

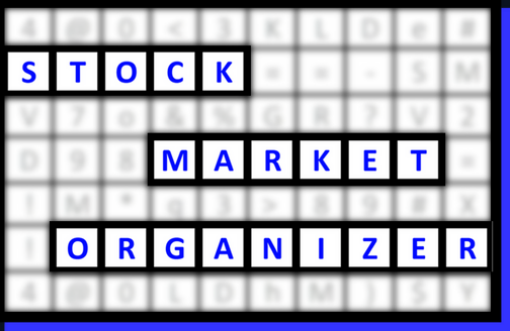
# Industry Status: Metals & Mining

1 week 12/12/23 to 12/19/23								
9Weakest	8VWeak	7Weaker	6Weak	5Avg	4Strong	3Stronger	2VStrong	1Strongest
.	.	.	.	68 METALS->	68 METALS->	.	.	.
.	.	.	4 Aluminum->	4 Aluminum->	4 Aluminum->	.	.	.
.	.	.	.	2 Copper->	2 Copper->	2 Copper->	.	.
.	.	.	.	16 Gold->	16 Gold->	.	.	.
.	.	.	.	22 Indust Mt/Mn->	22 Indust Mt/Mn->	.	.	.
.	.	.	.	<-Nonmet Mining 3	<-Nonmet Mining 3	.	.	.
.	.	.	.	10 Silver->	10 Silver->	.	.	.
.	.	.	.	11 Steel/Iron->	11 Steel/Iron->	11 Steel/Iron->	.	.
.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.

December 19, 2023

UP +1 to **STRONG** strength rating  
(**4th** strongest of 9 levels)  
previous move was **also UP**

**1 week 6/7 sub-industries strengthened, 93% positive stocks, 53% stocks >10%**



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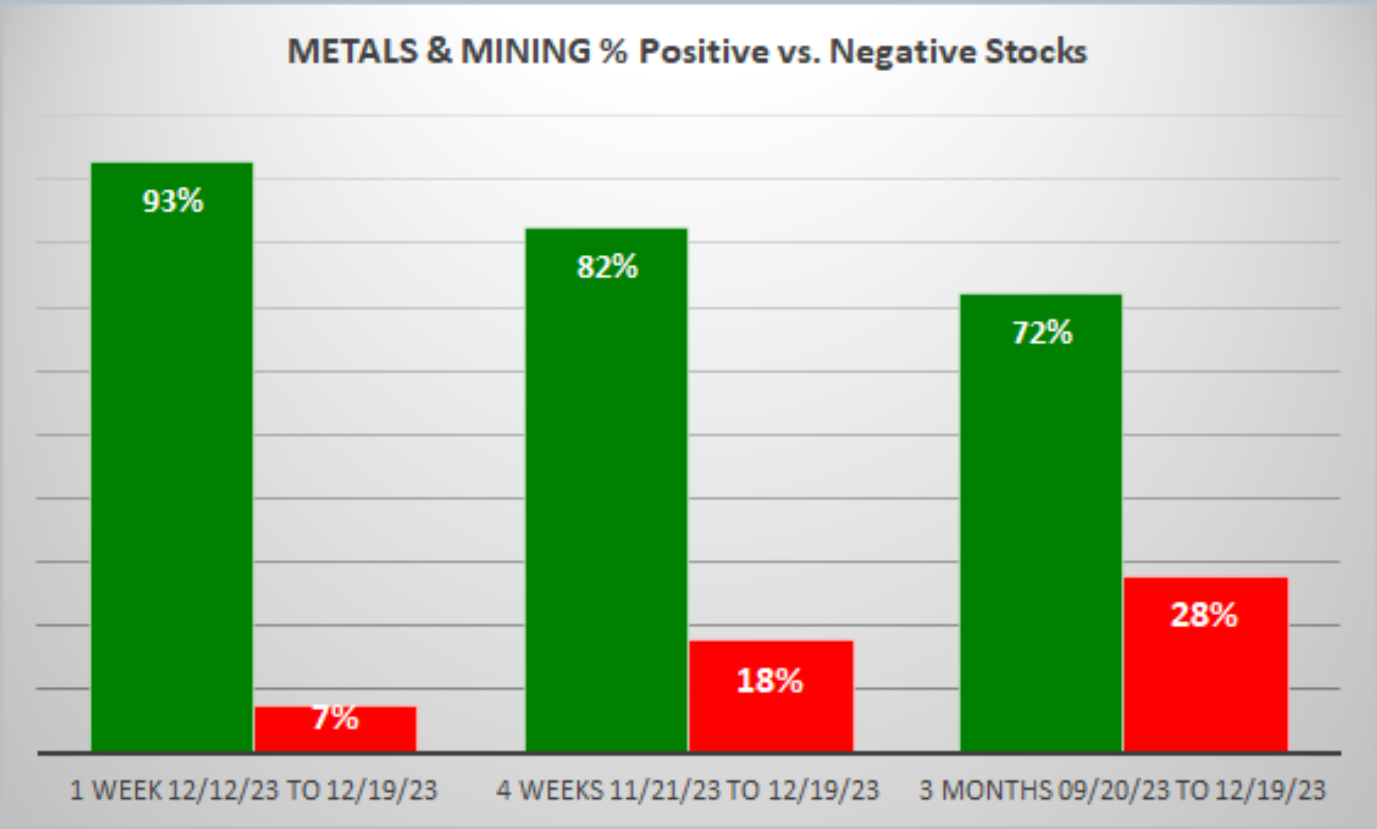
1. INDUSTRY OVERVIEW

1A. Performance

Past 10 Weeks Strengthening/Weakening week-by-week, per the following chart:

9Weakest	8VWeak	7Weaker	6Weak	5Avg	4Strong	3Stronger	2VStrong	1Strongest	Period
.	.	.	.	68 METALS->	68 METALS->	.	.	.	7 Days - 12/12/23 to 12/19/23
.	.	.	.	68 METALS	.	.	.	.	7 Days - 12/05/23 to 12/12/23
.	.	.	.	68 METALS	.	.	.	.	7 Days - 11/28/23 to 12/05/23
.	.	.	.	68 METALS	.	.	.	.	7 Days - 11/21/23 to 11/28/23
.	.	.	.	68 METALS	.	.	.	.	7 Days - 11/14/23 to 11/21/23
.	.	.	68 METALS->	68 METALS->	.	.	.	.	7 Days - 11/07/23 to 11/14/23
.	.	.	68 METALS	.	.	.	.	.	7 Days - 10/31/23 to 11/07/23
.	.	.	68 METALS	.	.	.	.	.	7 Days - 10/24/23 to 10/31/23
.	.	.	<-METALS 68	<-METALS 68	.	.	.	.	7 Days - 10/17/23 to 10/24/23
.	.	.	68 METALS->	68 METALS->	.	.	.	.	7 Days - 10/10/23 to 10/17/23

STRENGTHENING 1 Week vs. Mid- and Longer-Term // 1 week positive/negative stocks ratio is HIGHER than both 4 weeks and 3 Months, per the following chart:



## 1B. Background

Largest of 7 sub-industries (68 stocks, average 10):

- \* Industrial Metals & Minerals (22 stocks)
- \* Gold (16 stocks)
- \* Steel & Iron (11 stocks)
- \* Silver (10 stocks)

Top 10 by Market Capitalization:

SCCO/Southern Copper Corp, FCX/Freeport-McMoran Inc, NUE/Nucor Corp, NEM/Newmont Corporation, GOLD/Barrick Gold Corp, AEM/Agnico Eagle Mines Ltd, WPM/Wheaton Precious Metals Corp, FNV/Franco Nevada Corp, STLD/Steel Dynamics Inc, TECK/Teck Resources Limited

## 2. SUB-INDUSTRIES AND STOCKS DETAIL

### 2A. Sub-Industries Overview

Strengthened: 6/7 sub-industries

Weakened: 1/7 sub-industries

STRONGEST at Stronger rating/3rd strongest of 9 levels:

- \* Copper (2 stocks)
- \* Steel & Iron (11 stocks)

WEAKEST at Average rating/5th strongest of 9 levels:

- \* Nonmetallic Mineral Mining (3 stocks)



2B. Sub-Industries 10-Week Strengthening Analysis

What: recent week-by-week strength changes for the industry and its sub-industries  
Why: objective measurement of strengthening and weakening enabling comparison within and across industries and sub-industries

INDUSTRY CURRENT PERIOD SUMMARY								1 week 12/12/23 to 12/19/23								
Length - Begin/End	Industry/Sub-Industry	Period	#	Min	Avg	Max	Status	9Weakest	8VWeak	7Weaker	6Weak	5Avg	4Strong	3Stronger	2VStrong	1Strongest
7 Days - 12/12/23 to 12/19/23	METALS & MINING	Period 1 of 10 (Current)	68	14%	11%	48%	Strengthened					68 METALS->	68 METALS->			
7 Days - 12/12/23 to 12/19/23	METALS & MINING - Aluminum	Period 1 of 10 (Current)	4	13%	28%	48%	Strengthened				4 Aluminum->	4 Aluminum->	4 Aluminum->			
7 Days - 12/12/23 to 12/19/23	METALS & MINING - Copper	Period 1 of 10 (Current)	2	13%	13%	14%	Strengthened					2 Copper->	2 Copper->	2 Copper->		
7 Days - 12/12/23 to 12/19/23	METALS & MINING - Gold	Period 1 of 10 (Current)	16	3%	10%	14%	Strengthened					16 Gold->	16 Gold->			
7 Days - 12/12/23 to 12/19/23	METALS & MINING - Industrial Metals & Minerals	Period 1 of 10 (Current)	22	-5%	9%	20%	Strengthened					22 Indust Mt/Mn-> 22 Indust Mt/Mn->				
7 Days - 12/12/23 to 12/19/23	METALS & MINING - Nonmetallic Mineral Mining	Period 1 of 10 (Current)	3	14%	0%	9%	Weakened					<-Nonmet Mining 3 <-Nonmet Mining 3				
7 Days - 12/12/23 to 12/19/23	METALS & MINING - Silver	Period 1 of 10 (Current)	10	6%	12%	24%	Strengthened					10 Silver->	10 Silver->			
7 Days - 12/12/23 to 12/19/23	METALS & MINING - Steel & Iron	Period 1 of 10 (Current)	11	0%	13%	33%	Strengthened					11 Steel/Iron->	11 Steel/Iron->	11 Steel/Iron->		
7 Days - 12/12/23 to 12/19/23		Period 1 of 10 (Current)														
7 Days - 12/12/23 to 12/19/23		Period 1 of 10 (Current)														
PREVIOUS WEEKS (EDUCATIONAL PURPOSES ONLY/NOT A STOCK OR INVESTMENT RECOMMENDATION)																
Length - Begin/End	Industry/Sub-Industry	Period	#	Min	Avg	Max	Status	9Weakest	8VWeak	7Weaker	6Weak	5Avg	4Strong	3Stronger	2VStrong	1Strongest
7 Days - 12/12/23 to 12/19/23	METALS & MINING	Period 1 of 10 (Current)	68	14%	11%	48%	Strengthened					68 METALS->	68 METALS->	3Stronger	2VStrong	1Strongest
7 Days - 12/05/23 to 12/12/23	METALS & MINING	Period 2 of 10	68	19%	-3%	14%	Weakened					68 METALS				
7 Days - 11/28/23 to 12/05/23	METALS & MINING	Period 3 of 10	68	13%	0%	15%	Unchanged					68 METALS				
7 Days - 11/21/23 to 11/28/23	METALS & MINING	Period 4 of 10	68	-8%	3%	17%	Strengthened					68 METALS				
7 Days - 11/14/23 to 11/21/23	METALS & MINING	Period 5 of 10	68	-8%	1%	18%	Strengthened					68 METALS				
7 Days - 11/07/23 to 11/14/23	METALS & MINING	Period 6 of 10	68	-6%	4%	59%	Strengthened				68 METALS->	68 METALS->				
7 Days - 10/31/23 to 11/07/23	METALS & MINING	Period 7 of 10	68	16%	0%	11%	Unchanged				68 METALS					
7 Days - 10/24/23 to 10/31/23	METALS & MINING	Period 8 of 10	68	12%	-2%	9%	Weakened				68 METALS					
7 Days - 10/17/23 to 10/24/23	METALS & MINING	Period 9 of 10	68	26%	-4%	7%	Weakened				<-METALS 68 <-METALS 68					
7 Days - 10/10/23 to 10/17/23	METALS & MINING	Period 10 of 10	68	15%	2%	26%	Strengthened				68 METALS->	68 METALS->				
7 Days - 12/12/23 to 12/19/23	METALS & MINING - Aluminum	Period 1 of 10 (Current)	4	13%	28%	48%	Strengthened				4 Aluminum->	4 Aluminum->	4 Aluminum->			
7 Days - 12/05/23 to 12/12/23	METALS & MINING - Aluminum	Period 2 of 10	4	-5%	0%	4%	Weakened				4 Aluminum					
7 Days - 11/28/23 to 12/05/23	METALS & MINING - Aluminum	Period 3 of 10	4	-3%	0%	1%	Unchanged				4 Aluminum					
7 Days - 11/21/23 to 11/28/23	METALS & MINING - Aluminum	Period 4 of 10	4	-4%	-2%	1%	Unchanged				4 Aluminum					
7 Days - 11/14/23 to 11/21/23	METALS & MINING - Aluminum	Period 5 of 10	4	-5%	0%	7%	Unchanged				4 Aluminum					
7 Days - 11/07/23 to 11/14/23	METALS & MINING - Aluminum	Period 6 of 10	4	2%	8%	16%	Strengthened			4 Aluminum->	4 Aluminum->					
7 Days - 10/31/23 to 11/07/23	METALS & MINING - Aluminum	Period 7 of 10	4	-2%	1%	6%	Strengthened		4 Aluminum->	4 Aluminum->						
7 Days - 10/24/23 to 10/31/23	METALS & MINING - Aluminum	Period 8 of 10	4	12%	1%	9%	Weakened		<-Aluminum 4 <-Aluminum 4							
7 Days - 10/17/23 to 10/24/23	METALS & MINING - Aluminum	Period 9 of 10	4	16%	-10%	-4%	Unchanged			4 Aluminum						
7 Days - 10/10/23 to 10/17/23	METALS & MINING - Aluminum	Period 10 of 10	4	-2%	-1%	0%	Unchanged			4 Aluminum						
7 Days - 12/12/23 to 12/19/23	METALS & MINING - Copper	Period 1 of 10 (Current)	2	13%	13%	14%	Strengthened					2 Copper->	2 Copper->	2 Copper->	2 Copper->	
7 Days - 12/05/23 to 12/12/23	METALS & MINING - Copper	Period 2 of 10	2	2%	3%	5%	Strengthened		2 Copper->	2 Copper->	2 Copper->	2 Copper->				
7 Days - 11/28/23 to 12/05/23	METALS & MINING - Copper	Period 3 of 10	2	-2%	-1%	0%	Unchanged			2 Copper						
7 Days - 11/21/23 to 11/28/23	METALS & MINING - Copper	Period 4 of 10	2	-6%	-2%	1%	Weakened		<-Copper 2 <-Copper 2	<-Copper 2 <-Copper 2						
7 Days - 11/14/23 to 11/21/23	METALS & MINING - Copper	Period 5 of 10	2	3%	4%	5%	Strengthened			2 Copper->	2 Copper->	2 Copper->	2 Copper->			
7 Days - 11/07/23 to 11/14/23	METALS & MINING - Copper	Period 6 of 10	2	3%	4%	4%	Strengthened	2 Copper->	2 Copper->							
7 Days - 10/31/23 to 11/07/23	METALS & MINING - Copper	Period 7 of 10	2	1%	1%	1%	Unchanged	2 Copper								
7 Days - 10/24/23 to 10/31/23	METALS & MINING - Copper	Period 8 of 10	2	-2%	-1%	0%	Weakened	<-Copper 2 <-Copper 2	<-Copper 2 <-Copper 2							
7 Days - 10/17/23 to 10/24/23	METALS & MINING - Copper	Period 9 of 10	2	-6%	-5%	-3%	Unchanged			2 Copper						
7 Days - 10/10/23 to 10/17/23	METALS & MINING - Copper	Period 10 of 10	2	-2%	-2%	-2%	Weakened			<-Copper 2 <-Copper 2						
7 Days - 12/12/23 to 12/19/23	METALS & MINING - Gold	Period 1 of 10 (Current)	16	3%	10%	14%	Strengthened					16 Gold->	16 Gold->			
7 Days - 12/05/23 to 12/12/23	METALS & MINING - Gold	Period 2 of 10	16	19%	-6%	4%	Weakened					16 Gold				
7 Days - 11/28/23 to 12/05/23	METALS & MINING - Gold	Period 3 of 10	16	-9%	-3%	0%	Weakened					<-Gold 16 <-Gold 16				
7 Days - 11/21/23 to 11/28/23	METALS & MINING - Gold	Period 4 of 10	16	0%	8%	17%	Strengthened				16 Gold->	16 Gold->	16 Gold->			
7 Days - 11/14/23 to 11/21/23	METALS & MINING - Gold	Period 5 of 10	16	-4%	2%	11%	Strengthened				16 Gold					
7 Days - 11/07/23 to 11/14/23	METALS & MINING - Gold	Period 6 of 10	16	-6%	1%	9%	Strengthened				16 Gold					
7 Days - 10/31/23 to 11/07/23	METALS & MINING - Gold	Period 7 of 10	16	-2%	2%	9%	Strengthened				16 Gold					
7 Days - 10/24/23 to 10/31/23	METALS & MINING - Gold	Period 8 of 10	16	12%	-3%	5%	Weakened				16 Gold					
7 Days - 10/17/23 to 10/24/23	METALS & MINING - Gold	Period 9 of 10	16	-5%	0%	4%	Weakened				16 Gold					
7 Days - 10/10/23 to 10/17/23	METALS & MINING - Gold	Period 10 of 10	16	0%	6%	10%	Strengthened			16 Gold->	16 Gold->					
7 Days - 12/12/23 to 12/19/23	METALS & MINING - Industrial Metals & Minerals	Period 1 of 10 (Current)	22	-5%	9%	20%	Strengthened					22 Indust Mt/Mn-> 22 Indust Mt/Mn->				
7 Days - 12/05/23 to 12/12/23	METALS & MINING - Industrial Metals & Minerals	Period 2 of 10	22	-8%	-1%	13%	Weakened					22 Indust Mt/Mn				
7 Days - 11/28/23 to 12/05/23	METALS & MINING - Industrial Metals & Minerals	Period 3 of 10	22	-9%	0%	14%	Unchanged					22 Indust Mt/Mn				
7 Days - 11/21/23 to 11/28/23	METALS & MINING - Industrial Metals & Minerals	Period 4 of 10	22	-8%	0%	6%	Weakened					22 Indust Mt/Mn				
7 Days - 11/14/23 to 11/21/23	METALS & MINING - Industrial Metals & Minerals	Period 5 of 10	22	-7%	1%	9%	Unchanged					22 Indust Mt/Mn				
7 Days - 11/07/23 to 11/14/23	METALS & MINING - Industrial Metals & Minerals	Period 6 of 10	22	-3%	5%	18%	Strengthened					22 Indust Mt/Mn				
7 Days - 10/31/23 to 11/07/23	METALS & MINING - Industrial Metals & Minerals	Period 7 of 10	22	-9%	-2%	11%	Weakened					22 Indust Mt/Mn				
7 Days - 10/24/23 to 10/31/23	METALS & MINING - Industrial Metals & Minerals	Period 8 of 10	22	-8%	-1%	9%	Weakened					22 Indust Mt/Mn				
7 Days - 10/17/23 to 10/24/23	METALS & MINING - Industrial Metals & Minerals	Period 9 of 10	22	26%	-6%	7%	Weakened				<-Indust Mt/Mn 22 <-Indust Mt/Mn 22					
7 Days - 10/10/23 to 10/17/23	METALS & MINING - Industrial Metals & Minerals	Period 10 of 10	22	15%	0%	26%	Unchanged					22 Indust Mt/Mn				
7 Days - 12/12/23 to 12/19/23	METALS & MINING - Nonmetallic Mineral Mining	Period 1 of 10 (Current)	3	14												



2C. Stocks 1 Week Strongest and Weakest

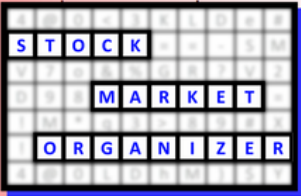
What: stocks currently rated Strongest/Weakest (highest/lowest of 9 strength ratings)

Why: most interesting stocks for available capital because

- the Strongest have the least amount of overhead supply to dampen breakouts while
- the Weakest may be prone to volatility, subject to big pops from bottom-fishing and short-covering BUT ALSO to bigger and faster falls.

(Not guaranteed and not a recommendation – weak stocks in weakening sub-industries may be better shorts than high-flyers.)

STOCK DETAIL (EDUCATIONAL PURPOSES ONLY/NOT FINANCIAL ADVICE)										1 week 12/12/23 to 12/19/23						
Sub-Industry	Ticker	Company	ID1	ID2	% Chg	ID3	Status	9Weakest	8VWeak	7Weaker	6Weak	5Avg	4Strong	3Stronger	2VStrong	1Strongest
METALS & MINING - Aluminum	CSTM	Constellium NV	11-41-41	91%	13%	20%	1Strongest	.	.	.	.	.	.	CSTM-->	CSTM-->	CSTM-->
METALS & MINING - Gold	EGO	Eldorado Gold Corporation	15-41-41	90%	10%	27%	1Strongest	.	.	.	.	.	.	.	.	EGO
METALS & MINING - Gold	KGC	Kinross Gold Corp	15-41-41	45%	10%	24%	1Strongest	.	.	.	.	.	.	.	.	KGC
METALS & MINING - Gold	AGI	Alamos Gold Inc	15-41-41	93%	8%	14%	1Strongest	.	.	.	.	.	.	.	.	AGI
METALS & MINING - Gold	NG	Novagold Resources Inc	95-41-41	4%	10%	-21%	9Weakest	NG	.	.	.	.	.	.	.	.
METALS & MINING - Gold	FNV	Franco Nevada Corp	95-41-41	43%	8%	-20%	9Weakest	FNV	.	.	.	.	.	.	.	.
METALS & MINING - Industrial Metals & Minerals	AMR	Alpha Metallurgical Resources Inc	15-41-41	100%	20%	78%	1Strongest	.	.	.	.	.	.	.	.	AMR
METALS & MINING - Industrial Metals & Minerals	NEXA	Nexa Resources S.A.	11-41-41	40%	16%	17%	1Strongest	.	.	.	.	NEXA-->	NEXA-->	NEXA-->	NEXA-->	NEXA-->
METALS & MINING - Industrial Metals & Minerals	NRP	Natural Resource Partners	15-41-41	100%	15%	43%	1Strongest	.	.	.	.	.	.	.	.	NRP
METALS & MINING - Industrial Metals & Minerals	HCC	Warrior Met Coal	15-41-41	100%	9%	43%	1Strongest	.	.	.	.	.	.	.	.	HCC
METALS & MINING - Industrial Metals & Minerals	GSM	Ferroglobe PLC	15-41-41	67%	8%	31%	1Strongest	.	.	.	.	.	.	.	.	GSM
METALS & MINING - Industrial Metals & Minerals	ARCH	Arch Resources Inc	15-41-41	91%	5%	21%	1Strongest	.	.	.	.	.	.	.	.	ARCH
METALS & MINING - Industrial Metals & Minerals	NXE	NexGen Energy Ltd	15-41-41	95%	-2%	34%	1Strongest	.	.	.	.	.	.	.	.	NXE
METALS & MINING - Industrial Metals & Minerals	CCJ	Cameco Corp	15-41-41	94%	-5%	29%	1Strongest	.	.	.	.	.	.	.	.	CCJ
METALS & MINING - Industrial Metals & Minerals	LAC	Lithium Americas Corp	95-41-41	12%	15%	-59%	9Weakest	LAC	.	.	.	.	.	.	.	.
METALS & MINING - Industrial Metals & Minerals	SLCA	U.S. Silica Holdings	95-41-41	53%	5%	-8%	9Weakest	SLCA	.	.	.	.	.	.	.	.
METALS & MINING - Nonmetallic Mineral Mining	METC	Ramaco Resources Inc	15-59-41	76%	4%	59%	1Strongest	.	.	.	.	.	.	.	.	METC
METALS & MINING - Silver	WPM	Wheaton Precious Metals Corp	11-41-41	83%	8%	11%	1Strongest	.	.	.	.	.	.	.	WPM-->	WPM-->
METALS & MINING - Silver	EXK	Endeavour Silver Corp	95-41-41	15%	8%	-30%	9Weakest	EXK	.	.	.	.	.	.	.	.
METALS & MINING - Silver	SSRM	SSR Mining Inc	95-41-41	5%	6%	-20%	9Weakest	SSRM	.	.	.	.	.	.	.	.
METALS & MINING - Steel & Iron	X	US Steel Corp	15-31-41	97%	33%	71%	1Strongest	.	.	.	.	.	.	.	.	X
METALS & MINING - Steel & Iron	TMST	Timken Steel Corp	11-31-41	90%	16%	19%	1Strongest	.	.	.	.	.	.	.	.	TMST-->
METALS & MINING - Steel & Iron	SXC	Suncoke Energy Inc	11-31-41	100%	13%	20%	1Strongest	.	.	.	.	.	.	.	.	SXC-->
METALS & MINING - Steel & Iron	IIIN	Insteel Industries Inc	15-31-41	73%	9%	21%	1Strongest	.	.	.	.	.	.	.	.	IIIN
METALS & MINING - Steel & Iron	NUE	Nucor Corp	11-31-41	100%	9%	14%	1Strongest	.	.	.	.	.	NUE-->	NUE-->	NUE-->	NUE-->
METALS & MINING - Steel & Iron	ACNT	Ascent Industries Co.	95-31-41	23%	0%	-15%	9Weakest	ACNT	.	.	.	.	.	.	.	.

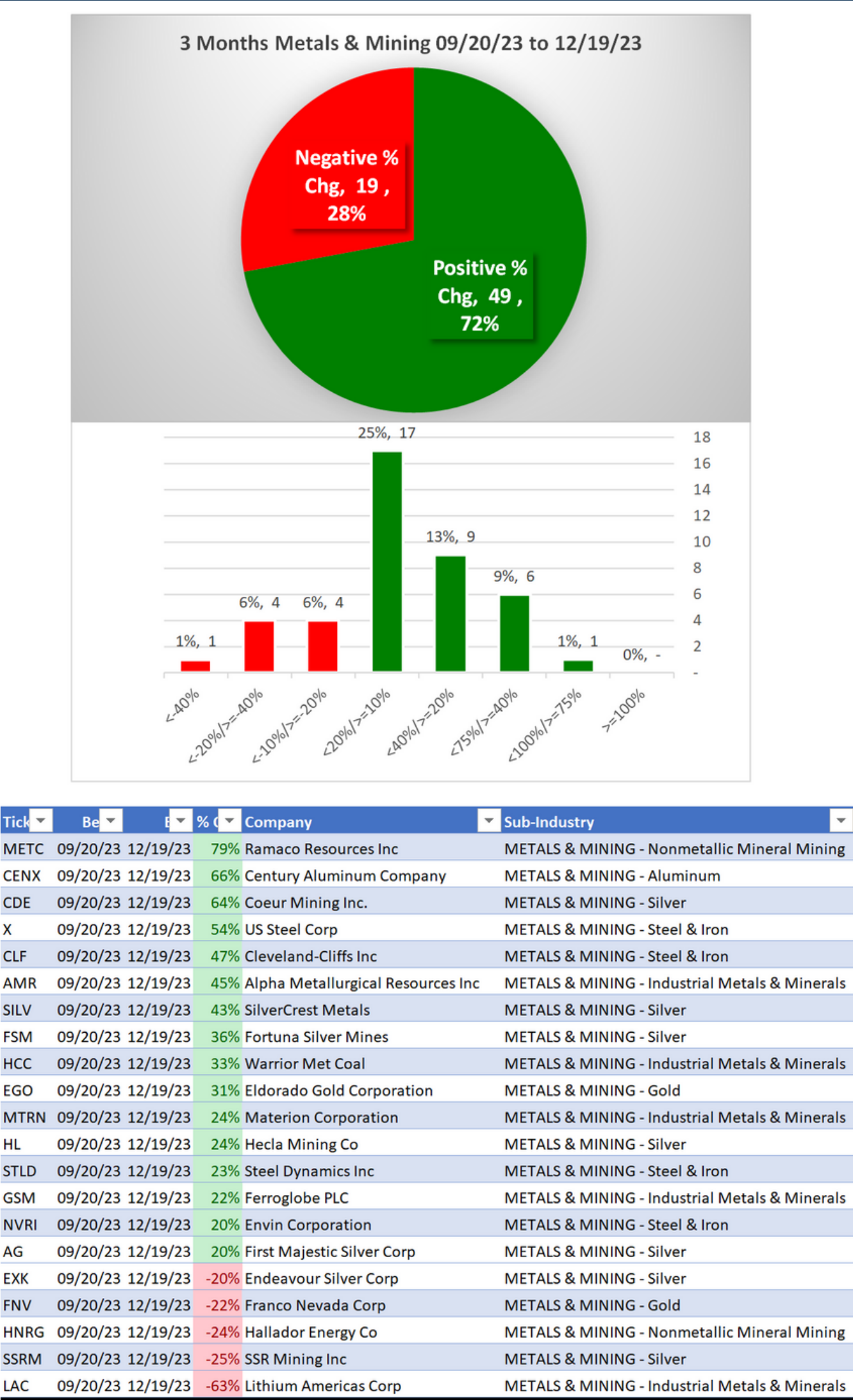


Strongest to Weakest stocks ratio is 19:7 (28% and 10% of total) 12/12/23 to 12/19/23.

Green Highlight: Strengthened  
Red Highlight: Weakened  
No Highlight: Unchanged

3. STRENGTH BY LOOKBACK PERIOD (with Best/Worst stocks)

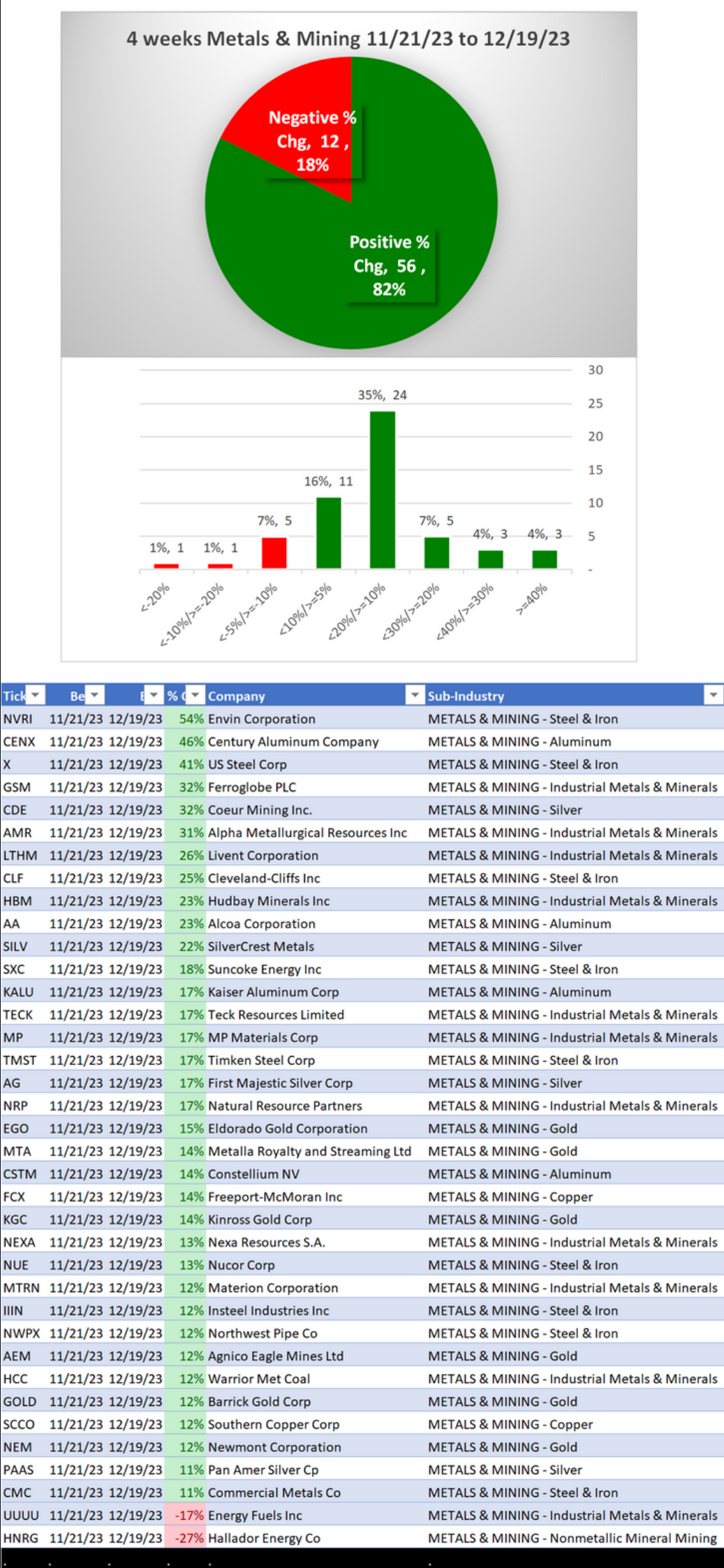
3A. Lookback 3 Months



16 stocks > +20% and 5 stocks < -20% (24% and 7% of total) 09/20/23 to 12/19/23.

3. STRENGTH BY LOOKBACK PERIOD (with Best/Worst stocks)

3B. Lookback 4 Weeks

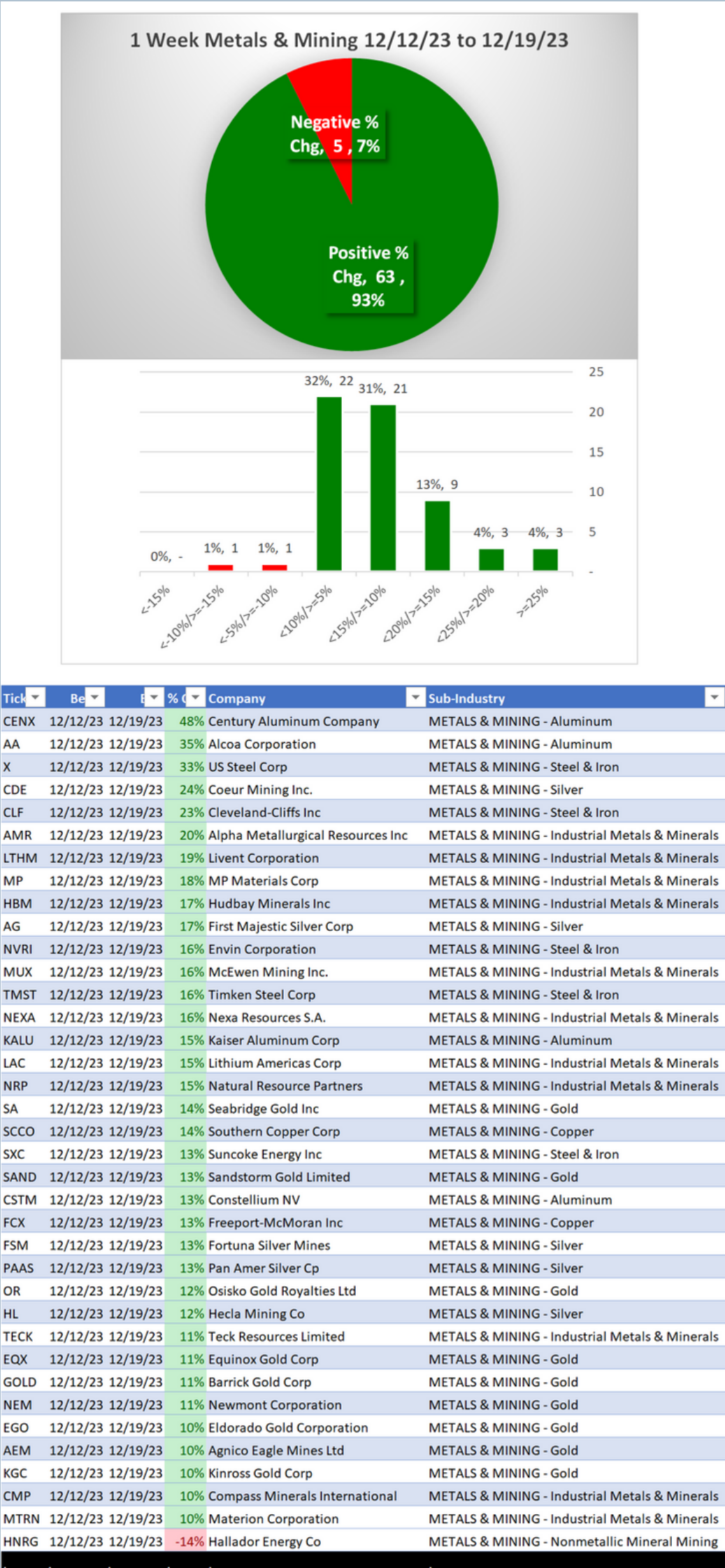


35 stocks >+10% and 2 stocks <-10% (51% and 3% of total) 11/21/23 to 12/19/23.



3. STRENGTH BY LOOKBACK PERIOD (with Best/Worst stocks)

3C. Lookback 1 Week



36 stocks >+10% and 1 stock <-10% (53% and 1% of total) 12/12/23 to 12/19/23.