

**Graphano Energy Ltd.**  
(TSXV: GEL / OTCQB: GELEF / FSE: 97G0)

**N/A**

**Current Price: C\$0.39**

**Fair Value: N/A**

**Risk: 5**

**Adjacent to The Only Graphite Producer in North America  
– Initiating Coverage**

**Sector / Industry: Junior Resource**

[Click here for more research on the company and to share your views](#)

**Highlights**

- Graphano is advancing its 100% owned Lac Aux Bouleaux (LAB) graphite project in Quebec. The property is located adjacent to the Lac des Iles graphite mine - the only graphite producer in North America.
- The Lac des Iles mine has only three years of mine life remaining. We believe Graphano will be a **likely M&A target** if it is able to prove up or at least confirm its historic resource.
- The historic resource (1.32 Mt at 9% Cg) has very small tonnage, however, we believe its **grade is significantly higher than comparable projects (6%)**; implying potential for lower OPEX and higher annual production.
- LAB has been explored and mined by several companies since its discovery in 1957. Graphite mineralization is observed at surface, and in shear zones over an 800 m x 400 m area.
- Geophysical surveys and trenching **have identified eight targets**. Channel sampling at two key targets returned several attractive values, including 7.9% Cg over 9.5 m (including 13.9% over 4.5 m), 18.0% Cg over 4.0 m, and 5.8% over 8.0 m, (including 14.8% over 3.0 m).
- A drill program focusing on these two targets is underway. We expect the company to release a resource estimate, and a preliminary economic assessment (PEA) in 2023.
- Flake graphite prices are up 60% YoY on rising demand for Electric Vehicle (EV) batteries, rising costs, and disruptions in supply/logistics. We estimate **that demand for graphite in batteries could triple by the end of this decade**. The market is expected to be in a supply deficit starting 2025.
- **Upcoming catalysts** include drill results, and strong investor sentiment towards EV-battery components.

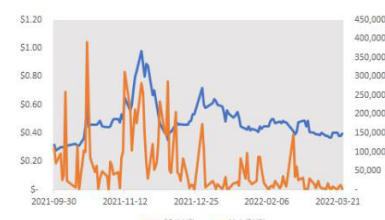
**Risks**

- The value of the company is dependent on flake graphite prices.
- Exploration and development risks. **No NI 43-101 compliant resource**
- **Access to capital and potential for share dilution.**
- No guarantee that the company will be able to confirm the historic resource.

**Sid Rajeev, B.Tech, CFA, MBA**  
Head of Research

**Nina Rose Coderis, BSc (Geology)**  
Equity Analyst

**Price Performance (1-year)**



	YTD	12M
Ret.	-32%	N/A
TSX	-6%	-6%

**Company Data**

52 Week Range	\$0.27 - \$1.20
Shares O/S	17M
Market Cap.	C\$7M
Yield (forward)	N/A
P/E (forward)	N/A
P/B	2x

**Key Financial Data (FYE - Jul 31)**

(C\$)	2021 (3M)
Cash	\$3,462,974
Working Capital	\$3,369,370
Mineral Assets + PPE	-
Total Assets	\$3,544,651
Net Income (Loss)	-\$1,547,672
EPS	-\$0.10

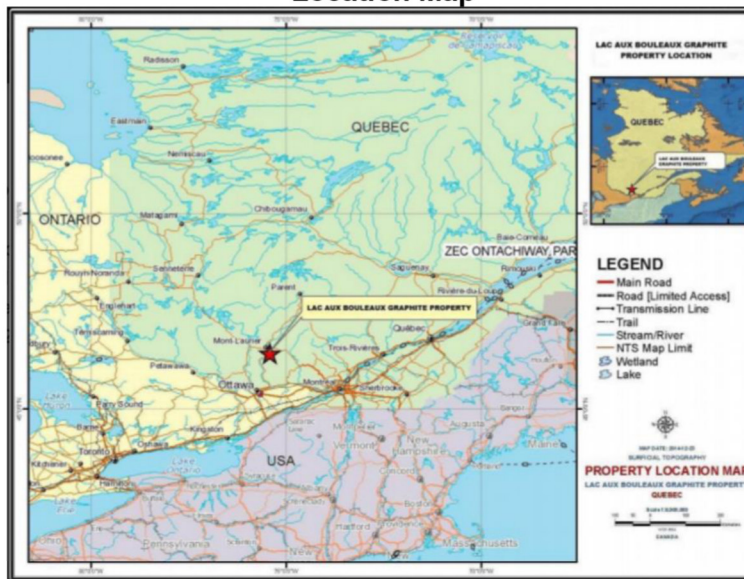
**\*See last page for important disclosures, rating and risk definitions. All figures in C\$ unless otherwise specified.**

## Lac Aux Bouleaux (LAB) Graphite Project

### Location, Accessibility, and Infrastructure

The project is located in southern Quebec. It is accessible through a provincial highway from Montreal, and various forest roads lead to the property. It is approximately 150 km northwest of Montreal, and 125 km north of Ottawa.

Location Map



Source: Company

100% owned

Covers 738 hectares

The LAB deposit is adjacent to the Lac des Iles graphite mine - the only operating graphite mine in North America

Located in an area with existing power and transport infrastructure

### History and Mineralization

The deposit lies in the Grenville province, immediately beside the Lac des Iles graphite mine. The Lac des Iles mine has only three years of mine life remaining. **We believe Graphano will be a likely M&A target if it is able to prove up, or at least confirm, the historic resource.** Graphite is commonly found in the Grenville province, and has been commercially mined from several deposits.

Graphite is exposed at surface, and in shear zones

**Graphite mineralization found in shear zones extends for 800 m in length, and 400 m in width.** Various companies have conducted exploration and mining since the LAB deposit was discovered in 1957. In the early 1980s, an exploration program, which included 79 diamond drillholes (totaling 5,958 m), reported a historical resource of 1.32 Mt at 9% Cg. **Although tonnage is very small, we believe grade is significantly higher than comparable projects (6%).** Metallurgical testing conducted between 1958 and 1963 returned highly attractive recoveries of up to 96%. Note that recoveries of over 90% are considered high.

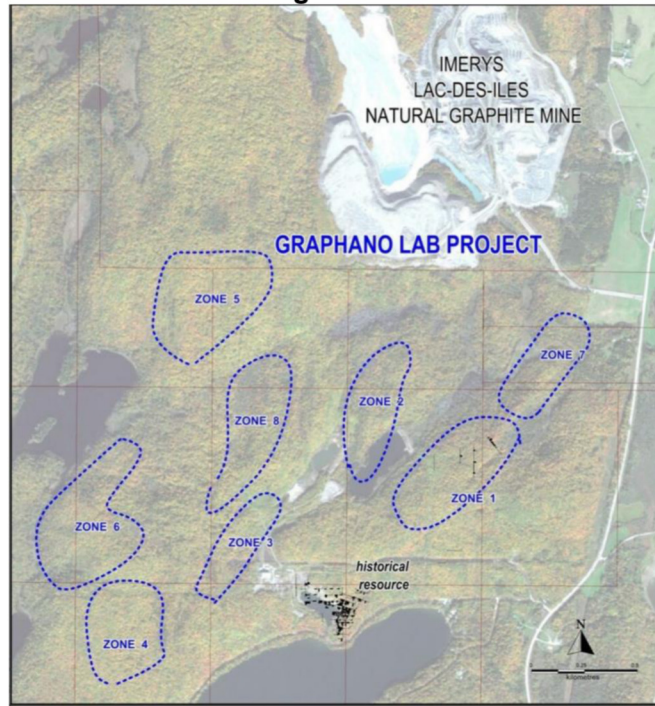
Favorable metallurgical recoveries of up to 96%

### Current Exploration

Graphano and its predecessor company started exploring the property in 2019. A ground time-domain electromagnetic (TDEM) survey identified several shallow targets.

Geophysical survey and trenching have identified eight targets

**Target Zones**

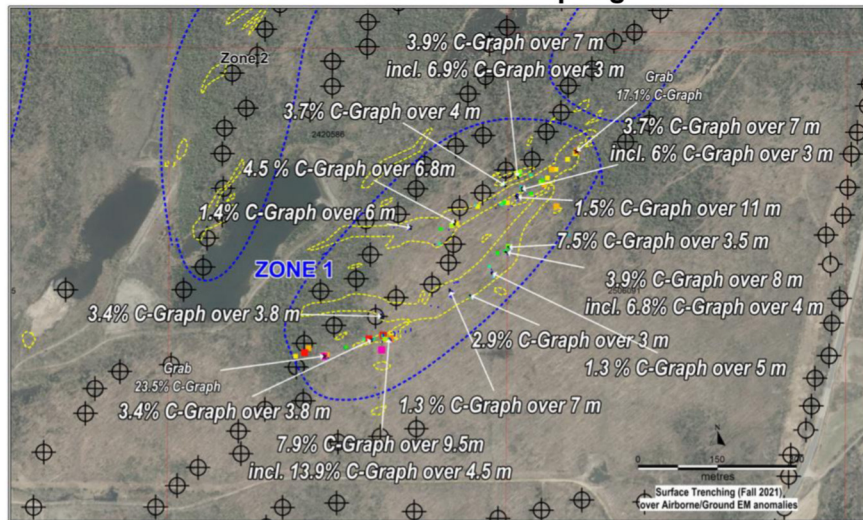


Source: Company

In 2021, the company conducted a two-phase exploration program, which included prospecting, mapping, trenching, ground geophysical surveying, and sampling.

Channel sampling returned multiple attractive values at Zone 1, including 7.9% Cg over 9.5 m, including 13.9% over 4.5 m; note that the average grade of comparable projects is 6%

**Zone 1 - Channel Sampling**

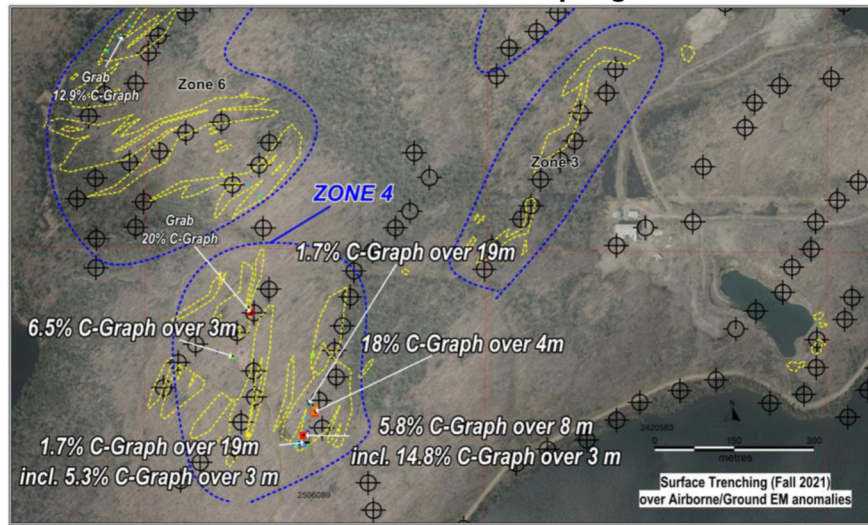


Source: Company

Zone 4 is a new discovery

Channel sampling at Zone 4: 18.0% Cg over 4.0 m and 5.8% over 8.0 m, including 14.8% over 3.0 m

**Zone 4 - Channel Sampling**



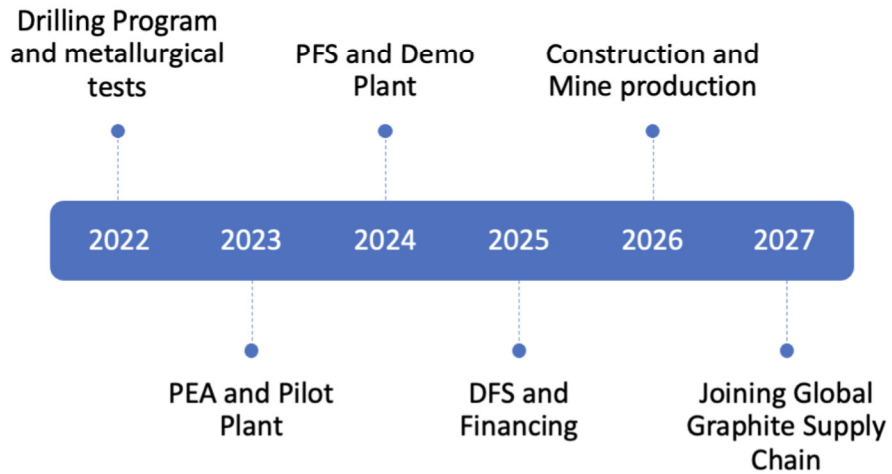
Source: Company

A drill program comprised of 20 holes (totaling 2,800 m) commenced last month. Management is focused on zones 1 and 4, where previous trenching and sampling identified mineralization with significant grades across thick intervals.

**Upcoming Catalysts**

A PEA is expected in 2023

Management is aiming to advance the project to commercial production in five years, which we believe is a reasonable timeline



Source: FRC

Overall, we believe the project is promising based on historical work/resource, favorable metallurgical results, and proximity to Canada’s only graphite producer.

## Management and Directors

Management and board own 9%

Management and Board	Shares	% of Total
Luisa Moreno - CEO/Director	33,846	0.20%
Jay Richardson - CFO/Director	414,375	2.46%
Natahan Rotstein - Director	986,000	5.86%
Martin Kepman - Director	10,000	0.06%
Roger Dahn - Director	34,999	0.21%
<b>Total</b>	<b>1,479,220</b>	<b>8.78%</b>

Source: Company

Brief biographies of the management team and board members, as provided by the company, follow:

### Dr. Luisa Moreno, PhD – Chief Executive Officer

Dr. Luisa Moreno, Ph.D., has over 12 years of experience in technical and economic research, with expertise in strategic minerals and related processes. Dr. Moreno is currently Co-founder and Managing Partner at Tahuti Global. Prior to this, she spent 7 years as a Financial and Senior Equity Analyst at Canadian Financial Research and Investment Banking firms, including 4 years covering the specialized field of industrial minerals within the metals and mining sector of these firms. She has published a number of advanced technical reports on key strategic materials, and is a sought after consultant to numerous mining and processing companies and industrial end-users. She is on the board of several junior mining companies. Dr. Moreno is a Physics Engineer with a Ph.D. in Materials Science and Mechanics from Imperial College London, in the United Kingdom.

### Jay Richardson – Chief Financial Officer

James A. (Jay) Richardson is a Canadian Chartered Accountant, a Singapore Certified Public Accountant and a Fellow of the Insolvency Practitioners' Association of the United Kingdom. He has practiced as a Partner of Clarkson Gordon Arthur Young (now Ernst & Young, Canada and Singapore) and a Partner of KPMG (UK) prior to establishing his own practice as a company doctor in Toronto, Canada in 1993. Specializing in interim management in troubled situations, he has served as the CEO or Chairman of listed public companies on five occasions and in many other CFO and private company situations. Jay Richardson is the President and CEO of EnerSpar Corp.

### Nathan Rotstein - Director

Mr. Rotstein has over 45 years of experience in the financial markets. He has consulted with numerous companies in the energy metals sectors including but not limited to cobalt, manganese, graphite and lithium. Nathan also has an extensive global network comprising international funds and high net worth individuals.

**Martin Kepman - Director**

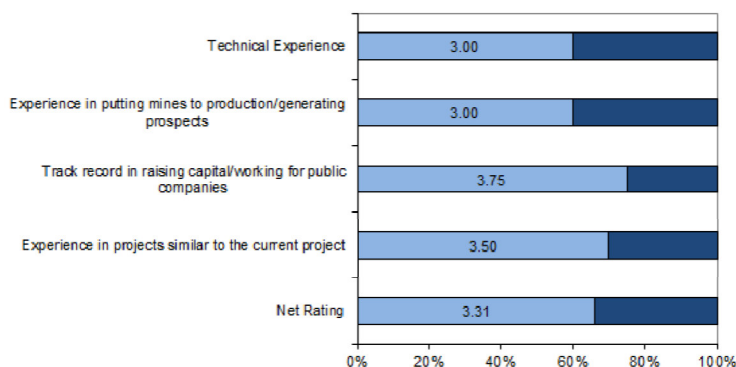
Mr. Kepman is the owner and president of Martin Kepman and Associates Inc, founded in 1982, is a business development and management consulting firm. In his 34 years of consulting experience, he has consulted on a wide range of projects, in multiple industries ranging from software , soft goods, printing, food to mining.

**Roger Dahn - Director**

Mr. Dahn has over 30 years experience in the mining and exploration industry. His experience includes over 16 years with Noranda Inc. and Hemlo Gold Mines Inc., Exploration Manager-Eastern Canada for Battle Mountain Gold Company and Vice President-Exploration with Olympus Pacific Minerals Inc. and most recently Tri-Star Resources PLC. Mr. Dahn has been involved with a number of base metal and gold discoveries which advanced to development stage and production. His extensive mineral exploration experience covers both Canadian and International settings. Mr. Dahn is a registered professional geologist and Qualified Person as defined by National Instrument 43-101.

*Our rating on the management team is 3.3 out of 5.0*

Management Rating



**Strength of Board**

	Poor	Average	Good
Three out of five directors are independent		X	
Directors' share ownership			X
The Audit committee is composed of three board members, two are independent		X	
Management compensation is decided by the board		X	

Source: FRC

*Three out of five directors are independent*

## Outlook on Graphite

The Electric Vehicle (EV) revolution is expected to be the primary demand driver of graphite

Flake graphite prices are up 60% YoY on rising demand for EV batteries, rising costs, and disruptions in supply/logistics

China accounts for over 80% of graphite production

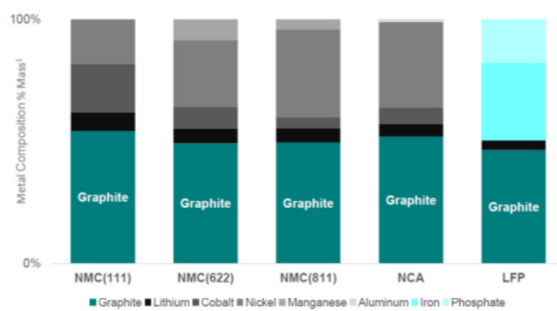
Graphite is used in all of the main battery types

The market is expected to be in a deficit starting 2025

Natural Graphite Fines Prices (US\$/t)



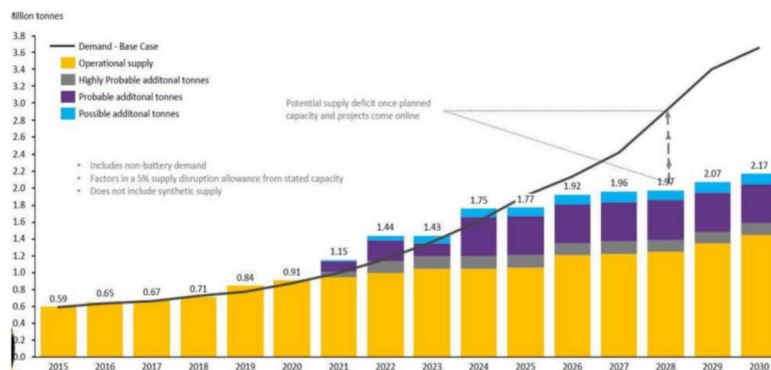
Battery Mineral Composition of Batteries



Source: Benchmark Intelligence/Syrah

Based on consensus global electric vehicle sales forecasts of 25-30M by 2030, and an average of 50 kg of graphite per vehicle, **we estimate graphite demand in batteries could increase to 1.2 Mt per year over the next decade vs 0.4 Mt currently.** The market is expected to be in a supply deficit starting 2025.

### Supply-Demand Forecasts for Natural Flake



Source: Benchmark Intelligence

## Financials

Strong balance sheet; subsequently raised \$1.25M

(C\$)	2021 (3M)
Cash	\$3,462,974
Working Capital	\$3,369,370
Current Ratio	20.2
Monthly Burn Rate (G&A)	\$30-\$50k (normalized)
Cash from Financing Activities	\$4,146,979
Cash Spent on Properties	-\$110,766

Source: FRC / Company

**Stock Options and Warrants:** 1.50M options (weighted average exercise price of \$0.50), and 13.37M warrants (weighted average exercise price of \$0.55) are outstanding. None of the options/warrants are in-the-money.

## Valuation

The following table shows Graphano and comparable junior resource companies focused on graphite projects. Note that none of the projects are directly comparable as there are significant variations in the characteristics (flake size, distribution, grade, etc.) of each project.

Graphano has small tonnage, however, its grade is significantly higher than comparables

Company	Location	Stage	Enterprise Value (\$,mm)	In-Situ Graphite		Grade
				M&I (Mt)	Inferred (Mt)	
1 Syrah Resources	Mozambique	Production	\$1,011	28.71	100.00	11.0%
2 Magnis Energy	Tanzania	Feasibility	\$510	6.48	2.86	5.4%
3 Nouveau Monde Mining	Quebec	FS	\$416	5.08	1.29	4.1%
4 NextSource Materials Inc.	Madagascar	Feasibility	\$350	6.29	2.37	6.3%
5 Graphite One	Alaska	PEA	\$139	0.85	7.34	8.0%
6 SRG Mining	Republic of Guinea	Feasibility	\$85	1.88	0.16	4.1%
7 Leading Edge Materials	Sweden	Production-Ready	\$81	0.82	0.16	9.3%
8 Mason Graphite	Quebec	Feasibility	\$68	11.29	3.04	5.0%
9 Northern Graphite	Ontario	Feasibility	\$53	1.21	0.40	1.7%
10 Focus Graphite	Quebec	Feasibility	\$31	1.77	0.37	14.9%
11 South Star	Brazil	PFS	\$14	0.34	0.18	2.3%
12 Lomiko Metals	Quebec	PEA	\$14	1.04	1.88	4.2%
13 Graphano	Quebec	Historic Resource	\$7		0.12	9.0%
Average (excl. outliers)				4.90	7.86	6.1%

Source: FRC/S&P Capital IQ/Variou

As the company is in early-stage, and the historic resource does not reflect LAB's potential, we are initiating coverage with **no rating or fair value estimate**. We will assign a rating once we have sufficient information to arrive at a preliminary resource estimate. Upcoming catalysts include drill results, and strong investor sentiment towards EV-battery components.



## Risks

The following risks, though not exhaustive, will cause our estimates to differ from actual results:

*Assigning a risk  
rating of 5 (Highly  
Speculative)*

- The value of the company is dependent on flake graphite prices.
- Exploration and development risks
- No NI 43-101 compliant resource estimate
- **Access to capital and potential for share dilution**
- No guarantee that the company will be able to advance the project within management's expected timeframe.

**Fundamental Research Corp. Equity Rating Scale:**

**Buy** – Annual expected rate of return exceeds 12% or the expected return is commensurate with risk

**Hold** – Annual expected rate of return is between 5% and 12%

**Sell** – Annual expected rate of return is below 5% or the expected return is not commensurate with risk

**Suspended or Rating N/A**— Coverage and ratings suspended until more information can be obtained from the company regarding recent events.

**Fundamental Research Corp. Risk Rating Scale:**

**1 (Low Risk)** - The company operates in an industry where it has a strong position (for example a monopoly, high market share etc.) or operates in a regulated industry. The future outlook is stable or positive for the industry. The company generates positive free cash flow and has a history of profitability. The capital structure is conservative with little or no debt.

**2 (Below Average Risk)** - The company operates in an industry where the fundamentals and outlook are positive. The industry and company are relatively less sensitive to systematic risk than companies with a Risk Rating of 3. The company has a history of profitability and has demonstrated its ability to generate positive free cash flows (though current free cash flow may be negative due to capital investment). The company's capital structure is conservative with little to modest use of debt.

**3 (Average Risk)** - The company operates in an industry that has average sensitivity to systematic risk. The industry may be cyclical. Profits and cash flow are sensitive to economic factors although the company has demonstrated its ability to generate positive earnings and cash flow. Debt use is in line with industry averages, and coverage ratios are sufficient.

**4 (Speculative)** - The company has little or no history of generating earnings or cash flow. Debt use is higher. These companies may be in start-up mode or in a turnaround situation. These companies should be considered speculative.

**5 (Highly Speculative)** - The company has no history of generating earnings or cash flow. They may operate in a new industry with new, and unproven products. Products may be at the development stage, testing, or seeking regulatory approval. These companies may run into liquidity issues and may rely on external funding. These stocks are considered highly speculative.

**Disclaimers and Disclosure**

The opinions expressed in this report are the true opinions of the analyst about this company and industry. Any "forward looking statements" are our best estimates and opinions based upon information that is publicly available and that we believe to be correct, but we have not independently verified with respect to truth or correctness. There is no guarantee that our forecasts will materialize. Actual results will likely vary. The analyst and Fundamental Research Corp. "FRC" does not own any shares of the subject company, does not make a market or offer shares for sale of the subject company, and does not have any investment banking business with the subject company. Fees were paid by GEL to FRC. The purpose of the fee is to subsidize the high costs of research and monitoring. FRC takes steps to ensure independence including setting fees in advance and utilizing analysts who must abide by CFA Institute Code of Ethics and Standards of Professional Conduct. Additionally, analysts may not trade in any security under coverage. Our full editorial control of all research, timing of release of the reports, and release of liability for negative reports are protected contractually. To further ensure independence, GEL has agreed to a minimum coverage term of one year. Coverage cannot be unilaterally terminated. Distribution procedure: our reports are distributed first to our web-based subscribers on the date shown on this report then made available to delayed access users through various other channels for a limited time.

The distribution of FRC's ratings are as follows: BUY (70%), HOLD (5%), SELL / SUSPEND (25%).

To subscribe for real-time access to research, visit <https://www.researchfrc.com/website/subscribe/> for subscription options.

This report contains "forward looking" statements. Forward-looking statements regarding the Company and/or stock's performance inherently involve risks and uncertainties that could cause actual results to differ from such forward-looking statements. Factors that would cause or contribute to such differences include, but are not limited to, continued acceptance of the Company's products/services in the marketplace; acceptance in the marketplace of the Company's new product lines/services; competitive factors; new product/service introductions by others; technological changes; dependence on suppliers; systematic market risks and other risks discussed in the Company's periodic report filings, including interim reports, annual reports, and annual information forms filed with the various securities regulators. By making these forward-looking statements, Fundamental Research Corp. and the analyst/author of this report undertakes no obligation to update these statements for revisions or changes after the date of this report. A report initiating coverage will most often be updated quarterly while a report issuing a rating may have no further or less frequent updates because the subject company is likely to be in earlier stages where nothing material may occur quarter to quarter.

Fundamental Research Corp DOES NOT MAKE ANY WARRANTIES, EXPRESSED OR IMPLIED, AS TO RESULTS TO BE OBTAINED FROM USING THIS INFORMATION AND MAKES NO EXPRESS OR IMPLIED WARRANTIES OR FITNESS FOR A PARTICULAR USE. ANYONE USING THIS REPORT ASSUMES FULL RESPONSIBILITY FOR WHATEVER RESULTS THEY OBTAIN FROM WHATEVER USE THE INFORMATION WAS PUT TO. ALWAYS TALK TO YOUR FINANCIAL ADVISOR BEFORE YOU INVEST. WHETHER A STOCK SHOULD BE INCLUDED IN A PORTFOLIO DEPENDS ON ONE'S RISK TOLERANCE, OBJECTIVES, SITUATION, RETURN ON OTHER ASSETS, ETC. ONLY YOUR INVESTMENT ADVISOR WHO KNOWS YOUR UNIQUE CIRCUMSTANCES CAN MAKE A PROPER RECOMMENDATION AS TO THE MERIT OF ANY PARTICULAR SECURITY FOR INCLUSION IN YOUR PORTFOLIO. This REPORT is solely for informative purposes and is not a solicitation or an offer to buy or sell any security. It is not intended as being a complete description of the company, industry, securities or developments referred to in the material. Any forecasts contained in this report were independently prepared unless otherwise stated and HAVE NOT BEEN endorsed by the Management of the company which is the subject of this report. Additional information is available upon request. THIS REPORT IS COPYRIGHT. YOU MAY NOT REDISTRIBUTE THIS REPORT WITHOUT OUR PERMISSION. Please give proper credit, including citing Fundamental Research Corp and/or the analyst, when quoting information from this report.

The information contained in this report is intended to be viewed only in jurisdictions where it may be legally viewed and is not intended for use by any person or entity in any jurisdiction where such use would be contrary to local regulations or which would require any registration requirement within such jurisdiction.