

Fundamental Research Corp.

Investment Analysis for Intelligent Investors

Anthony de Ruijter, BA

January 19, 2018

Rogue Resources Inc. (TSXV: RRS) – Acquires New Silica Project – Maintaining Focus on Near-Term Cash Flows

Sector/Industry: Junior Mining/Exploration

www.rogueresources.ca

Market Data (as of January 19, 2018)

Current Price	C\$0.34
Fair Value	C\$2.32
Rating*	BUY
Risk*	5 (Highly Spec)
52 Week Range	C\$0.18 - C\$0.65
Shares O/S	14,082,928
Market Cap	C\$4.79 mm
Current Yield	N/A
P/E (forward)	N/A
P/B	0.5x
YoY Return	-47.7%
YoY TSXV	10.7%

*see back of report for rating and risk definitions



Highlights

- In December 2017, Rogue Resources Inc. (“company”, “Rogue”) acquired the Snow White project, located 105 km west of the city of Sudbury, Ontario. The project has an aggregate permit in place for unlimited annual silica/quartz production.
- Historic drilling and exploratory work have identified mineralization intermittently over 700 m of strike length, to a depth of 80 m. Metallurgical testing indicates the presence of high quality quartz/silica suitable for silicon metal production
- A 1,800 m drill program is planned, followed by a NI 43-101 compliant initial resource estimate.
- Management intends to make a production decision shortly after completing a resource estimate in Q2.
- The Silicon Ridge project continues to be on hold until receipt of all of the required permits and approvals. A 2017 preliminary economic assessment showed an after-tax Net Asset Value (“NAV”) at 10% of \$23.40 million, with a payback period under 1 year.
- Rogue is the Canadian Quartz Supply Agent for two developing silicon metal producers in Iceland.
- Rogue’s enterprise value is up 125% to \$4.54 million since our previous report in September 2017.

Key Financial Data (FYE - Apr 30)

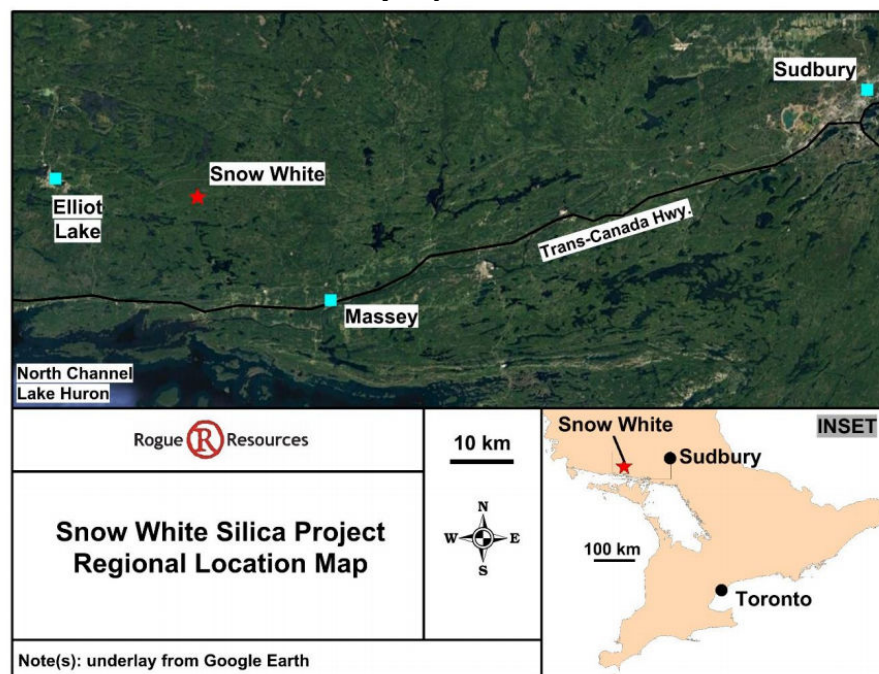
(C\$)	2016	2017	2018 (6M)
Cash	\$883,259	\$755,881	\$200,417
Working Capital	\$690,051	\$701,907	\$116,034
Mineral Assets	\$16,197,273	\$9,256,564	\$9,554,145
Total Assets	\$17,158,064	\$10,284,952	\$9,815,180
Net Income (Loss)	-\$3,826,922	-\$8,111,235	-\$227,595
EPS	-\$0.06	-\$0.90	-\$0.03

Snow White Project

Location

The property, totaling 160 ha, consists of three mining claims, and is approximately 41 km northwest of the town of Massey, 105 km west of the city of Sudbury (a major mining hub), and 500 km northwest of Toronto. Infrastructure is well developed in the area. The property can be accessed from Massey via 25.7 km of highway, and 15.3 km of logging roads. Massey is 50 km from deep-water ports. The project has an aggregate permit in place for unlimited annual silica/quartz production.

Property Location



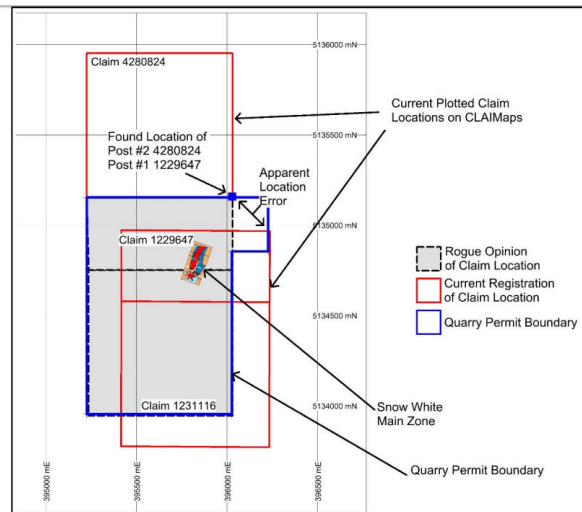
Source: Technical Report

Ownership

The company acquired the project in December 2017 from a prospector. The purchase price is \$0.75 million in cash, and 1.05 million shares paid over five years. The seller retains a 2% royalty, which can be acquired for \$2 million.

Rogue is currently resolving a registration issue with the Ministry of Northern Development and Mines (MNDM), as management believes that the boundaries of two claims are not accurately registered with the Ontario Government. The dotted lines in the map below shows Rogue's opinion of the claims' location. The red lines show the boundaries as registered by the Ontario Government. Note that the mineralization identified on the property is within Rogue's opinion of the boundaries, and what is currently registered by the Ontario government.

Snow White Claims



Source: Technical Report

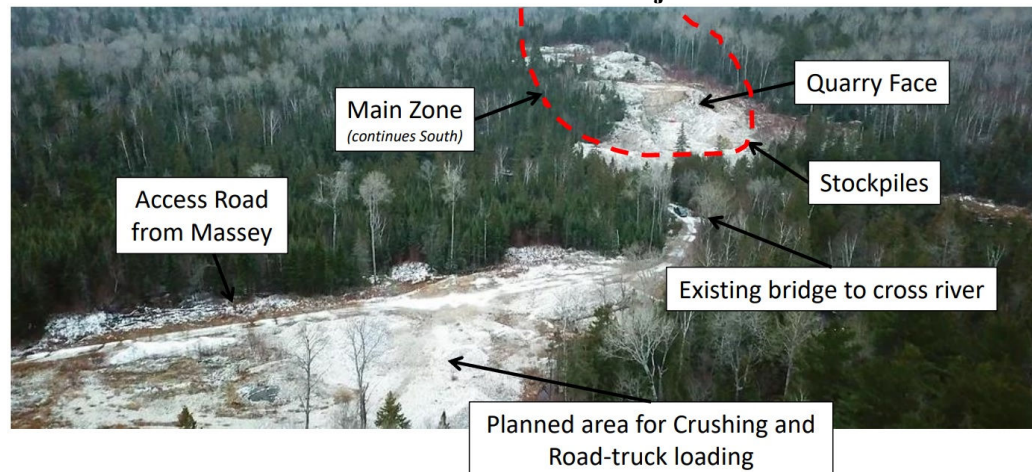
History and Geology

The silica-rich Snow White deposit is estimated to be a composite zone of quartz veining, shearing and silica flooding.

Quartz mineralization was initially discovered on the property by Government geological mapping in 1965.

The property has been drilled twice – 30 holes / 612 m in 2000 by Rapier Resources Inc., and 24 holes / 1,230 m (to a 30 – 40 m depth) in 2008 by Verbina Resources Inc. The programs identified two occurrences of high silica quartz zones, namely the Main Zone in the central portion of the project area, and the Southern Zone. The program identified mineralization intermittently over 700 m of strike length, to a depth of 80 m.

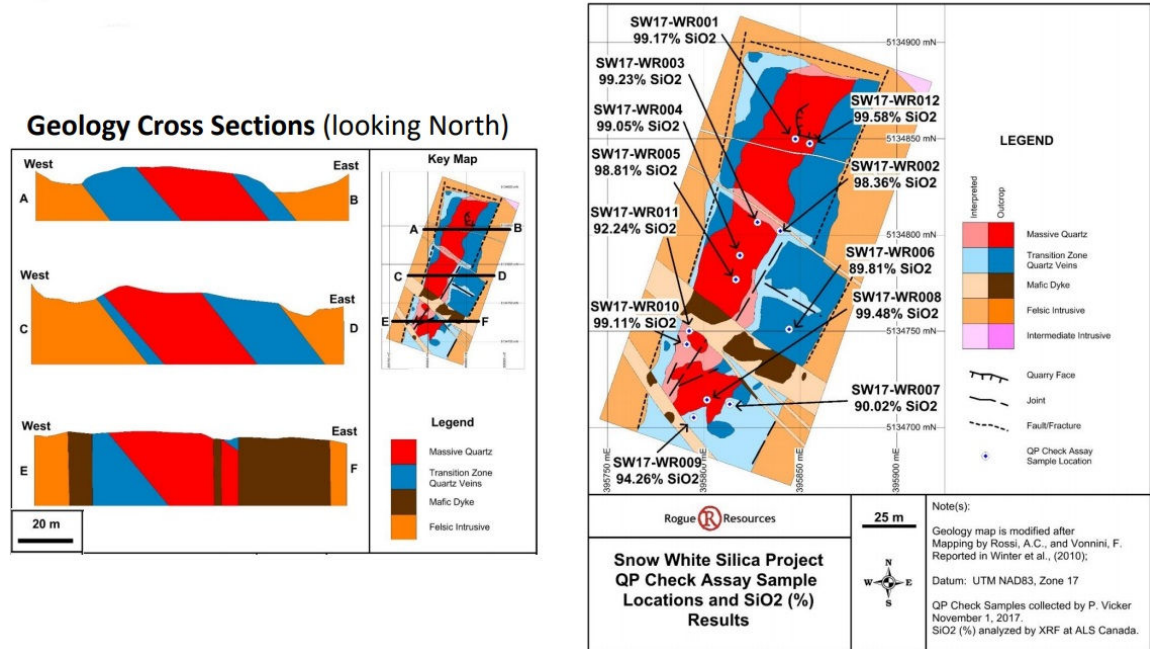
Aerial View of the Project



Source: Technical Report

Drilling indicated that the deposit is a composite zone of quartz veins intruding the host granitoid, with a massive quartz vein (10 to 28 m in thickness) at the core. The core is flanked by a transitional zone on the east and west (up to tens of meters thick). Note the high SiO₂ values shown in the image below.

Main Zone



Source: Company

Three bulk sample metallurgical tests (totaling 6,100 tonnes) were conducted prior to Rogue's acquisition. Rapier recovered approximately 846 tonnes of bulk samples in 2000. Verbina recovered 3,000 tonnes in 2008, and 2,300 tonnes in 2009. Approximately 1,000 to 2,000 tonnes of quartz and granitoid blasted rock still remain stockpiled on the property. Metallurgical studies indicated ultra high silica values, and low impurities such as aluminum, calcium, iron, phosphorous, and titanium, indicating excellent chemical qualities. Note that all three bulk sample metallurgical tests were completed on the Main Zone quartz vein. A technical report on the property, dated January 8, 2018, indicated that historical data supports the presence of high quality quartz/silica suitable for silicon metal production. Rogue's management also believes that the quartz on the project has physical properties that should be attractive to the filler and counter-top industries.

Rogue recently collected two 25 kg batches of grab samples from the stockpiles at the site for metallurgical studies. Metallurgical tests conducted by ANZAPLAN showed low impurities relative to reference materials for metallurgical grade silicon production.

Chemical Purity

Sample ID	Al [mg/kg]	Fe [mg/kg]	Ti [mg/kg]	Ca [mg/kg]	Mg [mg/kg]	P [mg/kg]
BRS 1	440	41	1.5	21	26	0.4
BRS 2	420	190	1.5	17	21	0.4
Reference materials						
Quartz feed for MG silicon	800 - 2,000	150 - 1,000	20 - 70	50 - 200	60 - 150	20 - 70

Source: Company

The tests also indicated excellent physical qualities in terms of both Heat Index and Thermal Strength Index.

On January 12, 2018, the company announced that they submitted a 300 kg sample to an Optical Sorter manufacturer for optical sorting analysis to separate high purity quartz from gangue, as well as to separate the quartz by colour. In our discussions with management, Snow White has excellent colour qualities, and could potentially find applications in the higher-priced countertops business.

Upcoming catalysts include:

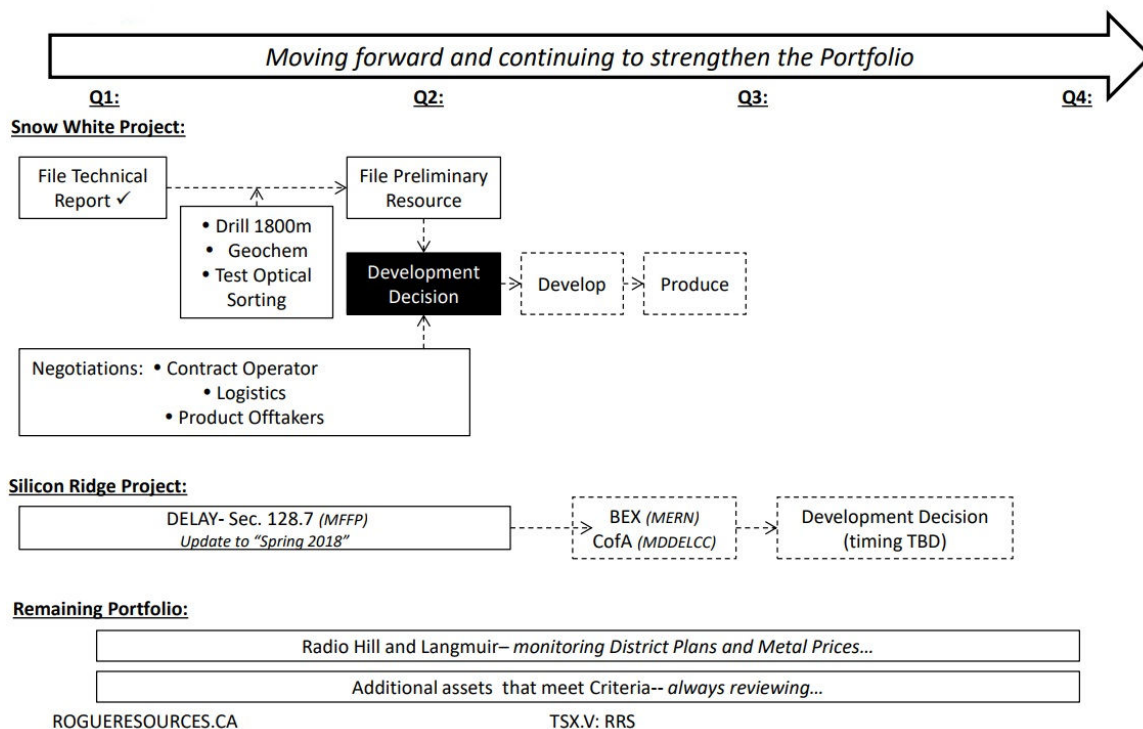
- Assess the viability of optical sorting
- A 1,800 m drill program (including further geochemical analysis) on the Main Zone, followed by a NI 43-101 compliant initial resource estimate.
- Announcements regarding ongoing negotiations with contract operators, logistics providers and potential buyers of the quartz (silicon metal / countertops).

Considering that quarry operations are a relatively straight forward process, the company does not intend to conduct any economic studies for Snow White, but instead make a production decision as soon as the above steps are completed.

Note that the company already has supply agreements with PCC and Thorsil – two developing metallurgical grade silicon (MgSi) producers. Both PCC and Thorsil have assigned Rogue as their Canadian quartz supply agent.

The following chart shows management’s development timeline.

Updated Development Timeline



Source: Company

Silicon Ridge

The Silicon Ridge project continues to be on hold until receipt of all of the required permits and approvals. On August 10, 2017, the company announced the Ministère des Forêts, de la Faune et des Parcs's ("MFFP") decision to conduct additional analysis prior to making a decision on Silicon Ridge's permit. Note that the additional analysis is not project-specific, but related to a mandate to develop an updated policy for managing habitat for caribou across the province, the delay was not project-specific. **Agnico-Eagle (TSX: AEM) was also delayed on their Aksaba Ouest project, located southeast of Val d'Or Quebec, because of the caribou issue.** According to Rogue's management, the MFFP has communicated to them that their analysis is expected to be completed in Spring 2018.

Despite the delay, we continue to believe the project to be an attractive asset with robust economics. The following table shows results of the PEA announced in May 2017. The PEA was based on a Direct-Shipping Ore ("DSO") scenario. **The after-tax Net Asset Value ("NAV") at 10% is \$23.40 million, with a payback period under 1 year.**

Key Driver:	Base Case	Worse		Better	
		NPV _{10%}	IRR	NPV _{10%}	IRR
Pre-production Capital	\$3.5M	\$4.5M		\$2.5M	
		\$22.4M	96%	\$24.4M	207%
Blended Average Revenue per Tonne Sold	\$50	\$40		\$60	
		\$13.4M	62%	\$32.8M	265%
Average Total Operating Cost	\$26	+20%		-20%	
		\$18.4M	85%	\$28.1M	212%
Discount Rate	10%	NPV using 15%		NPV using 5%	
		\$17.3 M		\$33.6M	

Source: Company

Although it is early to comment on the economics of Snow White before a resource estimate is announced, we believe Snow White's material is likely to command a higher average price per tonne due to its superior physical characteristics as well as excellent colour qualities.

Radio Hill Property

Although management had announced in September 2017, to reinstate exploration on this property, plans were subsequently shelved after the acquisition of the Snow White project. The company has an exploration permit to drill the property. Management is closely monitoring the recent increase in activities in the area by GFG Resources (TSXV: GFG). In December 2017, GFG announced plans to acquire Rapier Gold (TSXV: RPR), the West Porcupine property from Probe (TSXV: PRB) and the Swayze Project from Osisko Mining (TSXV: OM). The following map shows the locations of these projects relative to the Radio Hill project. We believe positive developments from GFG will likely increase the market valuation of Radio Hill.



Source: GFG Resources / Rogue Resources

**Silicon –
Market Update**

Silicon Metal

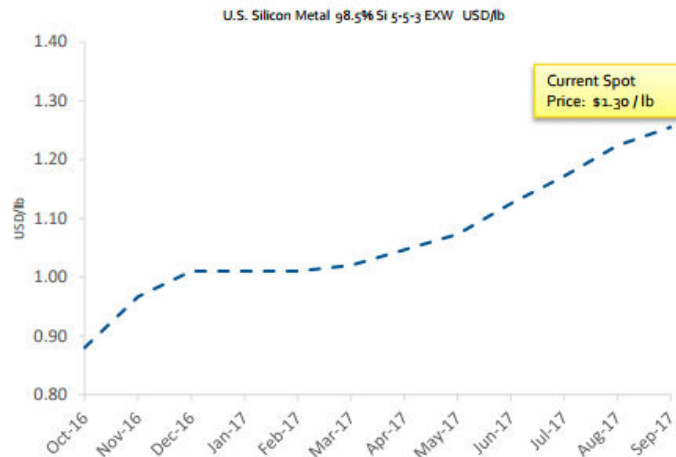
Silicon is not traded on metal exchanges, and therefore, the market is less transparent than conventional commodities. Typical off-take contract durations are for two to three years. The following chart shows U.S. silicon metal prices since 2007.

Average Silicon Metal Prices in the U.S. (2007-2017)



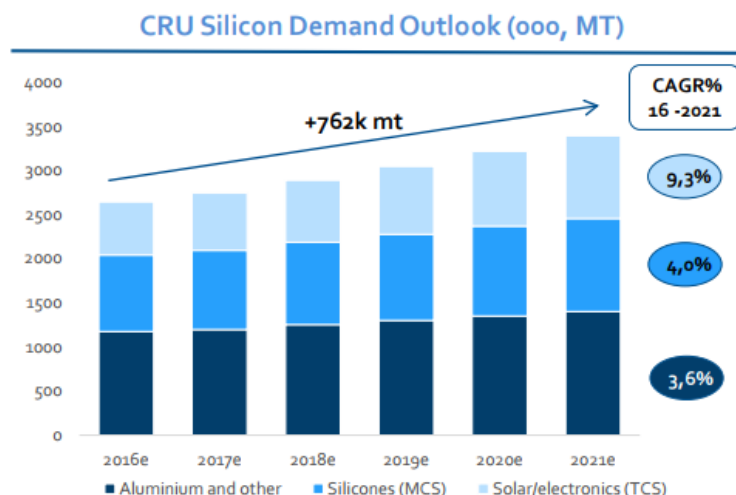
Source: Ferrolobe

Average Silicon Metal Prices in the U.S. (October 2016-September 2017)



Source: Ferrolobe

According to the chart above, silicon metal prices experienced a steep downward trend between 2014 and 2016. This is likely to be attributed to the strength of the U.S. dollar and weakness in the Chinese economy. However, prices rebounded sharply in 2017, rising over 40% between Q3-2016 and Q3-2017. The outlook for pricing is positive, according to the forecasted increase in demand for silicon metal.

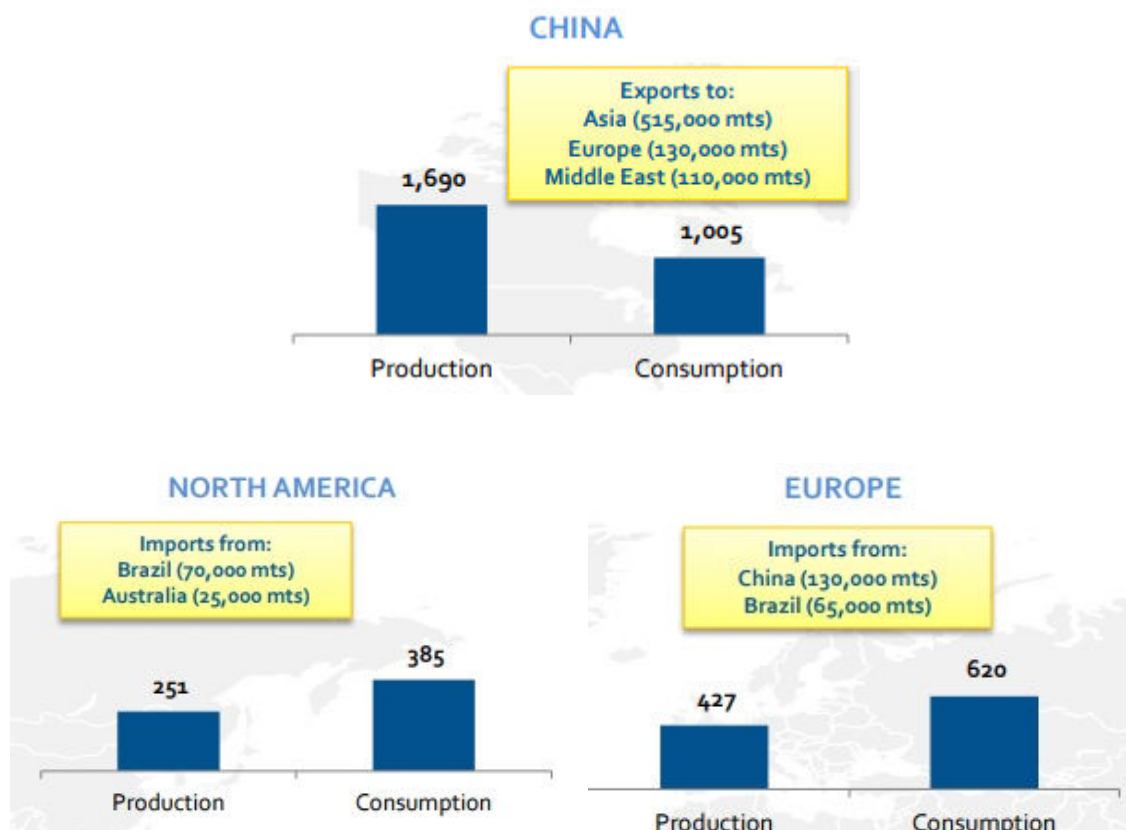


Source: CRU Group

Major forecasted demand drivers for silicon include:

- **Population Growth:** expected growth in the middle class of emerging markets is expected to boost demand for silicones in healthcare, cosmetics, and packaging.
- **Urbanization:** emerging market investment in infrastructure is expected to boost demand of silicon-based alloys in steel, silicon sealants for construction, and foundry alloys in pipes for water transmission.
- **Energy Efficiency Initiatives:** desire to make cars lighter to reduce energy usage will boost demand for silicon as an alloying agent for aluminium to reduce steel usage.
- **Alternative Energy/ Sustainability:** higher demand for silicon to produce solar panels, and for foundry alloys for windmills.
- **Connectivity:** silicon is used in semi-conductors and batteries, increasing device performance.

North America and Europe are net importers of silicon metal. China is the world's largest producer of silicon metal. However, enforcement of environmental regulations (resulting in facility closures) and diversification of China away from a saving economy towards a consumption economy, is likely to increase demand for silicon metals. In addition, a current electrode shortage, and increasing input costs, are likely to exacerbate demand for silicon metal in the near future.



Source: CRU Group, Global Trade Atlas

Financials

At the end of Q2-FY2017 (ended October 31, 2017), the company had cash and working capital of \$0.20 million and \$0.12 million, respectively. We estimate the company had a burn rate (cash spent on operating and investing activities) of \$0.12 million per month in the six months ended October 31, 2017. The company disclosed in a recent conference call that its current corporate burn rate (not including investing activities) is approximately \$0.05 million per month.

The following table summarizes the company's liquidity position:

(in C\$)	2016	2017	2018 (6M)
Cash	\$883,259	\$755,881	\$200,417
Working Capital	\$690,051	\$701,907	\$116,034
Current Ratio	4.02	3.16	1.80
LT Debt / Assets	-	-	-
Monthly Burn Rate (incl. investing activities)	323,105	\$136,631	\$112,746
Cash from Financing	\$3,233,588	\$1,168,681	-

Source: Company Data

Subsequent to the quarter-end, in November 2017, the company closed a \$0.84 million financing by issuing 1.65 million flow-through shares at \$0.22 per share, and 2.63 million

Valuation and Rating

units at \$0.18 per unit. Each unit consisted of a common share and a common share purchase warrant (exercise price of \$0.25 for one year).

The company currently has approximately \$0.70 million in cash, which management estimates will take them through to the summer, and the development decision on Snow White in Q2.

We estimate the company currently has 1.11 million options outstanding (weighted average exercise price of \$0.50) and 5.55 million warrants outstanding (weighted average exercise price of \$0.72). **Approximately 2.70 million warrants are in the money. The company can raise up to \$0.67 million if these warrants are exercised.**

As mentioned earlier, drill programs at Snow White have identified mineralization intermittently over 700 m of strike length, to a depth of 80 m. Based on our conservative and preliminary estimates of 250 m (strike) x 15m (width) x 80 m (depth), we speculate that the project could hold a potential resource of approximately 800,000 tonnes. Our Discounted Cash Flow (“DCF”) model on the project gave an after-tax Net Asset Value of \$14.59 million. The following table shows a summary of our DCF model. We used a high discount rate of 15%, for conservatism, as our inputs and assumptions are very preliminary.

Snow White - DCF Model	
Average tonnes per year	100,000
Recovery rate	90%
Net tonnes per year sold	90,000
Average product price (\$/t)	\$100
Operating cost (\$/t)	\$40
Mine life (years)	9
Capital cost (\$, M) - incl. cash acquisition price	\$2.50
Discount rate	15%
Net Asset Value (C\$, M)	\$14.59

Source: FRC

We have not made any material changes to our valuation on Silicon Ridge. The following table shows a summary of our overall valuation on Rogue, which is currently at \$2.32 per share versus our previous estimate of \$2.18 per share.

Silicon Ridge - AT Net Asset Value (C\$, M) @ 10%	\$21.22
Snow White - AT Net Asset Value (C\$, M) @ 15%	\$14.59
Current Working Capital	\$0.62
Book Value of Other Assets (discounted by 90%)	\$0.34
Fair Value of RRS	\$36.77
No. of Shares *	15.85
Fair Value per Share (\$)	\$2.32

* calculated based on the treasury stock method

* includes 1.05 million shares to be issued related to the acquisition of Snow White

Source: FRC

We believe the company is exposed to the following key risks (not exhaustive):

- The value of the company is dependent on silicon related product prices.
- The company does not currently have any operating mines.
- Ability to attract financing partners and off-takers.
- Development risks.
- Permitting delays.
- Access to capital and share dilution.

As with most junior exploration / development companies, we continue to rate Rogue's shares a risk of 5 (Highly Speculative).

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.

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