

Morning Comments

GROWTH

Macarthur Minerals Ltd.
Buy | \$1.65
[INITIATING COVERAGE] Premium Iron Ore for an Insatiable Market

Macarthur Minerals (MMS) is an iron ore development, gold and lithium exploration company that is focused on bringing its 100%-owned Western Australia iron ore projects to production. The Lake Giles iron project includes the Ularring hematite resource (approved for development) and the Moonshine magnetite resource. Our positive view of the company stems from its successful de-risking of the Lake Giles project, forecast production of a premium iron ore that demands premium pricing and an attractive valuation.

TECHNICAL & QUANTITATIVE

Technical Analysis

Positioning for Countertrend Rally in the US Dollar

Macro Risk Appetite, Cross-Asset Analysis, Sector Rotation, Breakout Scan; In Focus: Technology, Gaming, Gold Miners, Consumer Staples, Utilities, Industrials; Featured Names: Jamieson Wellness (JWEL-T), Boralex (BLX-T), Enthusiast Gaming (EGLX-T)

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Macarthur Minerals Ltd.

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All figures in C\$, unless otherwise noted.

Rating: Buy

Initiating Coverage

12- Month Target: \$1.65

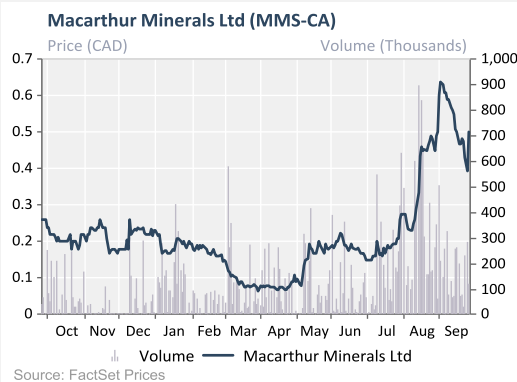
Price	C\$	\$0.41
Ticker		MMS-T
FYE		31-Mar
Potential ROR		307%
Shares O/S	Basic, M	104.3
	FD, M	129.2
Market Cap	Basic, C\$M	42.2
	FD, C\$M	52.3
Net Debt (at 30/06/20)	C\$M	4.1
Enterprise Value	C\$M	46.3
NAVPS	C\$	2.22
Working Capital/sh	C\$	(0.04)

*based on in-the-money dilutive securities

Resources	Tonnage	Fe	DTR []
Magnetite	Mt	%	Grade (%)
Measured	53.9	30.8	66.0
Indicated	218.7	27.5	66.1
Total M&I	272.6	28.2	66.1
Inferred	997.0	28.4	64.6
Total Resource	1,269.6	28.3	64.9

*DTR [] - Davis Tube Recovery, Concentrate

Resources	Tonnage	Fe	Fe
Hematite	Mt	%	Mt
Indicated	54.5	47.2	25.7
Inferred	26.0	45.4	11.8
Total Resource	80.5	46.6	37.5



Source: FactSet, Company filings, Paradigm Capital Inc.

Company description: Macarthur Minerals has three iron ore projects in the Yilgarn region of Western Australia. The company has also established multiple project areas in the Pilbara, Western Australia for conglomerate gold, hard rock greenstone gold and hard rock lithium. In addition, Macarthur Minerals has lithium brine interests in the Railroad Valley, Nevada, U.S. Macarthur Minerals is an Australian public company listed on both the TSX Venture Exchange and the Australian Securities Exchange (MIO).

Premium Iron Ore for an Insatiable Market

Investment Thesis

Macarthur Minerals (MMS) is an iron ore development, gold and lithium exploration company that is focused on bringing its 100%-owned Western Australia iron ore projects to production. The Lake Giles iron project includes the Ularring hematite resource (approved for development) and the Moonshine magnetite resource. The company has secured a binding life-of-mine off-take agreement with Glencore International A.G. and is focused on commercializing its iron ore projects utilizing mining, processing and logistics infrastructure in the region, and is progressing toward completing a Bankable Feasibility Study.

Highlights

- **Significant Progress to Date and Clear Path to Production** | In June 2019, Macarthur released a positive Preliminary Economic Assessment (PEA) for the Lake Giles project that highlighted an NPV₈ of A\$535 million, 21% IRR and a three-year payback period. Since then, MMS has secured an off-take agreement with Glencore (GLEN-US, NR), acquired mineral tenure for the development of site infrastructure, received a proposal to develop rail access and is currently completing a Bankable Feasibility Study (BFS). We believe the company is well positioned to achieve initial production in Q1/24.
- **Lake Giles' Premium Product Demands a Premium Price** | For the past decade, China has dominated the iron ore market with ~50% of global consumption (~80% of seaborne iron ore trade) because of its insatiable appetite for steel production. However, owing to the growing amount of air pollutants plaguing its cities, China increased regulations through its Blue Sky Action Plan that includes a focus on the production and use of iron ore, coking coal and natural gas. Lake Giles' iron ore concentrate is a high-grade, low-impurity product that permits steel mills to optimize and balance lower-quality ore blends, increase efficiency, lower costs and reduce CO₂ emissions in the blast furnace. Going forward, we believe continued growth in steel production, which consumes more than 98% of iron ore, will support iron ore prices; however, we conservatively use a long-term price of US\$70/tonne for 62% iron ore concentrate (vs. today's spot price of ~US\$120/tonne). Using a US\$20/tonne premium for Lake Giles 65–68% iron ore concentrate and a US\$10/tonne shipping cost we arrive at US\$80/tonne selling price.
- **Attractive Valuation** | Modelling the Lake Giles asset as per the 2019 PEA capex and opex assumptions, and using a 12% discount rate (typical of pre-production base metal projects), we value the project at US\$228 million. Accounting for Macarthur's current financial position we arrive at a company NAV of \$2.22/share to which we apply 0.75x P/NAV to reach our target price.

Valuation & Conclusion

We are initiating coverage of Macarthur Minerals with a \$1.65 target price and Buy recommendation. Our positive view of the company stems from its successful de-risking of the Lake Giles project, forecast production of a premium iron ore that demands premium pricing and an attractive valuation.

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Company Overview

Macarthur Minerals (MMS) is an iron ore development, gold and lithium exploration company. The company holds interest in three iron ore projects in the Yilgarn region of Western Australia, multiple gold and lithium projects in the Pilbara, Western Australia and lithium brine interests in the Railroad Valley, Nevada, U.S. MMS' flagship asset is its 100%-owned Lake Giles iron project, comprising the Moonshine magnetite project and the Ularring hematite project.

Figure 1: Regional Location and Infrastructure Map –Lake Giles



Source: Company filings

Investment Thesis 1: Significant Progress to Date and Clear Path to Production

In our view, Macarthur is on a clear path to successfully develop the Lake Giles premium iron ore project. In June 2019, Macarthur posted a positive PEA for the Lake Giles project that highlighted:

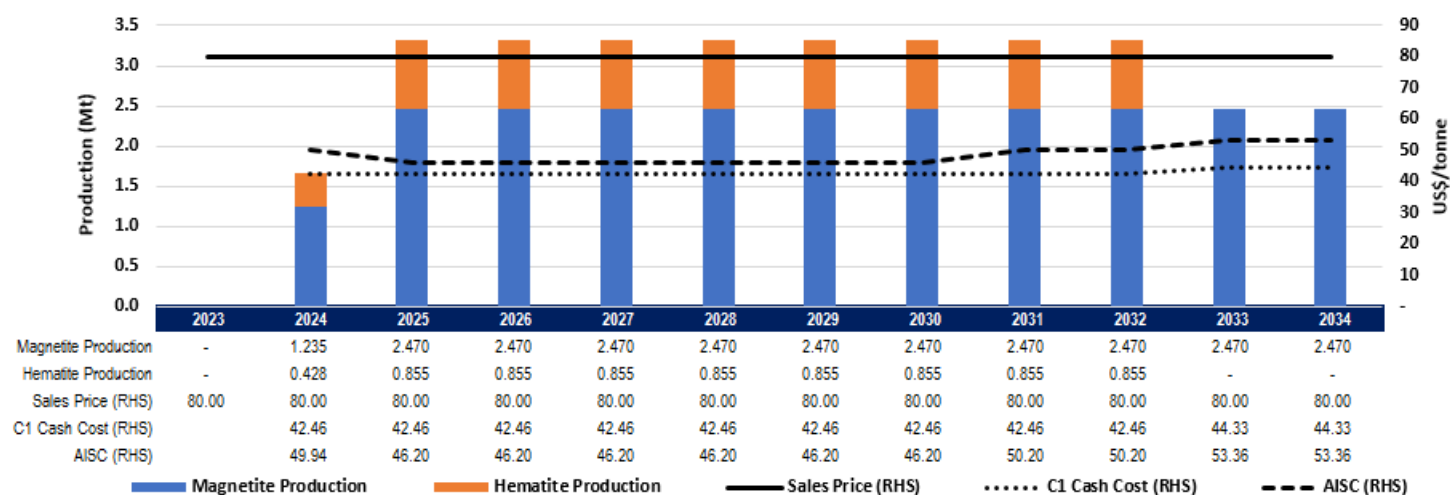
- NPV₈ A\$535 million
- IRR 21%
- Payback 3 years
- Project life 31 years
- Iron Grade 65–68%

These results were based on a long-term price assumption of US\$86/tonne (FOB) for the assets' premium iron ore product and a long-term USD/AUD exchange rate of 0.70. Other developments on the Lake Giles project include:

- **Glencore Off-take:** In March 2019, MMS announced that it had entered into a binding off-take and marketing agreement with Glencore. Commercial terms are for ~4Mtpa for the first 10 years with an option to extend for another 10 years. Other terms include:
 - Glencore takes possession of the iron ore on an FOB basis
 - Glencore is responsible for marketing, shipping, delivery and freight insurances
 - Glencore agrees to release up to 70% of the off-take volume when MMS secures project financing from a strategic industry investor.
- **Water License:** In November 2019, MMS made an application for two “water search miscellaneous licenses” for the purpose of exploring for groundwater to support magnetite processing.
- **Infrastructure Development:** In December 2019, the company entered into an agreement with Arrow Minerals to acquire mineral tenure for the development of site infrastructure. The tenure will be used to construct supporting infrastructure and it also paves the way to obtain access to tenure to construct a private haul road from the project through to the open access Perth to Kalgoorlie railway owned by Arc Infrastructure.
- **Road and Rail:** In June 2020, MMS submitted applications to construct a haul road and rail siding. The application will be used to construct a 93-kilometre haul road from the Moonshine deposit to a rail siding adjacent to the rail network owned by Arc Infrastructure.
- **Transport Agreement:** In July 2020, the company announced that it had received a proposal from Arc Infrastructure which provides an agreed pathway to develop a commercial track access agreement for below rail capacity from the company's Lake Giles iron project to the Port of Esperance.
- **Updated Resources:** In August 2020, MMS announced an updated resource estimate for the Moonshine deposit that included 54Mt @ 30.8% measured, 219Mt @ 27.5% indicated and 449Mt @ 27.1% inferred.
- **Bankable Feasibility Study:** Currently, management is completing a BFS which should position the company well to take advantage of its high-grade, low-impurity product well suited for the international steel industry.

Based on company guidance, we currently model production beginning in Q1/24 and ramping up to the life-of-mine (LoM) average of ~4Mtpa the following year (Figure 2).

Figure 2: Our Forecast Production, Price and Cash Cost Profile



Source: Company filings, Paradigm Capital Inc.

Investment Thesis 2: Lake Giles' Premium Product Demands a Premium Price

For the past decade, China has dominated the iron ore market with ~50% of global consumption (~80% of seaborne iron ore trade) because of its insatiable appetite for steel production. However, owing to the growing amount of air pollutants plaguing its cities, China increased regulations through its Blue Sky Action Plan that includes a focus on the production and use of iron ore, coking coal and natural gas.

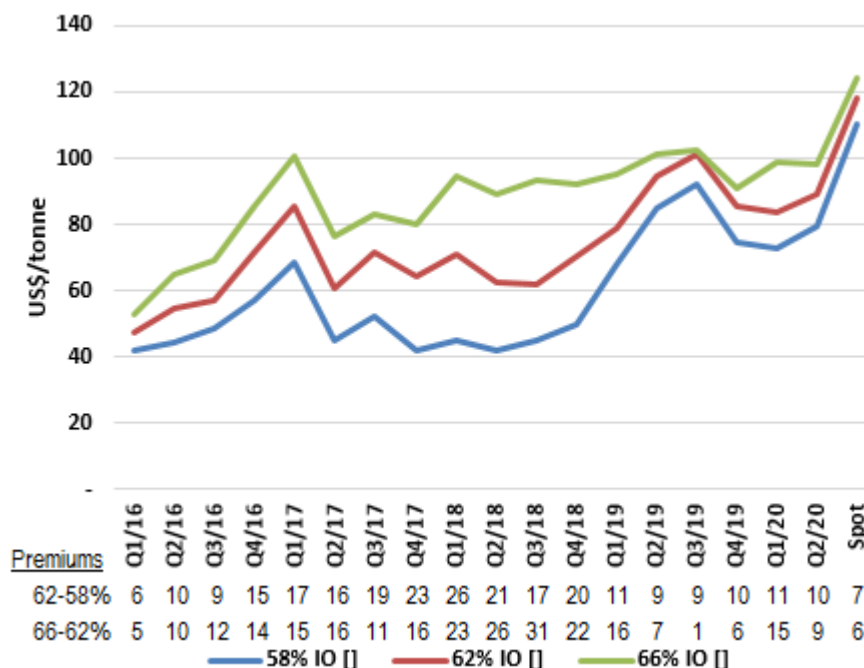
Lake Giles' iron ore concentrate is a high-grade, low-impurity product that permits steel mills to optimize and balance lower-quality ore blends (combine it with lower-quality iron ore concentrates for a more targeted iron ore mix), increase efficiency, lower costs and reduce CO₂ emissions in the blast furnace. Specifically, the project's concentrate is expected to have very low levels of impurities such as alumina, phosphorous and sulphur compared to other concentrates, which reduces the use of limestone and the production of slag. As such, the Lake Giles' 65–68% iron ore concentrate is expected to realize a significant premium price over the standard-grade 62% iron ore (CFR China) index (P62% index).

Figure 3 shows the prices of 58%, 62% and 66% iron ore concentrate (CFR China) and the premium paid for the superior products. To tell the story, the typical premium going into 2016 averaged US\$10/tonne from 58% to 62% and from 62% to 66%. At that time, the Chinese government announced the Blue Sky Initiative, which targeted reducing pollution across the country with specific stipulations on the iron ore and steel industry. Through 2017 and 2018, the premiums for higher-grade iron ore concentrate increased to US\$20/tonne owing to its higher efficiency and ability to reduce polluting gasses. However, the market was turned on its head when the Brumadinho dam failed and the world's largest producer of premium iron ore, Vale, significantly cut production as it was forced to evaluate the safety of several other assets. This situation had two distinct effects:

1. Iron ore prices of all concentrate grades surged
2. Premiums from one concentrate to another declined

Since then, while the prices for iron ore remain elevated, the premiums have averaged US\$10/tonne as Chinese steel mills have seen volatile profit margins (see below)

Figure 3: 58% vs. 62% vs. 66% Iron Ore Concentrate (CFR China)

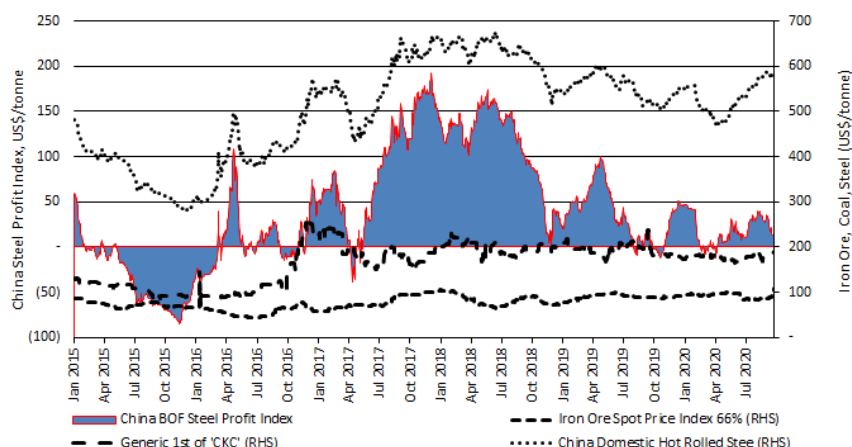


Source: Bloomberg, Paradigm Capital Inc.

Until the end of 2015, Chinese policy was largely tailored toward maintaining a comfortable margin for steelmakers by either increasing domestic iron ore production (supply) or stimulus packages (demand). Given that China's iron ore supply tends to be of a low 30% concentrate quality, the country now largely relies on stimulus packages to secure positive steel mill profit margins.

As stated above, profit margins at the Chinese steel mills have been volatile for the past few years, largely as a result of trade war uncertainties, COVID-19 and the subsequent stimulus packages. As margins decline, blast furnaces tend to purchase less expensive inputs, which is largely the cause of the premium decline between 58%, 62% and 66% iron ore concentrates during the current price surge. We believe the decline in premiums to be a temporary issue and that going forward premiums will revert to US\$20/tonne.

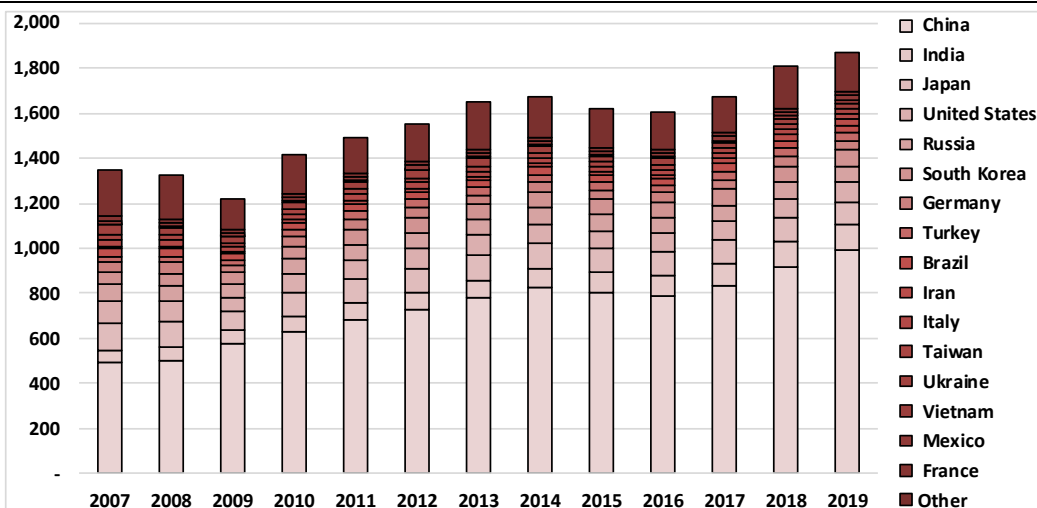
Figure 4: Chinese Steel Mill Profitability vs. Commodity Prices



Source: Bloomberg, Paradigm Capital Inc.

Over the past 10 years, China's steel production has not only grown from ~0.5Bt to ~1.0Bt, but the country's share of global steel production has also increased, from ~40% to more than 50%. Concurrently, global steel production has grown at a CAGR of ~4.5% from 1.2Bt in 2009 to 1.9Bt in 2019. Going forward, we believe continued growth in steel production, which consumes more than 98% of iron ore production, will support iron ore prices; however, we conservatively use a long-term price of US\$70/tonne for 62% iron ore concentrate (vs. today's spot price of ~US\$120/tonne).

Figure 5: 58% vs. 62% vs. 66% Iron Ore Concentrate (CFR China)



Source: Bloomberg, Paradigm Capital Inc.

Investment Thesis 3: Attractive Valuation

Using a long-term 62% iron ore concentrate price of US\$70/tonne, a US\$20/tonne premium for Lake Giles 65–68% iron ore concentrate and a US\$10/tonne shipping cost, we arrive at US\$80/tonne selling price. Modelling the Lake Giles asset as per the 2019 PEA capex and opex assumptions, and using a 12% discount rate (typical of pre-production base metal projects), we value the project at US\$228 million. Figure 6 summarizes our modelling assumptions.

Figure 6: Lake Giles Modelling Assumptions

	Parameter	units	2019 PEA	PCI
	NPV 8	A\$M	535	588
	NPV12	A\$M		285
	IRR	%	21%	20%
	Payback	years	3	5
	Mine Life	years	31	31
	Development CAPEX	A\$M	448	448
	Sustaining CAPEX	A\$M/yr	~5	~5
	Production	Mt/yr	2.5-3.4	3.33
	Concentrate grade	%	65-68	67.1
	Selling price (FOB)	US\$/t	86	80
	C1CC	A\$/t	45-55	54.73
	USD/AUD		0.70	0.80

Source: Company filings, Paradigm Capital Inc.

We are initiating coverage of Macarthur Minerals Ltd. with a \$1.65 target price and Buy recommendation. We estimate the company's NAV at \$2.22/share to which we apply a 0.75x P/NAV to reach our target price (Figure 7).

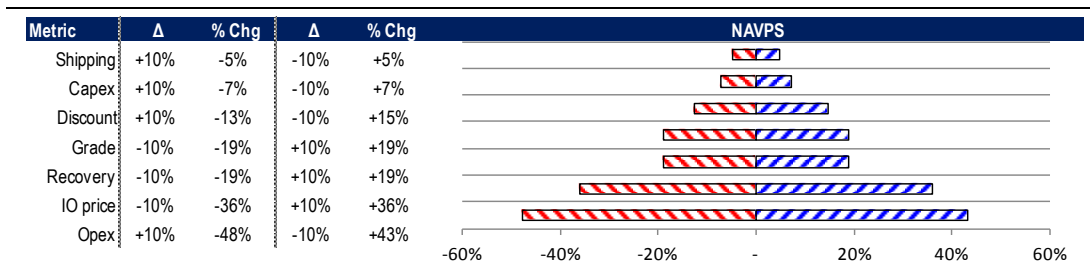
Figure 7: Summary NAV Estimate

Projects	Ownership	US\$M	C\$M	C\$/Sh	Valuation Basis
Lake Giles	100%	228	285	2.21	NPV @ 12%
Exploration Projects	100%	-	-	-	Balance Sheet as at Q1/21
Total Assets		228	285	2.21	
Corporate Adjustments					
Assets/Liabilities					
Cash and Cash Equivalents		3	3	0.02	Balance Sheet as at Q1/21
Cash from Options & Warrants		6	7	0.06	Balance Sheet as at Q1/21
Working Capital (net of cash)		(7)	(8)	(0.07)	Balance Sheet as at Q1/21
Total Corporate Assets/Liabilities		1	2	0.01	
Debt and Obligations					
Long Term Debt (includes convertible debt)		-	-	-	Balance Sheet as at Q1/21
Reclamation and Mine Closure Obligations		-	-	-	Balance Sheet as at Q1/21
Total Corporate Adjustments		-	-	-	
Net Asset Value		US\$230	C\$287	C\$2.22	
Shares Outstanding, Basic (mln)		104.3			
Shares Outstanding, FD (mln)		129.2			
Iron Ore Fines 62% (US\$/t): '018=67.05; '019=68.39; '020=91.24; '021=98.99; '022=73.75; '023=70.00; '024=70.00; 2025=70.00					
Iron Ore Fines 65.6% (US\$/t): '018=87.05; '019=88.39; '020=111.24; '021=118.99; '022=93.75; '023=90.00; '024=90.00; 2025=90.00					
USD/CAD: '018=0.77; '019=0.75; '020=0.72; '021=0.75; '022=0.80; '023=0.80; '024=0.80; 2025=0.80					
USD/AUD: '018=0.75; '019=0.70; '020=0.68; '021=0.75; '022=0.80; '023=0.80; '024=0.80; 2025=0.80					

Source: Company filings, Paradigm Capital Inc.

Our valuation of Macarthur Minerals is subject to several assumptions, particularly commodity prices, opex and capex. We note that a 10% increase in the iron price results in a 36% increase in our NAV estimate and a 10% increase in the recovery or grade results in a 19% increase in our NAV estimate. Figure 8 highlights sensitivities to several other modelling assumptions.

Figure 8: NAV Sensitivity to 10% Changes in Input Variables

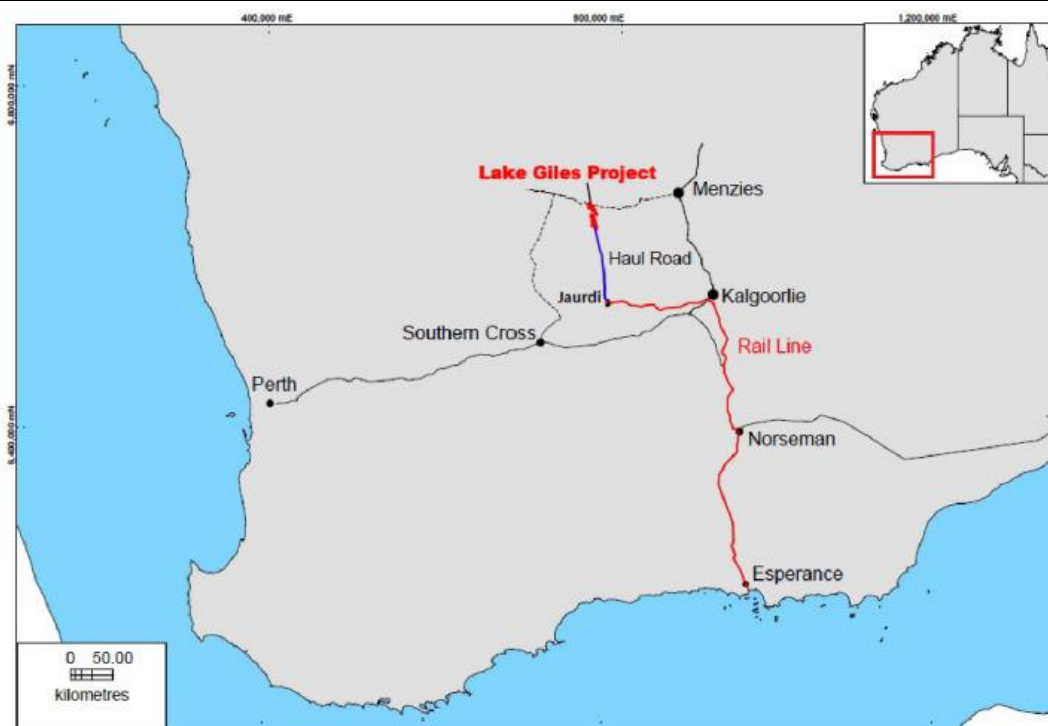


Source: Company filings, Paradigm Capital Inc.

APPENDIX I: Lake Giles Background

The Lake Giles project is located ~450 kilometres east of Perth and ~150 kilometres northwest of the town of Kalgoorlie in the state of Western Australia. The project is owned by Macarthur Iron Ore Pty Ltd. (MIO), a 100%-owned subsidiary of Macarthur Minerals. The company manages 15 contiguous tenements covering a total area of 62 square kilometres. The tenements cover the Yerilgee Greenstone Belt, which is some 80 kilometres in length and lies within the Southern Cross Province of the Yilgarn. The Lake Giles projects are ~90 kilometres from the existing Perth Kalgoorlie Railway which has a direct connection to the Port of Esperance in Western Australia, where it is intended that ore from the projects will be shipped.

Figure 9: Lake Giles Project Location



Source: Company filings

The project comprises hematite/goethite and magnetite mineralization located within these tenements that make up two main deposits: the Ularring hematite project and Moonshine magnetite project. The resources of Ularring and Moonshine were previously reported as stand-alone projects. A Pre-feasibility Study (PFS) was completed for Ularring (CSA, 2012) and a PEA for Moonshine (Snowden, 2011); however, Macarthur considers the operational philosophy to be outdated owing to subsequent changes in the iron ore market and is now proposing a single operation of both deposits. In June 2019, MacArthur released the results of its PEA on the Lake Giles iron ore project.

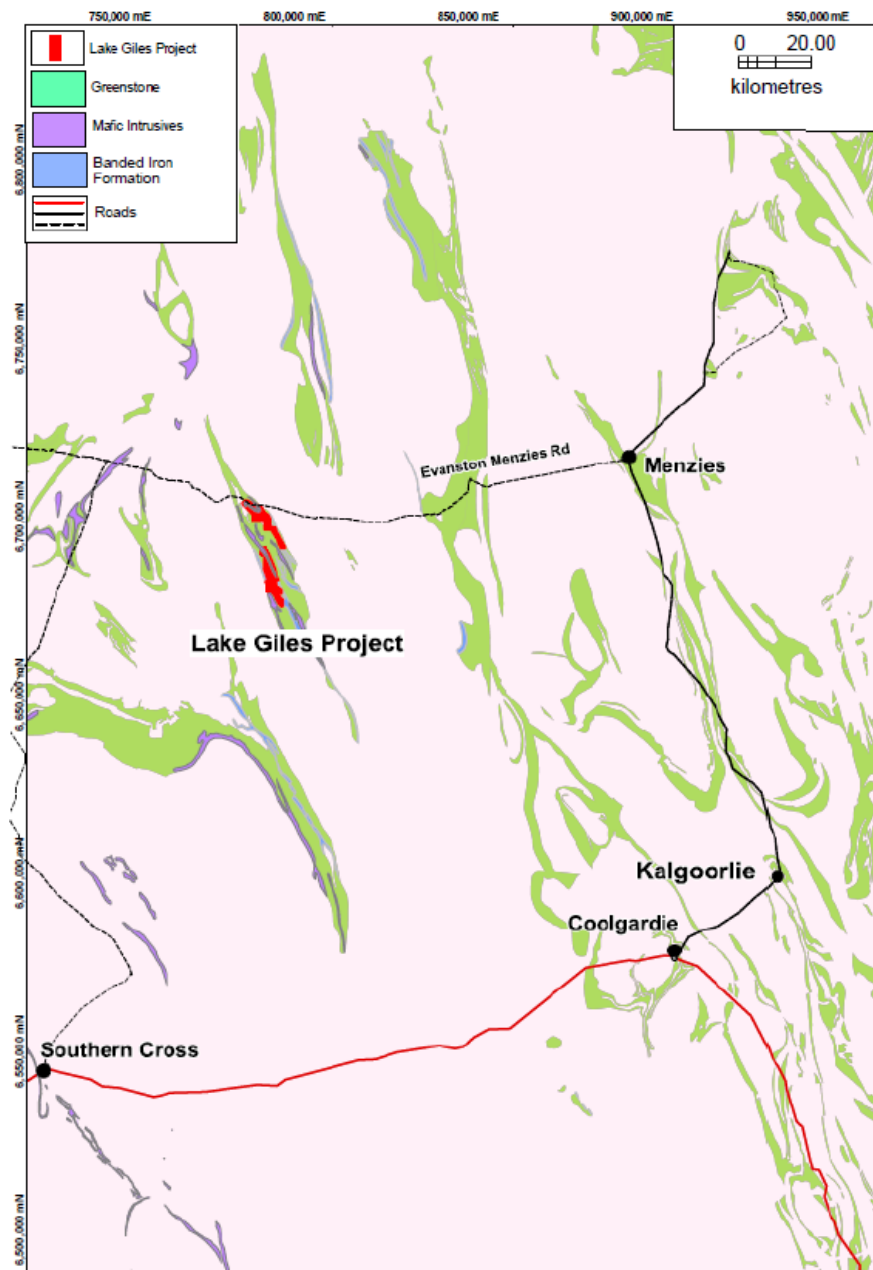
The key elements that have been revised, contributing to substantial cost savings, include:

- road haulage along a private haul road 90 kilometres to rail south of the project
- access to the export infrastructure at the Port of Esperance
- utilization of the open access rail line running between Perth and Kalgoorlie
- removal of slurry transport in favour of road haulage to a rail terminal
- product stream consisting of high-grade >65% iron magnetite and hematite fines concentrate
- reducing the size of the magnetite project from 10Mtpa to 3Mtpa
- reducing the estimated operating cost of hematite to A\$44.71/tonne shipped FOB
- confirming the estimated operating cost of magnetite to A\$53.47/tonne FOB

Geology and Mineralization

The Lake Giles project is situated in the Yilgarn Region of Western Australia, host to many significant mineral deposits that have been, or are being, mined for iron ore. MacArthur's tenements cover a portion of the Yerilgee Greenstone Belt, which is over 80 kilometres in length, up to 10 kilometres wide and lies within the Southern Cross Province of the Yilgarn Craton. The Yilgarn Craton consists of multiple lenticular greenstone belts surrounded by variably foliated gneissic granitoids. The greenstone belts consist of metamorphosed ultramafic, mafic and sediments, including banded iron formations which are Archaean in age and commonly intruded by mafic, intermediate and granitic rocks. The greenstone belts are generally metamorphosed to mid-greenschist facies toward the central parts of the belt and lower amphibolite facies on the edges of the belt where they are in contact with the granitoids.

Figure 10: Lake Giles Project Area with Regional Interpreted Geology



Source: Company filings

Mining and Processing

Mining: The 2019 PEA envisioned utilizing both the hematite and magnetite resources with a final concentrate consisting of a magnetite and hematite blend. The final blend dynamics will be primarily dictated by the recovery and grade of the magnetite concentrate. Mining shall be conducted by conventional drill, blast, load and haul mining methods. In the absence of geotechnical data to definitively establish wall angles for the pit shells, an overall wall angle of 40 degrees has been used for this study. Similar overall wall angles are commonly seen in Pilbara iron ore operations mining hard, banded iron deposits.

A mining fleet comprising two 110 tonne-class excavators (Hitachi EX1200 or equivalent) loading 90-tonne haul trucks (Cat777 or equivalent) are expected to be capable of achieving the annual ex-pit ore and waste movement. It is expected that the excavators would move between ore and waste areas, and between individual pits in order to maintain continuity of ore supply. It is expected that waste rock would be hauled to either ex-pit waste dumps or mined-out pits where possible. Ore shall be hauled to the run of mine (RoM) pad for crushing and then ore product conveyed to a concentrate plant.

Processing: Magnetite processing begins with primary crushing to a size suitable for feed to a semi autogenous mill (SAG) with screening to produce an appropriate size to feed the first stage of wet low intensity magnetic separators (LIMS), known as cobbles. The cobbing stage should reject the initial tailings while maintaining a high level of magnetite recovery. A coarse tail is produced at this stage and as water is often of major consideration in tailings treatment, a water recovery system should be included. Cobber concentrate would need to be reduced again in size. A ball mill would be used in closed circuit with cyclones for this purpose. The cyclone overflow would be the feed stream for the rougher LIMS stage. Assuming the Lake Giles ore has similar characteristics to other Australian magnetite ore bodies, it is likely that a third stage of grinding to 80% passing 30–45 micron would be required. This duty is best suited to a pair of fine-grinding mills such as the Vertimill. The product from these mills would feed the finishing stage of magnetic separation. This is a three-stage drum which gives a progressively cleaner product grade and helps eliminate any contamination owing to entrapment.

The hematite material would be mined from the deposits at a grade that allows blending with the magnetite to make a saleable product. The RoM material would be fed to a grizzly feeder to allow fine material to bypass the jaw crusher. After this initial size reduction, the material would be screened by double-decked screens. These would remove the product material and divide the coarse material into secondary and tertiary crusher feed. These two streams would be crushed in cone crushers and then mixed with the screen feed material. This material would be transported to a milling circuit to grind the mill to a size suitable for mixing with the magnetite concentrate.

Concentrate product shall then be road hauled to a rail loadout and then by rail to the Port of Esperance for export sale.

[illegible]

Source: Company filings

Reserves and Resources

As of June 2019, the mineral resources for the Lake Giles project were estimated to be as follows:

- 710Mt @ 30.2% iron magnetite (inferred)
- 80.5Mt @ 46.6% iron hematite (indicated + inferred)

However, on August 11, 2020, Macarthur announced an updated resource for the Moonshine deposit that included:

- Measured: 53.9Mt at 30.8% iron
- Indicated: 218.7Mt at 27.5% iron
- Inferred: 997.0Mt at 28.4% iron

Figure 12: Resources – Lake Giles, Magnetite and Hematite

MAGNETITE						
Aug 2020: Moonshine Magnetite Resource Upgrade						
Magnetite	Tonnes (Mt)	Fe (%)	SiO ₂ (%)	P %	Al ₂ O ₃ (%)	LOI (%)
Measured Resource	53.9	30.8	45.4	0.050	1.6	2.7
Indicated Resource	218.7	27.5	51.1	0.046	1.4	1.6
Total M&I Resource	272.5	28.1	50.0	0.047	1.4	1.8
Inferred Resource	449.1	27.1	52.6	0.047	1.0	1.4
Total Resource	721.6	27.5	51.6	0.047	1.2	1.6

LOI (Loss On Ignition at ~1000 C)

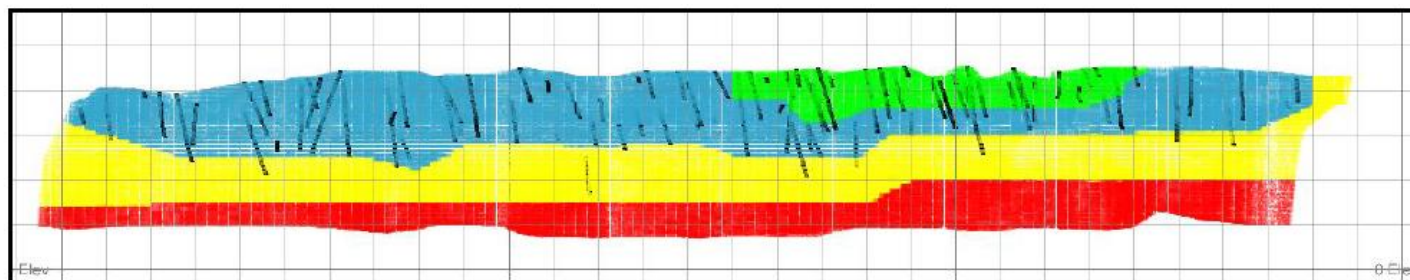


Figure 1 Longitudinal section of Moonshine (west) domain, showing Mineral Resource classification (green=Measured, cyan=Indicated, yellow=Inferred, red=unclassified), and drill hole intercepts (black traces). Grid square 100 m. View to east

HEMATITE						
June 2019: Mineral Resources, Ularring Hematite Project. Fe ≥ 40%						
Hematite	Tonnes (Mt)	Fe (%)	SiO ₂ (%)	P %	Al ₂ O ₃ (%)	S (%)
Indicated	54.5	47.2%	16.9%	0.06%	6.5%	0.16%
Inferred	26.0	45.4%	20.6%	0.06%	6.0%	0.09%
Total	80.5	46.6%	18.1%	0.06%	6.3%	0.14%

Source: Company filings

APPENDIX II: Management & Board of Directors

Management

Joe Phillips – CEO and Director: Joe Phillips is responsible for the original funding and development of MMS' significant iron ore assets, having completed its 2012 PFS for the Ularring hematite project and obtaining environmental approvals. Mr. Phillips was educated at the University of Queensland; he combines strong project management skills with a discipline in economics and a detailed understanding of the operation of public administrations and the elected governments in Australia.

Andrew Bruton – Executive General Manager (Corporate) and Company Secretary: Andrew has a background of over 20 years of top-tier professional experience in corporate, mining, energy and infrastructure law. He has been recognized as a leading transactional and project lawyer in the mining and energy sectors in Australia. In senior leadership roles, Andrew has been responsible for large teams at both state and national levels. He is also an experienced company director. Having advised major Australian and international mining and energy companies on complex projects and transactions with multi-billion dollar values, Andrew has a deep understanding of these markets. As a strategic thinker and leader with strong business acumen and a focus on delivering outcomes, he brings a wealth of expertise to MacArthur Minerals. Andrew holds both a Bachelor of Laws and a Bachelor of Business (Accountancy) from the Queensland University of Technology.

Dr. Dean Carter – General Manager, Projects: Dr. Carter has 17 years' experience in environmental research and managing the regulatory approval of mining and infrastructure projects across various commodities. He was previously involved in the approval and construction of Mount Gibson Mining's Extension Hill iron ore project and has been involved in projects from exploration through to construction and production. Dr Carter holds a Bachelor of Science (Hons1) and a Doctor of Philosophy (PhD).

Richard Moon – General Manager, International Sales and Marketing: Richard Moon has a career of over 20 years in the resources industry, including executive positions with Glencore International AG, POSCO and as a senior executive with Hyundai Steel where he assumed the role of Chief Representative for Hyundai Steel Company of Australia between 2013 and 2017. Richard is highly experienced in international iron ore and commodities sales, marketing and mining investment. Mr. Moon holds a Bachelor of Commerce, Yeungnam University, Korea and a Master of Arts in Asian Studies, University of Birmingham, United Kingdom.

Board of Directors

Cameron McCall – Executive Chairman: Cameron McCall has a wealth of experience across the financial services and commercial property industries within Australia and internationally. He has been providing investment advice, equity capital raising and share trading for over 17 years to corporate entities and private clients at Hartley's Ltd. and Macquarie Bank Ltd. During his 40-year career, Mr. McCall has built an extensive network of international and Australian-based high net worth individuals and corporate entities. Mr. McCall is currently running a corporate advisory business providing advice on asset acquisition and capital raising to international and Australian-based organizations.

Alan Phillips – Non-Executive Director: Alan Phillips has been a senior executive, director and chairman of ASX, TSX-V, TSX and AIM-listed companies over a period of 40 years. He has experience in a broad range of industries, but predominantly in the mining and exploration of copper, gold, ethanol and iron ore and technology sectors.

Daniel Lanskey – Independent Director: Mr. Lanskey holds a post graduate business degree from Griffith University in Entrepreneurship and Venture Development. He has over 15 years' experience in senior management in the public markets and has been a director and/or Chairman of ASX, OTCQX and TSX-V-listed companies. He has been involved in numerous start-up companies across various industries, including Information Technology, Oil and Gas, Mining and Real Estate. Working with an extensive capital market network across the Asia-Pacific Region and North America has resulted in numerous successful capital raisings via private placements for pre-IPO funds, IPOs and reverse takeovers of existing public companies.

Andrew Suckling – Independent Director: Andrew has over 25 years' experience in the commodity industry. He began in 1994 as a trader on the LME for Metallgesellschaft. In that role, Andrew established a trading presence in China for MG, setting up a representative office in Shanghai in 1997. He then became a partner, research analyst and trader with the multi-billion-dollar fund, Ospraie Management, LLC and predecessor fund, Tudor Investment Corporation. He is the Executive Chairman at Cadence Minerals, an early investment strategy and development firm active in lithium and other technology minerals, as well as the founding principal and portfolio manager for Verulam, a discretionary commodity fund. Andrew is a graduate of Brasenose College, Oxford University earning a BA (Hons) in Modern History in 1993 and an MA in Modern History in 2000.

APPENDIX III: Investment Risks

Mining Risk: Once in production, the company's operations are subject to all the hazards and risks normally encountered in mining exploration, development and production, including, without limitation, fires, power outages, labour disruptions, flooding, explosions, cave-ins and geotechnical instabilities.

Resource Risk: The Lake Giles project has significant resources in the measured and indicated category that are expected to be included in an upcoming Feasibility Study. Should that study prove the measured and indicated resources to be uneconomic, our valuation is subject to change.

Financing Risk: Macarthur has successfully raised funds over the past few years. However, there can be no guarantee that future financings will be as successful as the market appetite for mining companies can fluctuate.

Single Asset Risk: The company is effectively a single-asset company which presents an increased risk should there be any temporary or extended delays or other issues associated with mining and development activities in the event of unforeseen problems.

Metallurgical Risk: Recovery of commodities is subject to the successful development of a processing mill, and, in the case of the Lake Giles asset, recovery of two separate ore types — magnetite and hematite. Although the 2019 PEA highlighted specific recovery rates, there can be no guarantee that follow-up studies will verify these values.

Commodity Price Risk: Macarthur Minerals is highly leveraged to iron ore prices; as such, a declining metal price trend would have a material impact on the company's performance.

Forex Risk: The company's flagship asset is located in Australia. However, its sales are heavily reliant on the AUD/USD exchange rate — we assume a long-term value of 1.25 AUD/USD. If the U.S. dollar were to significantly strengthen and/or weaken, the company's business, financial condition, operation results and future prospects could be affected.

DISCLAIMER SECTION

Company	Ticker	Disclosures
Macarthur Minerals Ltd.	MMS-T	3

Note: Please refer to above table for applicable disclosure numbers.

1. The analyst has an ownership position in the subject company.
2. Paradigm Capital Inc. has assumed an underwriting liability for, and/or provided financial advice for consideration to the subject companies during the past 12 months.
3. Paradigm Capital Inc. expects to receive or intends to seek compensation for investment banking services from the subject companies in the next 3 months.
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c Recommendation	Number of Companies	Percentage Breakdown	
Buy	96	62%	Buy – Expected returns of 20% or more over 12 months.
Spec. Buy	39	25%	Speculative Buy - Expected returns of 20% or more over the next 12 months on high-risk development or pre-revenue companies, such as junior mining and other early stage companies.
Hold	17	8%	Hold - Expected returns of less than +/- 20% over the next 12 months. Includes companies Under Review.
Sell*	1	1%	Sell - Expected returns of -20% or more over the next 12 months.
Total	153		

**Includes companies with a "Tender" recommendation*

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STOCK RATING SYSTEM

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Speculative Buy: Expected returns of 20% or more over the next 12 months on high-risk development or pre-revenue companies, such as junior mining and other early stage companies.

Hold: Expected returns of less than 20% over the next 12 months.

Sell: Expected returns of -20% or more over the next 12 months. .

POSITIONING FOR COUNTERTREND RALLY IN THE US DOLLAR**Macro Risk Appetite, Cross-Asset Analysis, Sector Rotation, Breakout Scan****In Focus:** Technology, Gaming, Gold Miners, Consumer Staples, Utilities, Industrials**Featured Names:** Jamieson Wellness (JWEL-T), Boralex (BLX-T), Enthusiast Gaming (EGLX-T)**US Dollar breakout drives headwind for risk assets; equity indices likely to face rangebound price action into election**

- The **US Dollar Index** has completed a short-term basing pattern and broken out through the 94 level, creating a significant headwind for assets that have been benefitting from the Dollar's downtrend. This countertrend move in the DXY has the potential to retest its 200-day moving average around 97 before resuming the longer-term downtrend, although there is potential for the 95 and 96 levels to act as resistance.
- Major equity indices continued to pull back last week but are holding support at the July lows. The **S&P 500** held the 3200 support zone but has the potential to retest the 200-day moving average around 3100 if this level breaks. The **TSX Composite** is currently sitting at its 200-DMA with a neutral trend and momentum structure. As the large-cap growth factor resumes leadership amidst Dollar strength, we expect we could see a choppy, directionless market environment heading into the US presidential election.
- The **Russell 2000** tested and held key long-term support at the 1450 level, avoiding a breakdown that could have driven broader equity weakness accelerate.

Sector Rotation: Technology, Gaming, Staples, Utilities and Industrials demonstrate leadership

- Prior to last week, we had been seeing accelerating rotation into cyclical sectors as the **Technology** sector corrected. With the Dollar's breakout, Technology has resumed its leadership position in both US and Canadian markets. The relative strength in **Materials** and **Industrials** remains intact with both sectors in uptrends against broader equity benchmarks and the the Canadian Industrials sector hitting new relative highs against the TSX Composite. Areas of weakness include **Energy**, **Financials** and **Real Estate**.
- The **TSX Consumer Staples** and **Utilities** sectors are breaking out on absolute measures and relative to the TSX Composite. We highlight **Jamieson Wellness (JWEL-T)** and **Boralex (BLX-T)** from our TSX Breakout Scan as names to play the strength in these sectors.
- The **gaming** industry continues to be a strong theme with various thematic ETFs hitting new relative highs against global equity benchmarks. We highlight **Enthusiast Gaming (EGLX-T)** as a name that has lagged the group but has been demonstrating signs of accumulation as it consolidates around a long-term support zone.

Commodities pull back amidst Dollar strength, but long-term uptrends remain intact

- The **CRB Commodity Index** and **GSCI Commodity Index** have been consolidating around their 200-day moving averages as inflation expectations pull back amidst the Dollar breakout.
- **Gold** and **silver** resolved lower from their month-long consolidation phases, breaking near-term support zones as the Dollar broke out. Both remain in long-term uptrends but face further headwinds until the Dollar resumes its downtrend. We are watching the \$1,830 and \$22 levels for initial support on gold and silver and the \$36-\$37 zone on the **VanEck Gold Miners ETF (GDX)**.
- **Copper** broke below the \$3.00 level but held its 50-day EMA and remains above long-term support in the \$2.80 zone.

Risk Appetite Model: Neutral Risk Environment

The indicators in our model have been shifting toward neutral trend and momentum structures, which supports our outlook for a choppy, directionless market environment heading into the US election.

Currencies: The US Dollar Index broke through key resistance the 94 level while the AUD/JPY cross saw a 2.7% pullback. Further upside toward the 96-97 range in the DXY will likely be a headwind for risk assets until the longer-term downtrend reasserts itself.

Sector rotation: The cyclical rotation that was underway was interrupted last week by the US Dollar break out, driving the large cap growth factor to reassert leadership.

Commodities: The CRB Commodity Index is consolidating around its 200-DMA and has been transitioning into a short-term neutral trend relative to Treasuries.

Fixed-Income: Treasury yields continue to see compressing volatility with the 10-year trading in a month-long consolidation pattern. The yield curve has been flattening while inflation expectations have been pulling back, although the longer-term trends favor a steepening curve and higher inflation.

Credit Spreads: The BoA High Yield Spread has widened while various junk bond ETFs (HYG, JNK) have been weakening relative to Treasuries.

Volatility: The VIX futures curve continues to price in a volatility premium surrounding the US election. However, the volatility of the VIX (VVIX) has broken below prior lows to the lowest since March 2020, which is an encouraging sign.

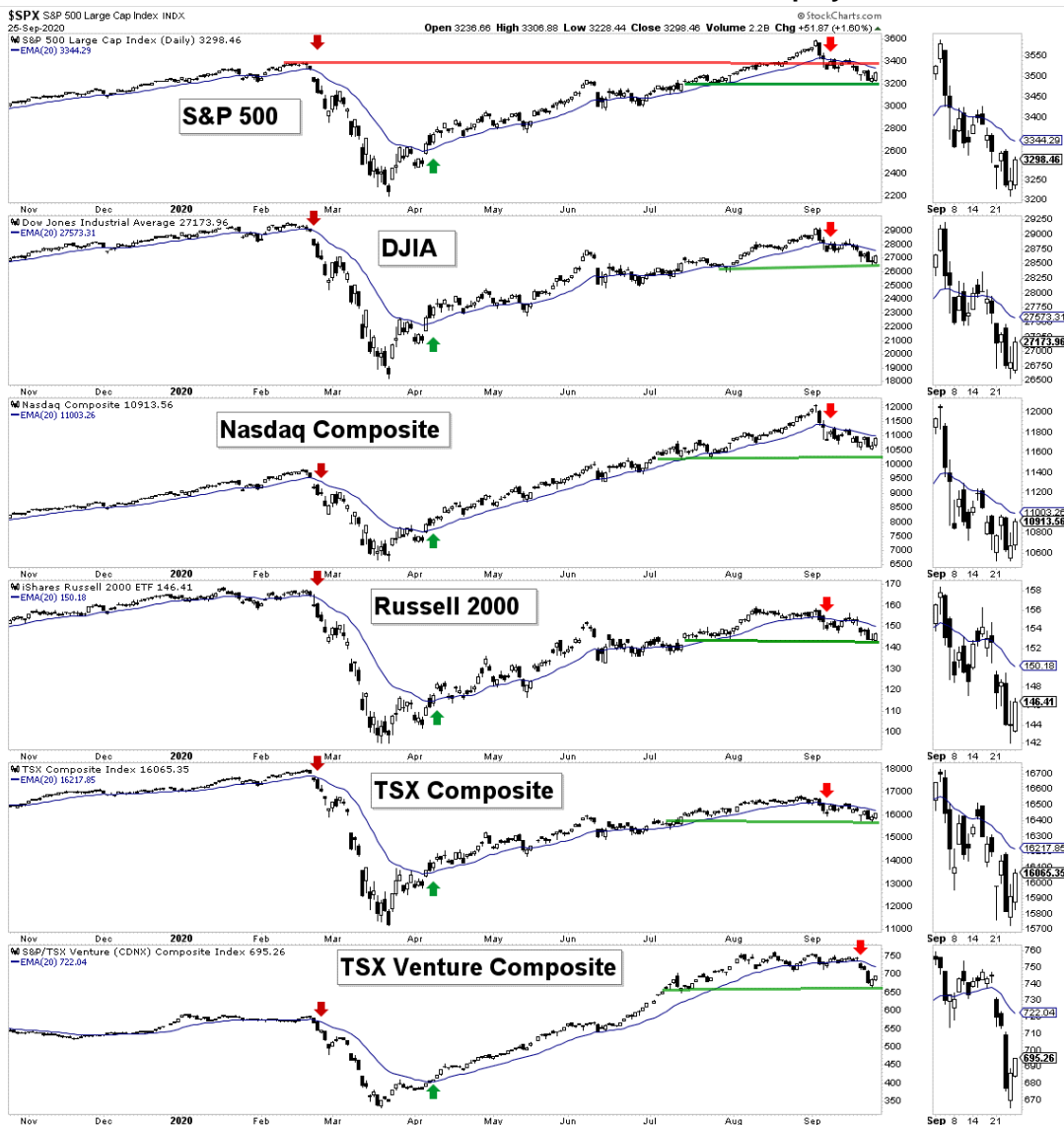
MACRO RISK APPETITE DASHBOARD

Macro Risk Appetite Model		
Indicator	Reading	Score (-3 to +3)
Daily Momentum & Trend	Neutral	0
Breadth	Neutral	0
High-Beta/Low Vol	Neutral	0
Discretionary vs. Staples	Risk-on	1
Small-Caps vs. Large Caps	Risk-off	-1
Transports vs. Utilities	Risk-on	2
Stocks vs. Bonds	Neutral	0
Commodities vs. Bonds	Neutral	0
Copper/Gold	Risk-on	1
Lumber/Gold	Neutral	0
Platinum/Gold	Risk-off	-1
S&P 500/Gold	Neutral	0
AUD/JPY	Risk-off	-1
USD/JPY	Neutral	0
Credit Spreads	Risk-off	-1
Yield Curve	Neutral	0
Inflation Expectations	Risk-on	1
Put/Call Ratio	Neutral	0
VIX	Neutral	0
VIX Curve	Risk-off	-1
Vol of Vol	Risk-on	1
Cross-Asset Implied Volatility	Risk-off	-1
Total Score	Neutral	0
Degree	0%	Max Risk Aversion (-100%) to Max Risk Acceptance (+100%)

Our macro risk appetite model consolidates our interpretation of various intermarket ratios, breadth, momentum and volatility indicators into a scoring system. Portfolio managers can use this model to calibrate their risk positioning.

MARKET ANALYSIS: EQUITIES, FIXED-INCOME, CURRENCIES, & COMMODITIES

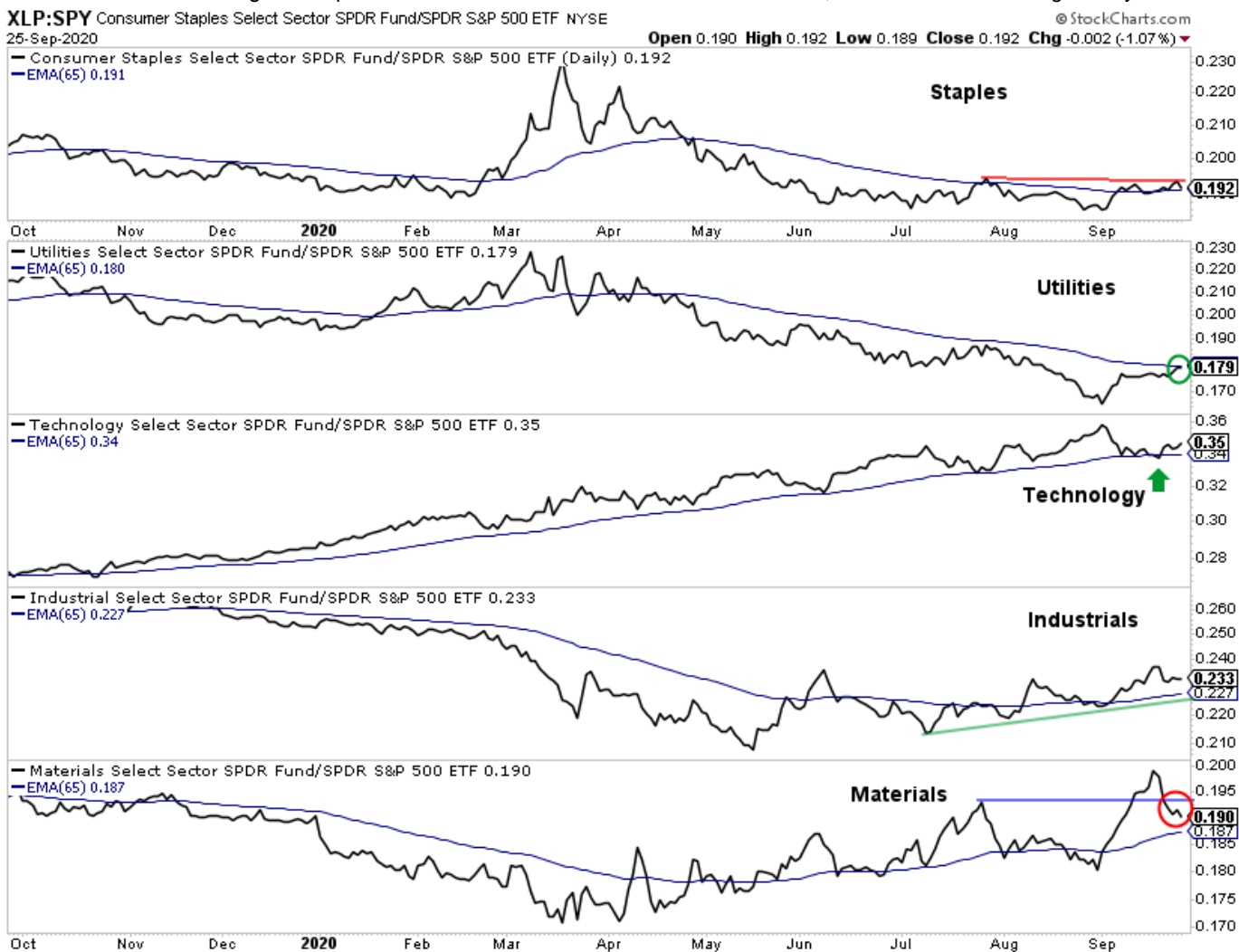
US & Canadian Equity Indices Tactical View (Daily)



- The major indices remain below falling 20-day EMAs, indicating a tactically bearish environment.
- The July lows are currently holding as support across the board
- Levels to watch for initial support:
 - **S&P 500:** 3200
 - **DJIA:** 26,500
 - **Nasdaq Composite:** 10,200-10,500
 - **Russell 2000:** 1450
 - **TSX Composite:** 15,800-16,000
 - **TSX Venture:** 645-650

US Sector Rotation – Technology leadership remains intact

- The Consumer Staples relative strength ratio is holding above its 65-day (quarterly) EMA while the Utilities relative strength line is on the verge of crossing above its 65-day EMA.
- Technology's relative strength line held support at its 65-day EMA, keeping its long-term leadership position intact.
- The Industrials and Materials relative strength lines pulled back amidst last week's risk-off environment, but remain above rising 65-day EMAs.



US Dollar Index and EUR/USD (Daily) – DXY has potential to retest 97

- The DXY's breakout through the 94 level targets the 95 and 96 zones as next resistance levels with potential to retest the 200-day moving average around 97.
- The Euro's next support zones are around 1.16, 1.15 and 1.13 with the 200-day moving average just above 1.12.



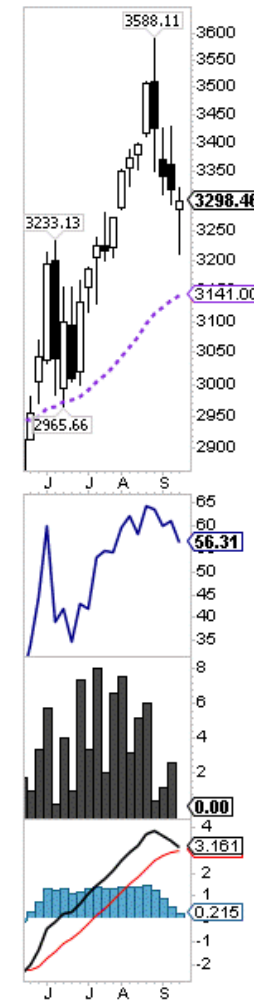
US 10-Year Yield, Yield Curve and Inflation Expectations

- The 10-year yield has been seeing volatility compression as it consolidates in a tightening range while the 10s/2s yield spread and inflation expectations pull back within uptrends.



S&P 500 (Weekly) – Intermediate-term bullish structure intact but potential for retest of 3100

- The S&P 500 is holding near-term support around the 3200 level while over 50% of constituents remain above their 200-DMA.
- Momentum has been deteriorating with the PPO indicator (bottom panel) on the verge of delivering a sell signal.
- We are looking for next support around the 3100 zone if the 3200 level breaks support.



TSX Venture (Weekly) – Held support around 650

- The Venture remains in a bullish trend and momentum structure and last week's sell-off served to relieve overbought conditions in the weekly RSI.
- Watch for resistance in the 750 zone.



Commodities (GSCI and CRB, Weekly) – Entering consolidation phases

- After making sharp rebounds from the March lows, commodity benchmarks are entering consolidation phases around their 40-week moving averages.
- We are looking for moves above the ~365 zone in the GSCI and ~160 in the CRB to signal breakouts in the commodity complex.



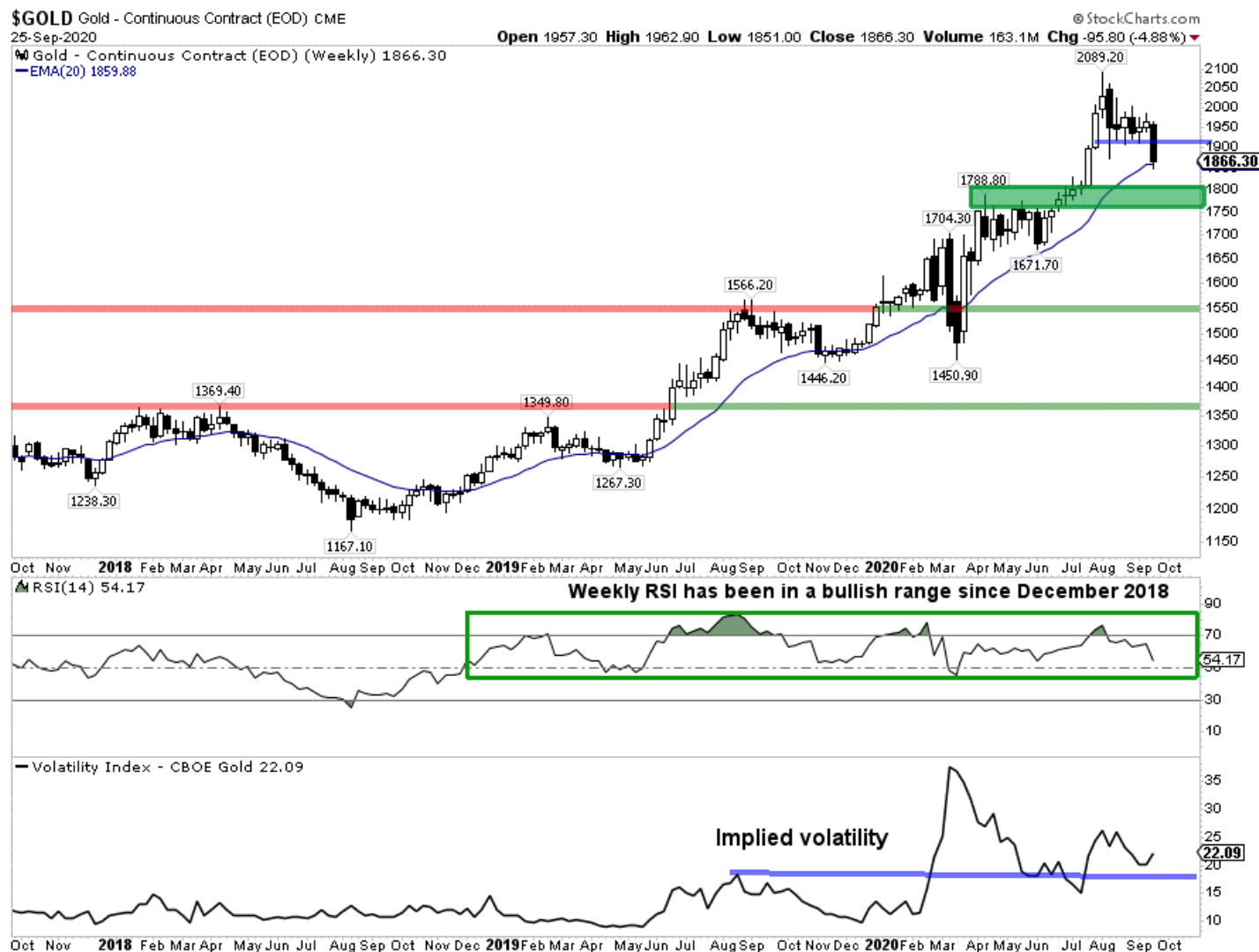
Copper (Weekly) – Key support at \$2.80 zone

- Copper has pulled back below the \$3.00 level but remains above key support in the \$2.80 zone.
- We continue to watch for upside potential toward the \$3.30 zone once the impact of US Dollar strength subsides.



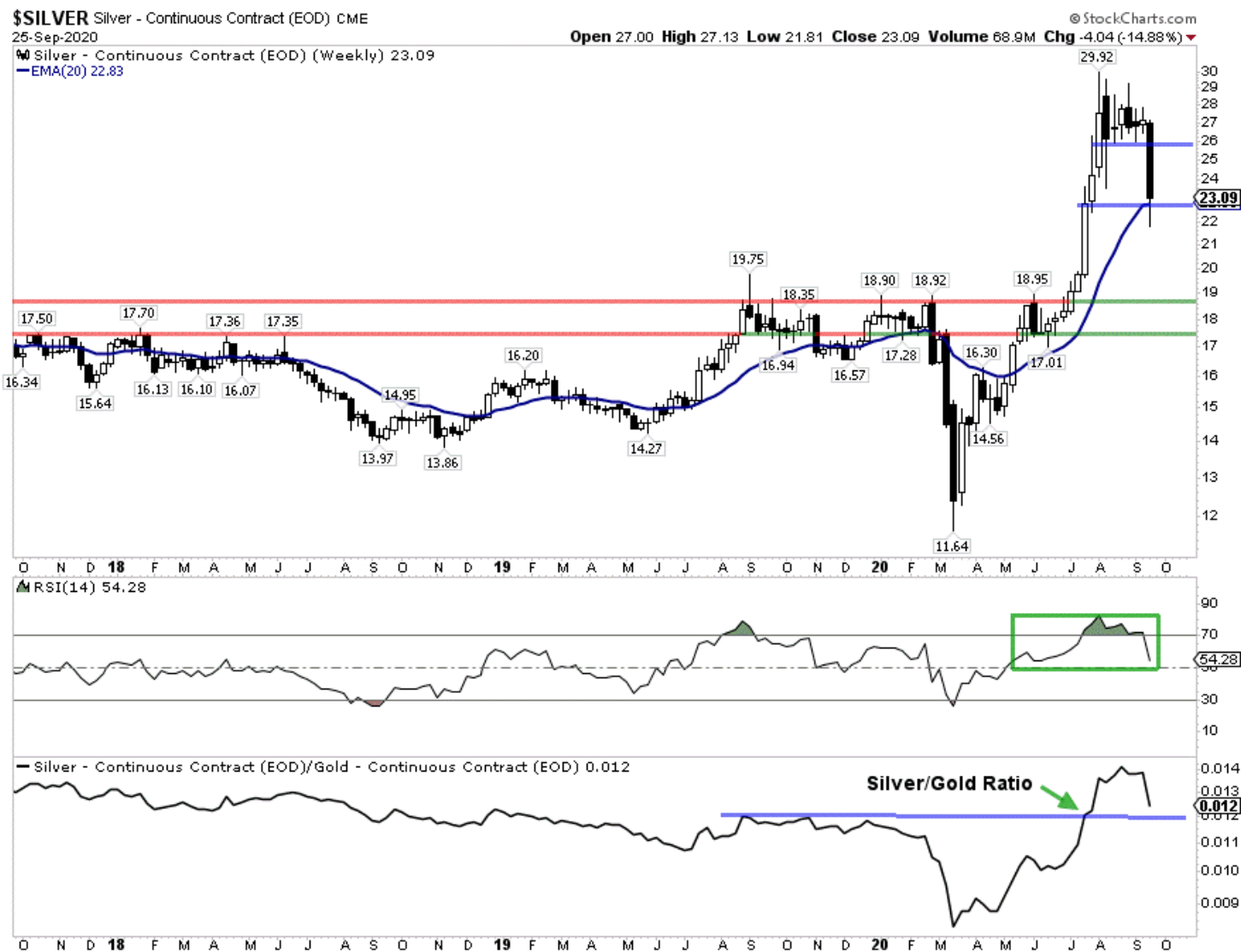
Gold (Weekly) – Long-term trend intact

- Gold continues to hold its long-term bullish trend and momentum structure after resolving lower from a month-long consolidation phase.
- Short-term point and figure patterns suggest a retest of the \$1,830 zone is likely.



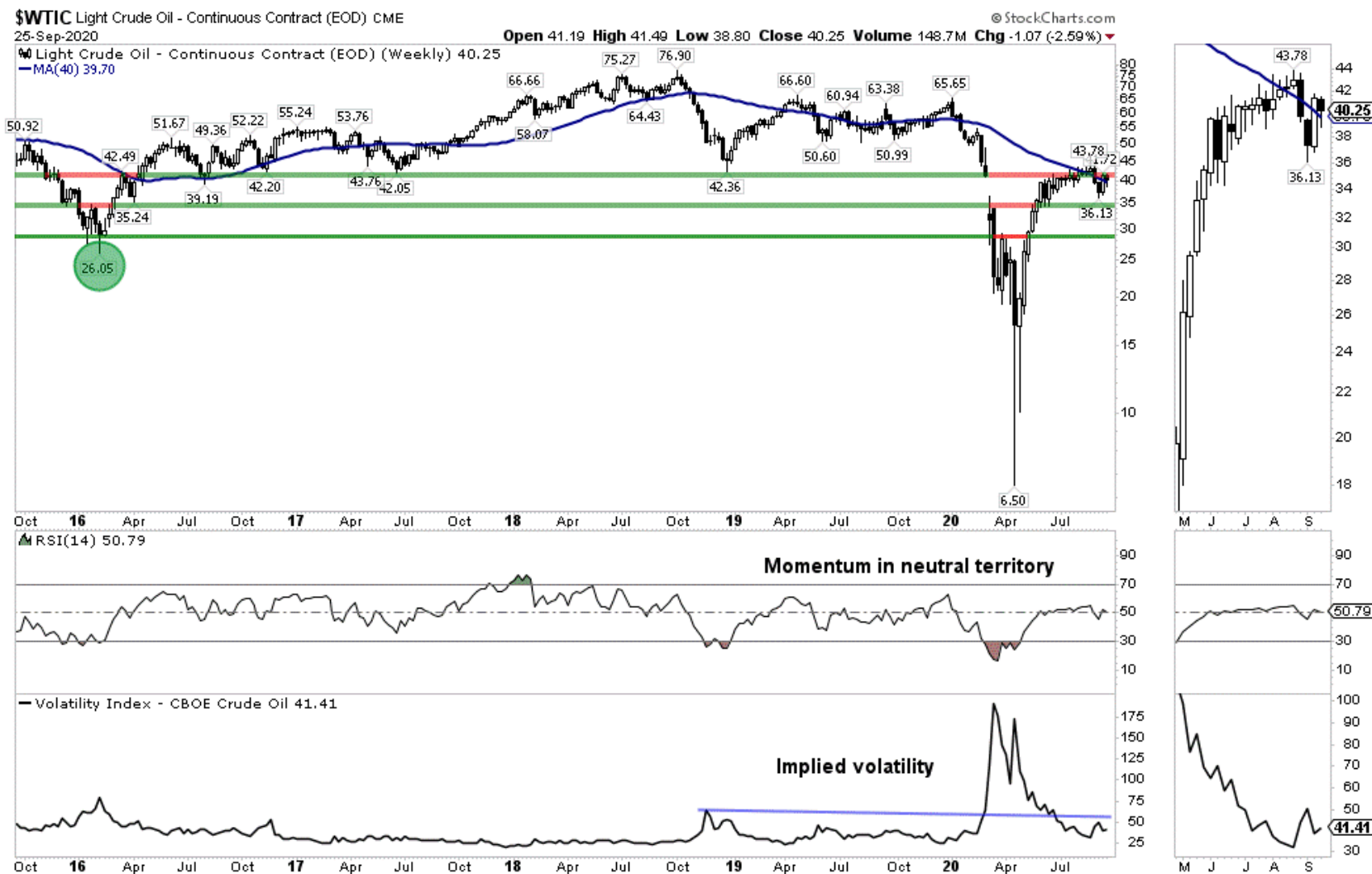
Silver (Weekly) – Long-term trend intact

- Silver also remains in a bullish trend and momentum structure after resolving lower from its consolidation phase.
- Watch for near-term support around the \$22 zone.



Crude Oil (Weekly)

- WTI is transitioning into a neutral trend and momentum structure as it begins to consolidate around its 40-week moving average.
- Watch for support in the \$35-\$36 zone and resistance around \$43.



SECTOR ROTATION, INDUSTRY GROUPS, BREAKOUT SCAN

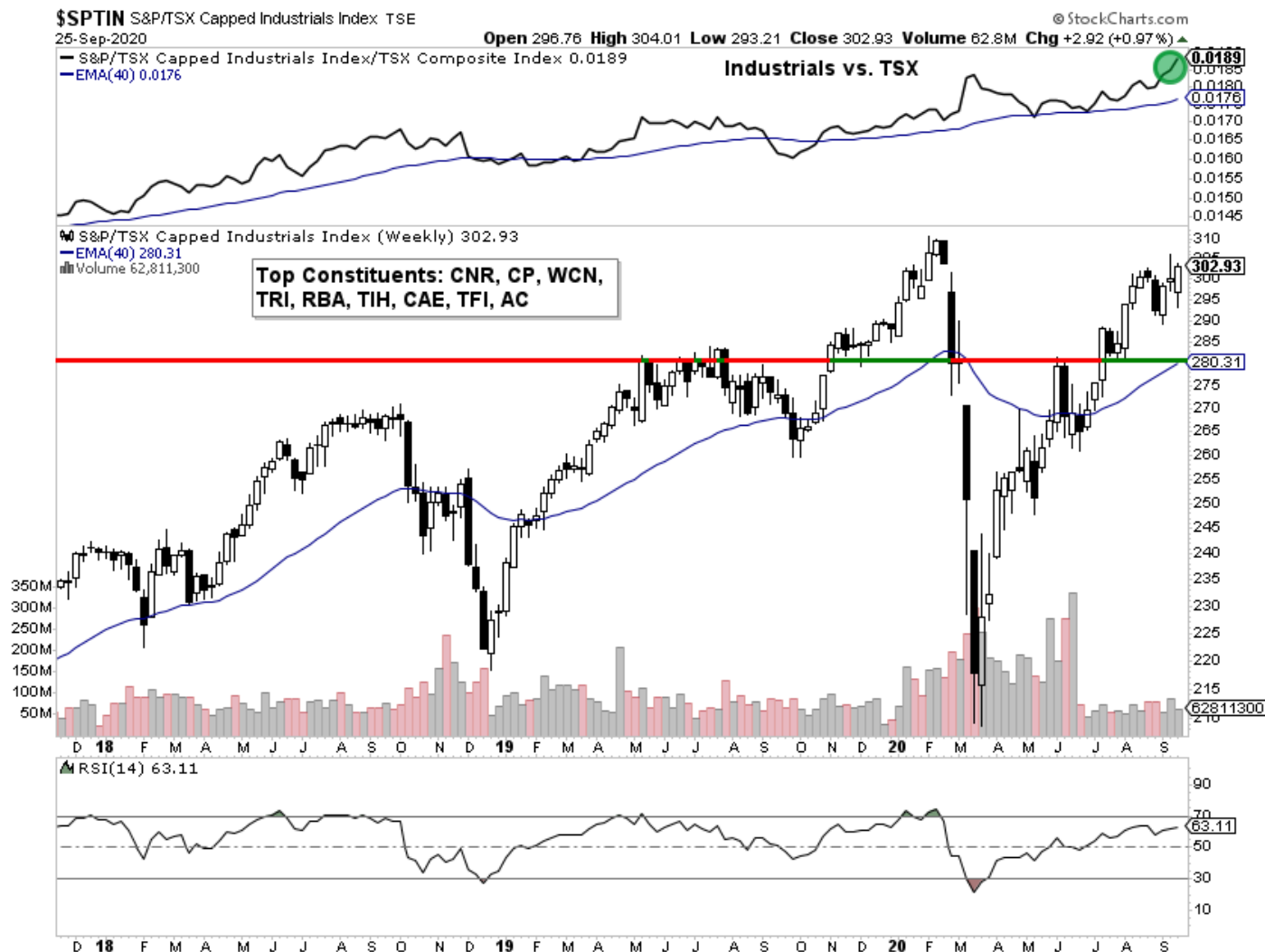
TSX Technology (Daily) – Key support holds

- The TSX Technology Index held key support after forming a three-month topping pattern.
- The sector remains in an absolute and relative uptrend.



TSX Industrials (Weekly) – Hitting new relative highs vs. TSX Composite

- The Industrials sector is hitting new relative highs against the TSX Composite.
- Leaders: **CNR, CP, TRI, WCN, BLDP, RBA, CJT, TFI, RCH** and **TIH**.
- Laggards: **AC** and **CAE**.



Gold Miners (GDX, Weekly) – Watch for support in the \$36-\$37 zone

- The GDX ETF resolved lower from its consolidation phase but remains in a long-term uptrend.
- Look for support in the \$36-\$37 range on any further weakness, with key long-term support in the \$30-\$31 zone.



Gaming and eSports ETF (ESPO, Weekly) – Continues to lead global equities

- The gaming theme continues lead as the ESPO ETF hits new relative highs against global equities.



Enthusiast Gaming (EGLX-T, Daily)

- EGLX is a laggard against the gaming industry but has been seeing signs of accumulation as it trades in a sideways range.
- The stock's proximity to key support around \$1.50 combined with a buy signal from the stochastic oscillator (middle panel) makes for an attractive entry point.
- Watch for resistance in the \$2.00 zone.



TSX Consumer Staples and Utilities (Daily) – Absolute and relative breakouts



US and Canadian Breakout Scan

- Our scan searches for names with attractive trend, momentum, relative strength, volume and volatility characteristics.
- Consumer Staples and Utilities are recurring themes in the Canadian market, while Health Care and Consumer Discretionary are recurring themes in the US.

Symbol	Name	Exchange	Sector	Industry
BAND	Bandwidth, Inc.	NASD	Communication Services	Mobile Telecommunications
BYD	Boyd Gaming Corp.	NYSE	Consumer Discretionary	Gambling
DNKN	Dunkin' Brands Group, Inc.	NASD	Consumer Discretionary	Restaurants & Bars
DRI	Darden Restaurants, Inc.	NYSE	Consumer Discretionary	Restaurants & Bars
TGT	Target Corp.	NYSE	Consumer Discretionary	Broadline Retailers
JWEL.TO	Jamieson Wellness Inc.	TSE	Consumer Staples	Household Goods
MRU.TO	Metro, Inc.	TSE	Consumer Staples	Food Stores
PBH.TO	Premium Brands Holdings Corp.	TSE	Consumer Staples	Food Processing
TRI.TO	Thomson Reuters Corp.	TSE	Cyclicals	Other Services
RUN	Sunrun Inc.	NASD	Energy	Renewable Energy Equipment
POW.TO	Power Corp. Of Canada	TSE	Financial	Management & Diversified
GH	Guardant Health Inc.	NASD	Health Care	Biotechnology
KOD	Kodiak Sciences Inc.	NASD	Health Care	Biotechnology
LMAT	LeMaitre Vascular Inc.	NASD	Health Care	Medical Equipment
NTRA	Natera, Inc.	NASD	Health Care	Medical Supplies
TWST	Twist Bioscience Corp.	NASD	Health Care	Biotechnology
UPS	United Parcel Service, Inc.	NYSE	Industrial	Delivery Services
WCN	Waste Connections, Inc.	NYSE	Industrial	Waste & Disposal Services
WCN.TO	Waste Connections, Inc.	TSE	Industrial	Environmental
INOV	Inovalon Holdings Inc.	NASD	Technology	Software
BLX.TO	Boralex, Inc.	TSE	Utilities	Electrical Utilities
RNW.TO	TransAlta Renewables Inc.	TSE	Utilities	Electrical Utilities

Jamieson Wellness (JWEL-T, Weekly) – Upside potential towards \$54 zone (~35% price return)

- JWEL is hitting new relative highs against the TSX Composite as it breaks through a short-term consolidation phase within a long-term uptrend.



Boralex (BLX-T, Weekly) – Leading renewable power producer

- BLX is breaking through the \$35 resistance zone within a long-term uptrend.
- The stock is hitting new relative highs against the TSX Composite as well as against the TSX Utilities sector.
- Point and figure patterns suggest the potential for the stock to double with a price objective in the \$70s.



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