**Metals and Mining** 

October 25, 2017

Sierra Metals, Inc. (SMTS) Rating: Buy Heiko F. Ihle, CFA 212-356-0510 hihle@hcwresearch.com Matthew Barry 212-356-0520 mbarry@hcwresearch.com

## Continuing Optimization of Operations in Mexico Should Start to Bear Fruit; Maintain Buy

h				
Stock Data				10/24/2017
Price				\$2.51
Exchange				NYSE
Price Target				\$3.50
52-Week High				\$2.95
52-Week Low				\$1.22
Enterprise Valu	ie (M)			\$441.1
Market Cap (M	)			\$406
Public Market F	Float (M)			162.2
Shares Outstar	nding (M)			162.7
3 Month Avg Vo	olume			25,274
Short Interest (	M)			0.01
Balance Sheet	t Metrics			
Cash (M)				\$31.12
Total Debt (M)				\$65.76
Total Cash/Sha	ire		ĺ	\$0.19
EPS Diluted				
Full Year - Dec	2016A	201	17E	2018E
FY	(80.0)	0.0	00	0.09
Revenue (M)				
Full Year - Dec	2016A	201	I7E	2018E
FY	143.20	186	6.90	228.20
Val (mil)				Drice



Continuing coverage under the name H.C. Wainwright & Co. with a Buy rating. Effective September 8, 2017, research in the above titled name will now be published under H.C. Wainwright & Co. and no longer distributed in conjunction with 'Rodman & Renshaw, a unit of H.C. Wainwright'.

Yesterday's update on the Mexican asset operational improvement program. The program has concentrated on strengthening the corporate team by adding expertise, while raising production by improving recoveries and throughput. We highlight the similarities between the current program in Mexico with a prior program that was successful at Yauricocha in late 2015. Progress to date includes improvements in recoveries at Bolívar and Cusi, the commissioning of additional equipment at Bolivar, and further development of the Santa Rosa de Lima zone at Cusi. We believe that incremental improvements from these efforts should begin to take hold as early as 4Q17.

We expect higher throughput and recoveries for Bolívar. Copper recoveries at Bolívar have improved from around 73% in July to about 82% at present. This was largely achieved by reducing the grind size of processed ore to a particle size distribution level of P80. Management expects recoveries to be maintained at current levels through 2018. Throughput at the mine should be supported by the commissioning of 13 new pieces of equipment, concurrent with maximization of the existing infrastructure. This should allow for processed tonnage to reach about 3,000 tpd in 1Q18. We highlight the potential for higher grades at the mine, in part due to further definition of higher grade ore from Bolívar West and Bolívar Northwest. That said, positive impacts from these areas may not be seen until 2H19.

Santa Rosa de Lima zone should impact production profile at Cusi. Drift development at the Santa Rosa de Lima structure continues to progress on four sub-levels located within the planned pilot sub level longhole stoping area. We note that initial development ore from the structure has already contributed to improved head grades at the mill. Tonnage from the Santa Rosa de Lima zone is expected to trend higher until the mill reaches 650 tpd solely from the high-grade zone. We expect a majority of Cusi throughput to be sourced from Santa Rosa de Lima by the beginning of 2Q18. We also note that recoveries at Cusi have increased from 60% in July to 83% at present through individualized treatment of each ore type, coupled with the addition of lime.

We maintain our Buy rating and \$3.50 per share PT. We have not yet adjusted our model for potential impacts from the operational improvements program, but plan to do so once additional information is available regarding progress at both assets. Our valuation remains based on an equally weighted composite NAV and CFPS methodology. We apply a 12x multiple to our 2017E CFPS estimate, while our NAV analysis utilizes 9.0% discount rates at Yauricocha and Bolívar and 10.0% at Cusi. We highlight continued success and resource growth at Yauricocha, and expect 2H17 improvements at Bolívar and Cusi.

**Risks.** 1) Gold and silver price risk; 2) operating and technical risk; 3) political risk; and 4) financing risk.

					Exhil	oit	1: Y	aι	urico	cl	ha N	Α	V												
							2017		2018		2019		2020		2021		2022		2023		2024		2025		2026
Yauricocha Mine Tonnes ('000s)							1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000		1,000
Silver grade (g/t)							90.0		90.0		90.0		90.0		90.0		90.0		90.0		90.0		90.0		90.0
Siver recovery							64%		64%		64%		64%		64%		64%		64%		64%		64%		64%
Silver production (oz) Silver price							1,852 \$20.00		1,852 \$20.00		1,852 \$20.00		1,852 \$20.00		1,852 \$20.00		1,852 \$20.00		1,852 \$20.00		1,852 \$20.00		1,852 \$20.00		1,852 20.00
Copper grade (%)							0.65%		0.65%		0.65%		0.65%		0.65%		0.65%		0.65%		0.65%		0.65%		0.65%
Copper recovery (%)							60%		60%		60%		60%		60%		60%		60%		60%		60%		60%
Copper production ('000s lbs)							8,598		8,598		8,598		8,598		8,598		8,598		8,598		8,598		8,598		8,598
Copper price						\$	2.25	\$	2.25	\$		\$	2.25	\$		\$	2.25	\$	2.25	\$	2.25	\$	2.25 \$		2.25
Silver Equivalent							967		967		967		967		967		967		967		967		967		967
Lead							2.4%		2.4%		2.4%		2.4%		2.4%		2.4%		2.4%		2.4%		2.4%		2.4%
Lead recovery (%)							72%		72%		72%		72%		72%		72%		72%		72%		72%		72%
Lead production ('000s lbs) Lead price						Ś	38,096 0.80	\$	38,096 0.80	\$	38,096 0.80	Ś	38,096 0.80	\$	38,096 0.80	Ś	38,096 0.80	\$	38,096 0.80	ė	38,096 0.80	ė	38,096 0.80 \$	3	0.80
Silver Equivalent						ş	1,524	٥	1,524	Þ	1,524	ş	1,524	ş	1,524	٥	1,524	ş	1,524	٥	1,524	Þ	1,524		1,524
Gold grade (g/t)							0.60		0.60		0.60		0.60		0.60		0.60		0.60		0.60		0.60		0.60
Gold recovery							25%		25%		25%		25%		25%		25%		25%		25%		25%		25%
Gold production (oz)							4.8		4.8		4.8		4.8		4.8		4.8		4.8		4.8		4.8		4.8
Gold price							\$1,300		\$1,300		\$1,300		\$1,300		\$1,300		\$1,300		\$1,300		\$1,300		\$1,300	\$	1,300
Silver Equivalent							313		313		313		313		313		313		313		313		313		313
Zinc grade (%)							3.30%		3.30%		3.30%		3.30%		3.30%		3.30%		3.30%		3.30%		3.30%		3.30%
Zinc recovery (%)							85%		85%		85%		85%		85%		85%		85%		85%		85%	_	85%
Zinc production ('000s lbs)						Ś	80,392	Ś	80,392		80,392		80,392		80,392		80,392		80,392		80,392		80,392	8	0,392
Zinc price Silver Equivalent						\$	1.00 4,020	\$	1.00 4,020	\$	1.00 4,020	\$	1.00 4,020	\$	1.00 4,020	\$	1.00 4,020	\$	1.00 4,020	\$	1.00 4,020	\$	1.00 \$ 4,020		1.00 4,020
Total Silver Equivalent (000s oz)							8,676		8,676		8,676		8,676		8,676		8,676		8,676		8,676		8,676		8,676
Revenue in '000s \$																									
Revenue from Silver						\$	37,038	\$	37,038	\$	37,038	\$	37,038	\$	37,038	\$	37,038	\$	37,038	\$	37,038	\$	37,038 \$	3	7,038
Revenue from Copper						\$		\$		\$		\$		\$		\$			19,346	\$		\$	19,346 \$		9,346
Revenue from Lead						\$	30,477			\$		\$		\$		\$		\$		\$		\$	30,477 \$		0,477
Revenue from Gold Revenue from Zinc						\$		\$	6,269 80,392	\$		\$		\$		\$		\$	6,269 80,392	\$		\$	6,269 \$ 80,392 \$		6,269 0,392
Gross Revenue						\$		\$		\$													173,521 \$		3,521
Smelting, Refining etc Charges	@	20.0%	,			Ś		\$		\$										\$			(34,704) \$		4,704)
Net Revenue						\$	138,817	\$	138,817	\$	138,817	\$	138,817	\$	138,817	\$	138,817	\$	138,817	\$	138,817	\$	138,817 \$	13	8,817
Cash cost per AgEq oz						Ś	8.50	Ś	8.50	Ś	8,50	Ś	8.50	\$	8.50	Ś	8,50	\$	8.50	Ś	8.50	\$	8.50 \$		8.50
Total Operating Cash Cost						\$	73,746			\$		\$		\$		\$			73,746	\$		\$	73,746 \$		3,746
Operating cash flow						\$	65,070	\$	65,070	\$	65,070	\$	65,070	\$	65,070	\$	65,070	\$	65,070	\$	65,070	\$	65,070 \$	6	5,070
CapEx (000s)						\$	(17,000)	\$	(15,000)	\$	(15,000)	\$	(15,000)	\$	(15,000)	\$	(15,000)	\$	(15,000)	\$	(15,000)	\$	(15,000) \$	(1	.5,000)
Tax / Tax Rate (in 000's)	@	30.0%	,			\$	(14,421)	\$	(15,021)	\$	(15,021)	\$	(15,021)	\$	(15,021)	\$	(15,021)	\$	(15,021)	\$	(15,021)	\$	(15,021) \$	(1	.5,021)
Free Cash Flow from Yauricocha						\$	33,649	\$	35,049	\$	35,049	\$	35,049	\$	35,049	\$	35,049	\$	35,049	\$	35,049	\$	35,049 \$	3	5,049
Cash flow discount rate		9.0%	,				-		1		2		3		4		5		6		7		8		9
PV of cash flow						\$	33,649	\$	32,155	\$	29,500	\$	27,064	\$	24,830	\$	22,780	\$	20,899	\$	19,173	\$	17,590 \$	1	6,138
Total current cash flow			\$	243,778	\$ 1.48 per share																				
Attributable to SMT shareholders		82%	\$	199,898																					
Fully Diluted Shares outstanding NAVPS			Ś	164,200 1.22																					
TOTAL V				1.22																					

Source: H.C. Wainwright & Co. estimates.

				Exhibit 2	: B	olíva	NAV								
						<u>2017</u>	2018		<u>2019</u>	<u>2020</u>	2021	2022	2023	2	2024
<u>Bolivar Mine</u> Tonnes ('000s)						925	1,400		1,400	1,400	1,400	1,400	1,400	1,4	400
Silver grade (g/t)						16.0	18.5		18.5	18.5	18.5	18.5	18.5	1	.8.5
Siver recovery						75%	75%		75%	75%	75%	75%	75%		75%
Silver production (oz)						357	625		625	625	625	625	625		625
Silver price						\$20.00	\$20.00		\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20	.00
Copper grade (%)						1.00%	1.10%		1.10%	1.10%	1.10%	1.10%	1.10%	1.	10%
Copper recovery (%)						80%	80%		80%	80%	80%	80%	80%		80%
Copper production ('000s lbs)						16,314	27,161		27,161	27,161	27,161	27,161	27,161	27,	161
Copper price					\$	2.25	\$ 2.25	\$	2.25	\$ 2.25	\$ 2.25	\$ 2.25	\$ 2.25	\$ 2	.25
Silver Equivalent						1,835	3,056		3,056	3,056	3,056	3,056	3,056	3,0	056
Gold grade (g/t)						0.20	0.25		0.25	0.25	0.25	0.25	0.25	0	.25
Gold recovery						45%	45%		45%	45%	45%	45%	45%		45%
Gold production (oz)						2.7	5.1		5.1	5.1	5.1	5.1	5.1		5.1
Gold price						\$1,300	\$1,300		\$1,300	\$1,300	\$1,300	\$1,300	\$1,300	\$1,3	300
Silver Equivalent						174	329		329	329	329	329	329	ä	329
Total Silver Equivalent (000s oz)						2,366	4,009		4,009	4,009	4,009	4,009	4,009	4,0	009
Revenue in '000s \$															
Revenue from Silver					\$	7,137	\$ 12,491	\$	12,491	\$ 12,491	\$ 12,491	\$ 12,491	\$ 12,491	\$ 12,4	491
Revenue from Copper					\$	36,707	\$ 61,112	\$	61,112	\$ 61,112	\$ 61,112	\$ 61,112	\$ 61,112	\$ 61,	112
Revenue from Gold					\$	3,480	\$ 6,583	\$	6,583	\$ 6,583	\$ 6,583	\$ 6,583	\$ 6,583	\$ 6,5	583
Gross Revenue					\$	47,324	\$ 80,186	\$			\$ 80,186		\$ 80,186	\$ 80,1	
Smelting, Refining etc charges	@	15.0%			\$								\$ (12,028)		•
Net Revenue					\$	40,225	\$ 68,158	\$	68,158	\$ 68,158	\$ 68,158	\$ 68,158	\$ 68,158	\$ 68,1	158
Cash cost per AgEq oz					\$	9.50	\$ 9.25	Ś	9.25	\$ 9.25	\$ 9.25	\$ 9.25	\$ 9.25	\$ 9	.25
Total operating costs					\$	22,479	\$ 37,086				\$ 37,086	\$ 37,086	\$ 37,086	\$ 37,0	086
Operating cash flow					\$	17,746	\$ 31,072	\$	31,072	\$ 31,072	\$ 31,072	\$ 31,072	\$ 31,072	\$ 31,0	072
CapEx (000s)					\$	(15,000)	\$(10,000)	\$	(10,000)				\$ (10,000)		
Tax / tax rate (in 000's)	@	30.0%			\$	-	\$ -	\$	(6,322)	\$ (6,322)	\$ (6,322)	\$ (6,322)	\$ (6,322)	\$ (6,3	322)
Free cash flow					\$	2,746	\$ 21,072	\$	14,750	\$ 14,750	\$ 14,750	\$ 14,750	\$ 14,750	\$ 14,	750
Cash flow discount rate		9.0%				_	1		2	3	4	5	6		7
PV of cash flow					\$	2,746	\$ 19,332	\$	12,415	\$ 11,390	\$ 10,450	\$ 9,587	\$ 8,795	\$ 8,0	069
Total current cash flow Fully Diluted Shares outstanding NAVPS			\$ <b>82,784</b> 164,200 \$ <b>0.50</b>	\$ 0.50 per share											

Source: H.C. Wainwright & Co. estimates.

				Exhibit 3:	C	usi I	N	٩V												
						2017		2018		<u>2019</u>		<u>2020</u>		<u>2021</u>		2022		2023		2024
<u>Cusi Mine</u> Tonnes ('000s)						85		216		216		216		216		216		216		216
Silver grade (g/t)						165.0		175.0		175.0		175.0		175.0		175.0		175.0		175.0
Siver recovery						72%		72%		72%		72%		72%		72%		72%		72%
Silver production (oz)						325		875		875		875		875		875		875		875
Silver price						\$20.00		\$20.00		\$20.00	,	\$20.00		\$20.00		\$20.00		\$20.00		\$20.00
Lead						1.2%		1.4%		1.4%		1.4%		1.4%		1.4%		1.4%		1.4%
Lead recovery (%)						84%		84%		84%		84%		84%		84%		84%		84%
Lead production ('000s lbs)						1,889		5,600		5,600		5,600		5,600		5,600		5,600		5,600
Lead price					\$	0.80	\$	0.80	\$	0.80	\$		\$	0.80	\$	0.80	\$	0.80	\$	0.80
Silver Equivalent						76		224		224		224		224		224		224		224
Gold grade (g/t)						0.25		0.25		0.25		0.25		0.25		0.25		0.25		0.25
Gold recovery						65%		65%		65%		65%		65%		65%		65%		65%
Gold production (oz)						0.4		1.1		1.1		1.1		1.1		1.1		1.1		1.1
Gold price						\$1,300		\$1,300		\$1,300		\$1,300		\$1,300		\$1,300		\$1,300		\$1,300
Silver Equivalent						29		73		73		73		73		73		73		73
Zinc grade (%)						1.20%		1.25%		1.25%		1.25%		1.25%		1.25%		1.25%		1.25%
Zinc recovery (%)						42%		42%		42%		42%		42%		42%		42%		42%
Zinc production ('000s lbs)						944		2,500		2,500		2,500		2,500		2,500		2,500		2,500
Zinc price					\$	1.00	\$	1.00	\$	1.00	\$	1.00	\$	1.00	\$	1.00	\$	1.00	\$	1.00
Silver Equivalent						47		125		125		125		125		125		125		125
Total Silver Equivalent (000s oz)						476		1,297		1,297		1,297		1,297		1,297		1,297		1,297
Revenue in '000s \$																				
Revenue from Silver					\$	6,493		17,500				17,500		17,500		17,500	\$	17,500		17,500
Revenue from Lead					\$	1,511	\$	4,480	\$	4,480	\$	4,480	\$	4,480	\$	4,480	\$	4,480	\$	4,480
Revenue from Gold					\$	577	\$	1,467	\$	1,467		1,467	\$	1,467	\$	1,467	\$	1,467	\$	1,467
Revenue from Zinc					- 1	944	\$	2,500	\$	2,500	\$	2,500	\$	2,500	\$	2,500	\$	2,500	\$	2,500
Gross Revenue Smelting, Refining etc Charges		@		18.0%	\$ \$	9,526		25,947 (4,671)		25,947 (4,671)				25,947		25,947				25,947 (4,671)
Net Revenue		e e		16.0%	\$	(1,715) 7,811		21,277		21,277				21,277		(4,671) 21,277				21,277
Coch cost par ArFa or					Ś	10.00	\$	10.00	Ś	10.00	ė	10.00	\$	10.00	Ś	10.00	Ś	10.00	Ś	10.00
Cash cost per AgEq oz Total Operating Cash Cost					\$	4,763		12,974		12,974				12,974		12,974		12,974		12,974
Total Operating Cash Cost					٠	4,703	Ģ	12,374	٠	12,574	. ب	12,374	Ģ	12,374	٠	12,374	Ş	12,374	Ģ	12,374
Operating cash flow					\$	3,048	\$	8,303	\$	8,303	\$	8,303	\$	8,303	\$	8,303	\$	8,303	\$	8,303
CapEx (000s)					\$	(5,000)	\$	(5,000)	\$	(5,000)	\$	(5,000)	\$	(5,000)	\$	(5,000)	\$	(5,000)	\$	(5,000)
Tax / tax rate (in 000's)	@	35.0%	3	years of tax loss car	rryf	orwards	in	Mexico	\$	(1,156)	\$	(1,156)	\$	(1,156)	\$	(1,156)	\$	(1,156)	\$	(1,156)
Operating cash flow					\$	(1,952)	\$	3,303	\$	2,147	\$	2,147	\$	2,147	\$	2,147	\$	2,147	\$	2,147
Cash flow discount rate		10.0%				-		1		2		3		4		5		6		7
PV of cash flow					\$	(1,952)	\$	3,003	\$	1,774	\$	1,613	\$	1,466	\$	1,333	\$	1,212	\$	1,102
Total current cash flow Fully Diluted Shares outstanding NAVPS		\$ 9,552 164,200 \$ 0.06	\$	0.06 pershare	•															
		_					_													

Source: H.C. Wainwright & Co. estimates.

**Exhibit 4: NAV Calculation** 

Asset	Value per share
Yauricocha US\$	\$1.22
Bolívar US\$	\$0.50
Cusi US\$	\$0.06
Cash in US\$	\$0.19
Debt in US\$	-\$0.40
Total NAVPS in US\$	\$1.57
2017E CFPS US\$	\$0.44
Multiple	12.0
CFPS valuation US\$	\$5.22
Blended valuation	\$3.40
Rounded (\$0.25)	\$3.50

Source: H.C. Wainwright & Co. estimates.

## **Important Disclaimers**

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## **RETURN ASSESSMENT**

**Market Outperform (Buy):** The common stock of the company is expected to outperform a passive index comprised of all the common stock of companies within the same sector.

**Market Perform (Neutral):** The common stock of the company is expected to mimic the performance of a passive index comprised of all the common stock of companies within the same sector.

**Market Underperform (Sell):** The common stock of the company is expected to underperform a passive index comprised of all the common stock of companies within the same sector.



Investment Banking Services include, but are not limited to, acting as a manager/co-manager in the underwriting or placement of securities, acting as financial advisor, and/or providing corporate finance or capital markets-related services to a company or one of its affiliates or subsidiaries within the past 12 months.

Distribution of Ratings Table as of October 24, 2017													
			IB Se	rvice/Past 12 Months									
Ratings	Count	Percent	Count	Percent									
Buy	229	90.16%	82	35.81%									
Neutral	10	3.94%	0	0.00%									
Sell	0	0.00%	0	0.00%									
Under Review	15	5.91%	3	20.00%									
Total	254	100%	85	33.46%									

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The Firm does not make a market in Sierra Metals, Inc. as of the date of this research report.

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