company. The company's current activities are focused on the mining of precious metals from its two wholly-owned operating mines in Mexico: the Guanajuato Mine Complex, which includes the San Ignacio Mine, and the Topia Mine in Durango.

LATEST NEWS:

- Announced that they have successfully replaces what had been mined at the Guanajuato Mine Complex ("GMC") and upgraded much of the resources to higher categories. 2/21/17
- Great Panther Silver announced that Robert Archer, President and CEO, has advised that he will be stepping down during 2017 and will work with the board of directors to find his successor. 04/2017





$Rt(e^2+p^2)=16$

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.





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



Advisory

Corporate Advisory



February 2017



Advisory

Corporate Advisory



January 2017



(ASM)

\$800,000

Private Placement of Registered Securities Sole Placement Agent



March 2016



\$4,600,000

Initial Public Offering (IPO) Lead Underwriter



November 2015



(PGLC)

\$11,500,000

Private Placement Sole Placement Agent



April 2015



(ASM)

\$5,000,000

Private Placement of Registered Securities Sole Placement Agent



February 2014



KEI)

\$57,500,000

Follow-on Offering Co-Manager



December 2013



$Rt(e^2+p^2)=16$

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.



$Rt(e^2tp^2)=16$

NATURAL RESOURCE IB TEAM

Richard Giles, Managing Director

rgiles@noblecapitalmarkets - 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.

Stevan Grubic, Director- Valuation Services

sgrubic@noblecapitalmarkets - 323.578.4936

- 15 years of middle-market investment banking experience
- Expertise in valuations, including business valuations, fairness opinions, litigation, and valuations for financial and tax reporting purposes (ASC805, ASC350, 123R, 409A).
- Accredited Senior Appraiser with the American Society of Appraisers (ASA) and has completed over 100 valuation engagements representing well over \$1.0 billion in asset values.
- Prior experience includes Orion Valuation Group, Singer Lewak, B. Riley & Co., L.H. Friend Weinress, Frankson & Presson and North American Capital Partners.

Francisco Penafiel, Vice President

fpenafiel@noblecapitalmarkets - 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 hanks
- 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, Investment Banking

jarvelo@noblecapitalmarkets - 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
- Main focus in the QSR, financial institutions and energy sectors
- Managed corporate finance and recoveries division at PricewaterhouseCoopers (PwC)

Joseph Hain - Director, Investment Banking

Jhain@noblecapitalmarkets.com - 561.999.2265

- Prior experience holding senior positions at Robotti & Company, Wynston Hill Capital, SternAegis Ventures, WestPark Capital, and Tejas Securities
- Experience working with institutional, retail and HNW clients
- B.S. SUNY Albany with concentration in Biology, Chemistry, and Physics
- Holds various Finra liscenses

John Connery, Analyst

jconnery@noblecapitalmarkets.com - 561.998.5478

- Joined Noble Capital Markets as an Investment Banking Analyst in 2016
- Worked previously as a private equity analyst for the family office of Marc Bell
- B.S. Investment Management, Lynn University



$Rt(e^2tp^2)=16$

EQUITY CAPITAL MARKETS

Renny Chavanikamannil, Managing Director, Equity Capital Markets

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Noble has taken a proprietary approach to delivering a group of companies from each industry for the creation of the Noble Indexes. Noble's indexes composition may vary from time to time due to company specific fundamentals, developments, performance as well as overall industry/market conditions. Past performance is not indicative of future results. This is not an equity research report nor is it an offer for the purchase and/or sale of securities. This is a representative document that will help readers understand current valuation, market trends, and transaction history only.

NOBLE CAPITAL MARKETS

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