iTech Minerals Ltd (ASX: ITM)

Graphite Explorer & Developer
South Australia

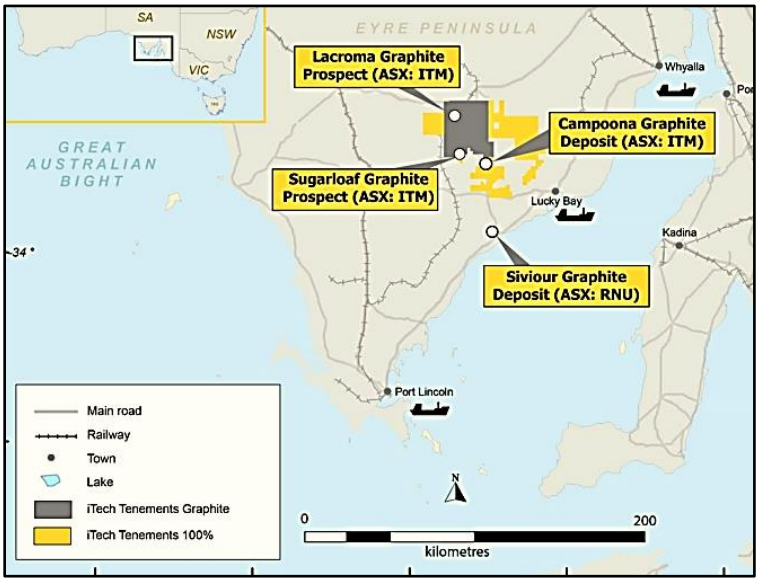
Market Cap: $31.16AUD
Stock Price: $0.255 AUD

iTech Minerals: A Unique Blend of Geological Knowledge and Opportunity

Overview

Itech Minerals (ITM.AX) is an Australian graphite explorer operating in the mining-friendly jurisdiction of South Australia. ITM is in an interesting position where it has almost worked backwards from typical explorers. This is because they have already mastered the metallurgy of Lacroma, their primary 2023 exploration target at their Campoona graphite project, even though they are only just beginning to drill it. One of the three core targets is already fully permitted for mining, boding well for future permitting. This material derisking, combined with the unique blend of exploration knowledge and prospectivity makes iTech an intriguing junior explorer and worthy of close attention.

The reason this backwards approach came about is because the neighbouring Sugarloaf deposit - already drilled and proven to be of economic size – continues to possess metallurgical complexities that are going to take time and resources to unlock properly and economically (efforts which are ongoing). Therefore, before moving ahead on drilling out their Campoona and Lacroma targets, iTech sent bulk samples from those prospects to internationally renowned metallurgists ANZAPLAN to make sure they fully understood the complexities and use potential of these prospects prior to full exploration.



Left: *Map of iTech Mineral's location within South Australia's Eyre Peninsula. Easy access to any form of transit. Great infrastructure. Green energy. Exploration and mining in the area. One of the top 10 mining jurisdictions in the world as per the Fraser Institute.*

March 2023 Company Snapshot

Common Shares:	**122.2 Million**
Options & Rights:	**3.2 Million**
Fully Diluted:	**125.4 Million**

Cash-on-Hand:
$8.5 Million as of Dec. 31, 2022
Fully funded for 2023 drill campaign

2023 Drilling 12,000-20,000 total meters
2,000M metallurgical on Sugarloaf
10,000M+ exploration on Lacroma

ITM Chart and Technicals:

Feb. 24th Vol: 356,016 **Avg. Vol: 321,696**

Weekly:	-3.77%	**1 Year High:**	$0.715
Monthly:	-17.74%	**1 Year Low:**	$0.24
YTD:	-3.77%		
Annually:	-37.8%		

50 Day Weighted Moving Average: $0.285
100 Day WMA: $0.301
200 Day WMA: $0.312

To the delight of iTech, the results came back extremely positive, with samples readily capable of providing excellent-quality graphite at extraordinary purity. What's more, iTech has developed a new method of purifying its concentrate that is much more environmentally sustainable, a development that should position this company at the forefront of sustainable mining of green energy minerals, a demand that will only increase over time. It will also reasonably make future production permitting much easier to accomplish without the need for hydofluoric acid in its process.

Relatedly, while iTech is indeed technically pre-discovery on their current target, they are hardly exploring blindly. The experience of previous operators in their exploration and analysis of Sugarloaf has provided iTech a strong geological understanding of their land and how to interpret and correlate geophysical data. There is strong evidence supporting ITM's exploration thesis. All that remains is actually drilling out the targets properly to see how large they are.

(Above: ITM's 12 month chart)

Graphite Potential in Campoona Package

Overall, the Campoona project is already known to have several types of graphite within it, ranging from large flake to micro crystalline graphite ideal for Lithium Ion batteries (iTech's focus). The rapidly-growing demand for lithium batteries provides critical tailwinds for microcrystalline graphite projects such as iTech's current target. Just 10 or so years ago, microcrystalline targets were much less popular and valuable, which also serves to provide some explanation as to why Lacroma itself was never drilled out properly.

Lacroma itself is not actually an undrilled target – it has a historical 60m intercept of 6.8% Total Graphitic Carbon (TGC) from it. Because prices and demand for that type of graphite were much lower at that time it was never seriously pursued, but for today's investor provides critical evidentiary derisking.

Ownership

11%: Insiders and Institutions
89%: HNW and Retail

Archer Metals was bought out for 50M shares, which it distributed to shareholders.

Current Resource Target:

Sugarloaf
Exploration Target Size:
158-264 Mt @ 7-12% TGC
Being drilled for metallurgical purposes.

Lacroma
Unofficial Target:
~40Mt of 7% TGC would make this a project with minable economics. Primary target.

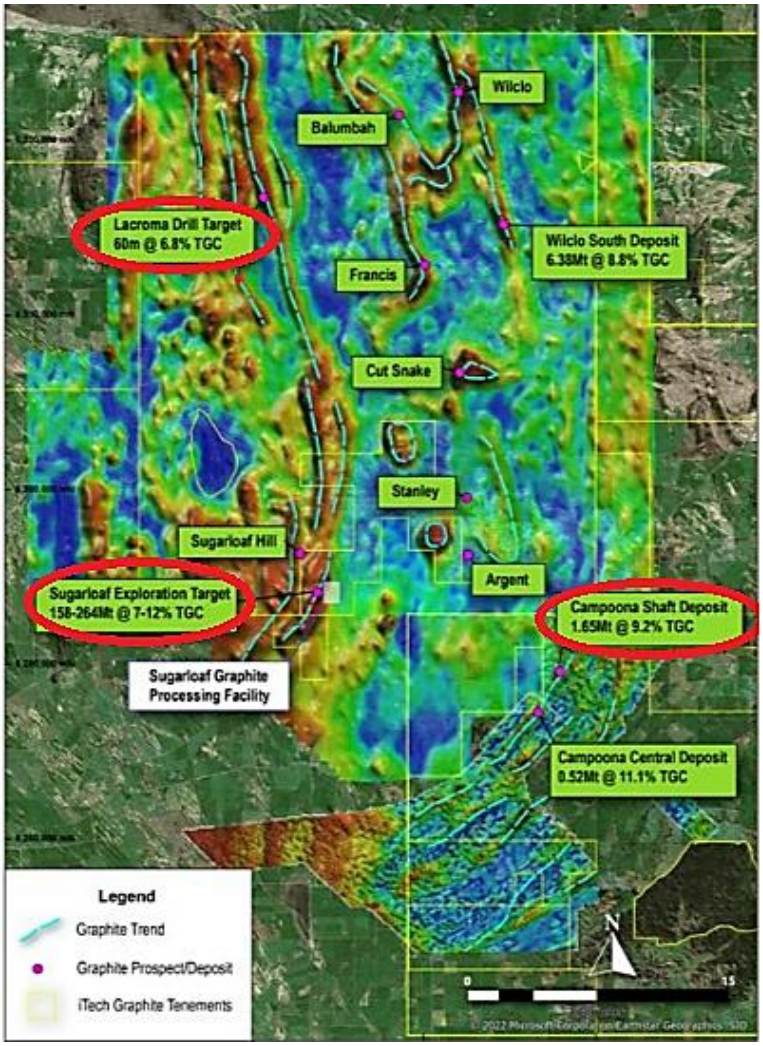
Campoona:
Also contains large intercepts of micro crystalline graphite. Secondary exploration and expansion target.

Recovery Rates:
In excess of 90% using simple, cash-effective process.

47% of recovered mineral can be used as battery grade spherical graphite with valuations at $5000/ton USD. The remainder is micro crystalline flake graphite worth $800/ton but there is a potential opportunity for further refinement to increase the value further.

Grades:
Ultra high-grade. ANZAPLAN-confirmed refined product of 99.99%. This exceeds industry standards, which is critical as it provides leeway for trace impurities to enter the stream during production and shipping and still qualify for battery-grade purity.

So, in the end, iTech has the tonnage potential in Sugarloaf but a complex metallurgy and the metallurgy and graphite type in Lacroma but still an unknown target in terms of size and grade. iTech currently is working hard to add the missing piece to both these stories, and if they were to hit on even one, there is clear potential for a very healthy response from a valuation perspective. A proposed, permitted processing site has been identified in the area.



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Graphite Pricing

Graphite – because of the many different variations, and the specific use cases (and regional demands) for each of them – does not have a universal spot price the way other minerals do. Rather, pricing is much more regionally diverse and reliant on individual needs and offtake agreements. However, while exact numbers are difficult to ascertain, it Archer based their 2016 resource on $2500 USD/ton, while iTech is using a $5000 USD/ton pricing (reflecting the increased demand for this type of graphite). Thanks to chronic projected shortages in the face of steadily increasing demand due to greening of the grid, that trend shows little signs of slowing at all.

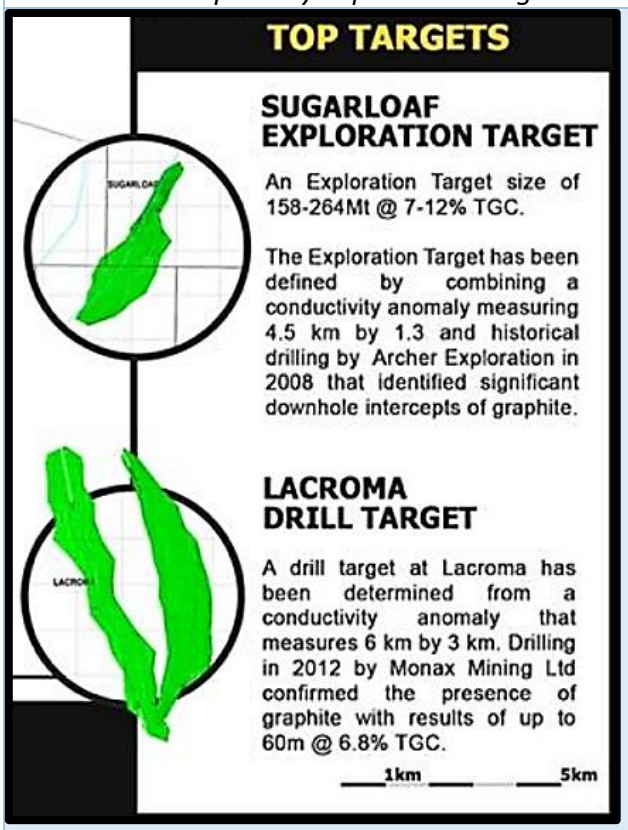
Exploration:

Current Drill Campaign:
12,000, up to 20,000 meters. Commencement of first drill was announced on Feb. 15.

2,000 meters will be drilled at Sugarloaf to aid in ANZAPLAN met testing.

10,000+ meters will be drilled at Lacroma to test that target extensively. At just 150 meters max depth, up to 100 holes will allow iTech to quickly gain strong understanding of Lacroma. Drill campaign is expected to be completed and assays returning by April 2023.

Image left: An aeromag representation of anomalies on the land package surrounding ITM's core 3 targets. Magnetic anomalies are known to closely correlate with graphite here. Lacroma is the primary exploration target.



Speculative Growth Projection:
Target Mill Size: ~50,000 tons/year of graphite, of which ~25,000 tons/year of spherical graphite.

Therefore, returning to the 60m of 6.8% TGC, if that intercept width and grade carries meaningfully across the rest of the 12km long anomaly identified, as their models suggest it will based on the knowledge from Sugarloaf, there are clear indications of a healthy and economic graphite target based on present and future demand.

History of the Campoona Land Package

Dating back to at least 2008, Archer Materials slowly consolidated the region, acquiring portions of the land package from other junior explorers. Graphite exploration was not new, though – indeed it had been known in the area since the early 1900s when 2 simple mine shafts were built to access the mineral. Archer Metals ultimately released a JORC-compliant report in Sept. 2016 that totaled a modest-if-economic 8.5mt of ore. In 2021 Archer sold out of the exploration business entirely with their Campoona deal with iTech (for 50 million shares in ITM, distributed to shareholders) to focus on technology. Graphite exploration and development aside, the land remains active farmland.

The History of iTech Minerals

iTech IPOd in October of 2021 raising $7 million AUD in the process. ITM had collected a variety of exploration packages on the Eyre Peninsula in South Australia. REE, Kaolin, Copper, and Graphite are all targets in their own right. Their primary target at IPO was the blue sky discovery-play REE/Kaolin project, which recently returned mediocre initial exploration results.

The graphite project was much more well-known – both its strengths and its challenges – and the decision was made to first explore the blue sky/pre-discovery potential for REE/Kaolin. While it is always disappointing to have sub-economic results from a project, that risk is the exact reason junior explorers acquire a variety of plays. So while ITM is transitioning its focus, that isn't in itself a warning sign, and the Sugarloaf graphite project stands well upon its own merits. With mining permits in place, the project is derisked in many critical ways.

More recently, ITM completed a series of financings and are once again fully financed, with $9 million in cash with which to master their graphite project. Following shortly after this in last December, a critical metallurgical update from ANZAPLAN confirmed exciting potential economics for the Sugarloaf Graphite project, where it was confirmed their graphite was microcrystalline.

LoM Target:
30-40 years
Capex:
~$300M CapEx to build full production and purification facility

Valuation and Economics:

Data Analysis:
(The following uses Archer Metals' JORC-compliant report from Sept. 2016 based on the original 8.55 Mt resource as a base.)

iTech's Stated Goal:
Using iTech's stated goal of a 50,000tpy, 30 year LoM. This results in a project roughly 5-6X the size of Archer's 18,000tpy/17 years plan, (2X the LoM, 3X the rate of production). This would naturally result in superior overall economics. Note that a PFS is expected in the next 12 months or so.

Simplified production estimates:
Based on 47:53 spherical-to-non-spherical refining rate. Overall target of 50,000 tpy:

23,500 tpy of USD$5000/t spherical graphite
26,500 tpy of USD$800/t micro crystalline

Averaged per ton value of USD $2774 (w/o further refining of the non-spherical 53%)

AISC
~USD$1100/ton
(as per Archer's 2016 JORC resource)

Net Per Ton
Roughly AUD $4000 per ton, with AUD $1800/t AISC which results in a peak production annual pre-tax cash flow of roughly $200M AUD. Note the current mining plan is to start much smaller and after scale up over the course of several years to achieve these numbers.
Capex and Opex Requirements

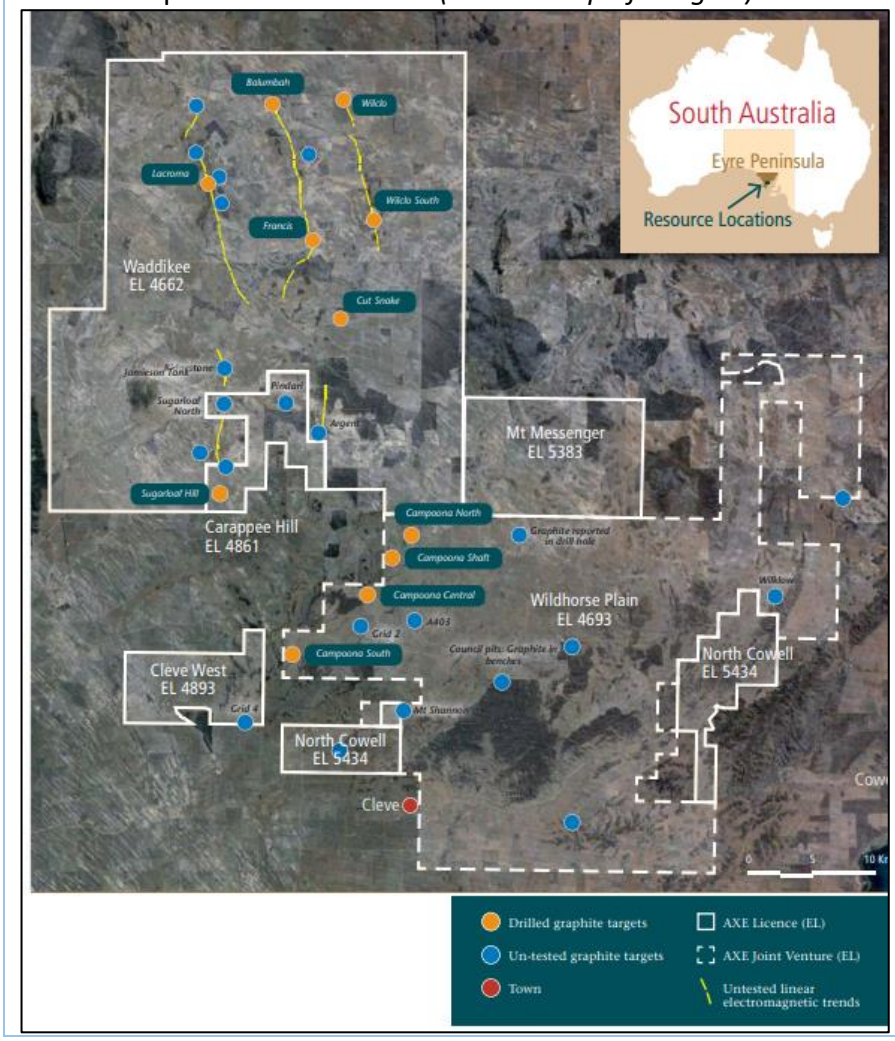
CapEx has been roughly estimated by ITM to be at $300M.

Exploration and Geology

These targets are not new. Archer and earlier operators had been poking around in the area for years and as mentioned earlier, graphite mines in the immediate area are more than 100 years old. There are different kinds of graphite scattered through the various targets. As times have changed so too have the economics of/demand for the various ore bodies, changing potential exploration focus. *(See aeromag map on page 3.)*

The characteristics of the ore body targets are a definite advantage. Every target is broad, healthy grade, consistent, of clean metallurgy and all within 150 meters of surface. If the exploration proves up what could be there, the inevitable low strip ratio and subsequent healthy economics will make any mine, while maybe only average in size, will be in a position to have very healthy economics. All targets a found within a few kilometers of each other.

Understood and defined targets that light up well under AEM are what is being explored. Of course there is always risk prior to drilling, but evidence points to the potential for a positive outcome. Shallow target. Calibrated geophys and subsurface results. High-quality graphite well suited for spherical conversion. *(Below: Map of targets)*



Analyst estimate of OpEx and continuing CapEx being roughly the same value as initial CapEx, so therefore an additional $300M over LoM in costs.

Using these very rough numbers, the point is to demonstrate there is a real opportunity here in terms of revenue vs. expenditures to produce an economically viable mine.

Economics

Based on the above numbers, the following are the rough potential economics if a size of discovery is made that ITM is pursuing.

IRR: ~60%
Payback period: ~2 years

(Please note these numbers are speculative in nature to demonstrate the potential of successful exploration by iTech, and not intended to provide a formal, accurate accounting of the project)

NPV Calculations:

Modeled Graphite Price Pre-Tax NPV (10%):
From a number of very rough assumptions:

1. Typical mine annual scaling up and down of annual production.
2. 35 years of mine life with 17 year peak production.
3. 10% discount

Pre-Tax NPV Estimation:

(Provided a successful mining project given the above parameters:)

$900-$950M AUD

Post-Tax NPV Estimation:

(Provided Australian State and Federal corporate tax rate of about 33%:)

$600M AUD

Notably, this roughly aligns with the current market cap of Renascor Resources (RNU.AX)

Lacroma

Drilled by Monax Mining in 2012 following an aeromag survey to produce targets. A 6km x 3km anomaly was identified and 2 holes spaced 600m, including the 60m of 6.8% previously referenced, confirmed the existence of a North-South mineralized trend. Reported as microcrystalline graphite and with positive metallurgy by Archer in 2015. Light drilling of just 4 holes occurred with Archer, but as their target was large flake graphite, Lacroma's microcrystalline shows were of little interest.

Sugarloaf

Sugarloaf has been similarly well-known in terms of its potential for size. Exploration target based on drilling has increased from 70mt with Archer to 158-264mt currently being drilled by iTech. Its conductive anomaly spans 4.5km by 1.3km. It has been complex metallurgically – initially thought to be immature graphite and suitable only for soil fertilizer – iTech's recent updated metallurgical work confirmed it retains the potential to be used for the same purposes as Lacroma – in Li-Ion batteries. However, work remains on extracting it and ANZAPLAN remains active with it. Met drilling is currently ongoing.

Campoona

Campoona is comprised of three named targets – "Wilclo South", "Campoona Shaft" and "Campoona Central". These three ore bodies comprise the current mineral resource of 8.55 million tons at 9% total graphitic carbon. A grid of RC holes from Archer in 2012 is what the resource is based on. It is the most drilled-out target, but iTech nevertheless believes it can create material upgrades to the resource through further exploration in the form of step-outs and new targets. It will be a tertiary target for this new drill campaign. Similar graphite to Lacroma. Map below.

Valuation

(These numbers are based on a historical 2016 resource report from Archer and based on obsolete market conditions for graphite and mine construction. A JORC-compliant report is expected in about 12 months.)

3 Campoona Ore Bodies: 8.55Mt at 9% TGC.
Life of Mine: 17 years
IRR: 62%
Payback: 1.8 years
Built assuming USD $2500/ton for their large flake graphite, while iTech is using USD $5000/ton for spherical graphite.

a Graphite developer operating just south of Lacroma that MD Michael Schwarz has shoulder-tapped as a company he believes provides an ambitious-yet-achievable target.

Current MC to NPV Trading Ratio Range (Assuming commercial discovery that matches internal goals):

0.04-0.05

Pre-discovery explorers can generally trade for up to 0.1-0.15 of their potential NPV based on a variety of risking factors. Based on the fact that nearly all jurisdictional risk is removed (some of the land is already permitted for production in a very mining-friendly state), that there is known graphite in the region, and huge macro tailwinds for spherical graphite, there is reason to believe that ITM could rerate significantly and still be considered fair value for the opportunity it represents. There is real, remaining risk that only the drill bit can remove, but there are many important parts to the puzzle already put together.

Potential Upcoming Catalysts:

Short-term Catalysts:
Drill results and discovery hole from Lacroma

Long-term Catalysts:

- **Updated resource**
- **Initiation of small-scale production**
- **Sugarloaf Met Testing Results**

Buyout Premiums

Research suggests an average buyout premium of roughly 30% can be expected over SP at the time of buyout.

Check economic calculations on page 5 and 6**'s** right column for more detail. Note that all math is meant to be a general estimation of a successful discovery and is not real or guaranteed in any fashion.

Risks

Geological

1. **Sugarloaf (metallurgy).** The fact of the matter is that Sugarloaf remains unsolved. MD Schwarz is optimistic ANZAPLAN will crack its code, but other companies have not found success in the past. The composition of the graphite is more complex and difficult to process than other locations.
2. **Lacroma/Campoona (tonnage).** As was said earlier, iTech has a lot of critical pieces in place. The only thing missing is a deposit to exploit. The most critical and fundamental risks of exploration – discovery – is all that remains. No small feat, mind you, but there is reasonable evidence to suggest success at Lacroma.

It is naturally a challenge to understand clearly how much the market is valuing each of iTech's targets, but Sugarloaf is likely the primary risk. There is almost certainly more tons to be added at Lacroma (the question is how many), which, if it is even a moderate success, will in turn aid the economics of the other deposits.

Jurisdictional

Little-to-none. Indeed, jurisdiction is an asset to itch's project. South Australia ranked in 2021 as the 10th best jurisdiction for exploration and mining as per the Fraser Institute, in between Yukon and Utah. South Australia has very low mining royalty rates between 3.5%-5%, based on type of product produced.

Firstrate infrastructure of all kinds. Full access to transit needs. Green and plentiful energy.

ESG

Again, excellent. South Australia runs almost entirely on green energy, so the project is low-carbon intensive compared to peers. The graphite from this project is a key component in Lithium Ion batteries, so the end use is also strongly advantageous. And hydrofluoric acid is being removed from the concentration process, making this a project for a green economy striving to be done in a sustainable manner. No social or community concerns at all. The community is also supportive with little risk of any controversy.

Management

Michael Schwarz is an intelligent and good-natured MD. He is making forward-looking decisions, using ANZAPLAN and working to lower environmental degradation through mining. He has found great shareholder support through his communication, and the oversubscribed financings- and no shortage of cash willing to be raised – is a testament to the relationship he's built with shareholders. A geologist by training, Mike is doing the little things that don't always get noticed by the market but are essential to success.

Geology

The characteristics of the target itself are advantageous. Campoona's targets are generally broad, of healthy grade, clean metallurgically and all within 150 meters of surface. If exploration proves up something down there at Lacroma, the inevitable low strip ratio will make even a moderate-sized deposit in size be in a position to have very healthy economics.

Understood and defined targets that light up well under AEM are what is being explored. Of course there is always risk prior to drilling, but evidence points to the potential for a positive outcome. Shallow target. Calibrated geophys and subsurface results. High-quality graphite well-suited for spherical conversion. Below is a table demonstrating how iTech's graphite tests compare to industry standards. Of particular interest is the fixed carbon % - extraordinarily pure – and the yield test %, showing a high conversion factor to spherical graphite for iTech's graphite. Both these contribute in meaningfully positive ways to the potential of this deposit.

Specification	Campoona Graphite	Industry standard
Fixed Carbon (%)	99.99	99.95
Yield Test (wt %)	47	20-30
Tap Density (g/cm^3)	0.94	>0.9
D_{50}	17.2	17-19
Ratio D_{90}/D_{10}	3.16	<3.5

Final Thoughts

This is a play worthy of time and consideration. To recap, ITM has:

1. A proven geological thesis with strong exploration potential the aeromag signatures over their Campoona and Lacroma prospects correlate closely with Sugarloaf,
2. Excellent metallurgical results that exceed technical standards and ensure there won't be issues in recovery and refining,

3. Have an economic historical assay from Lacroma measuring roughly 60 meters of 7% graphite to explore based on, and
4. Huge macro tailwinds for their mineral.

If ITM's exploration model is proven correct, and we will potentially find out in just a few short weeks, they have a clear path to proving up an economic deposit of graphite from the 12,000m+ campaign that began just last week. With Graphite a critical mineral facing chronic production and deep shortages within just a few short years, this could be a strong pick for those interested in playing long-term trends while still having a shot at capturing the rerating following a discovery hole, all with some critical risks already removed from the project. Strong team. Strong management. Strong exploration target. iTech has a legitimate path to massive wealth generation, and is a definite buy for those looking for exposure to discovery plays but without some of the traditional risks associated with them.