



A Graphite Development Business

Understanding Markets is a Key Factor for Success



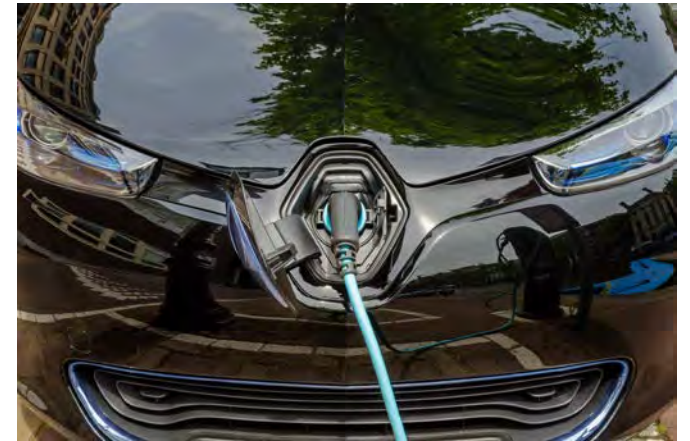
A Clear Business Strategy

To produce and sell quality graphite products into a diverse range of premium markets



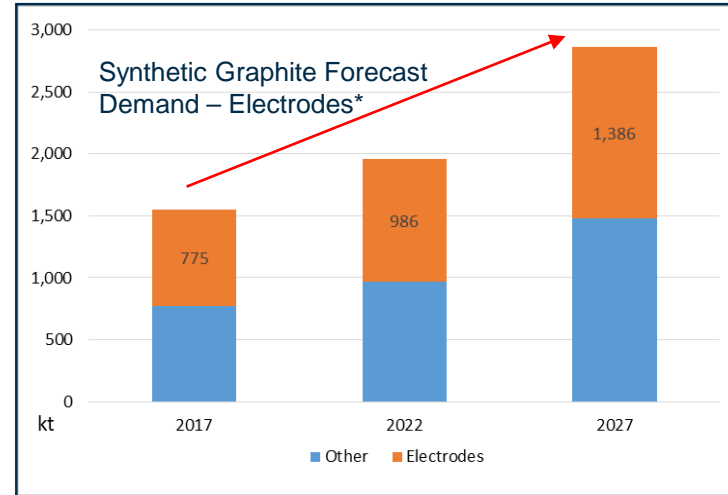
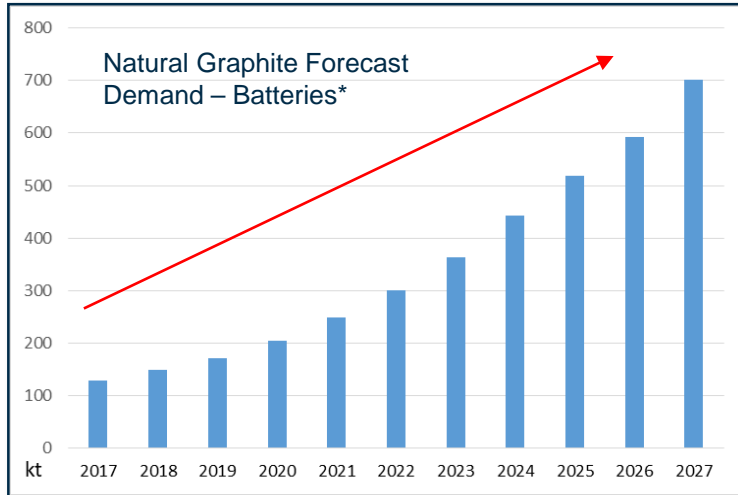
Vertically integrated business model:

- leveraging off a high-quality source – the McIntosh Project, Western Australia
- Implementation requires deep understanding of graphite markets and ability to match the product offering to those specific markets.



“Setting the Scene” - Graphite Target Markets

Diversity, Depth and Growth – two examples; EVs and industrial



Hexagon has focused on:

- Matching the graphite markets with the technical attributes of its flake graphite; and
- Maximising its comparative advantage in “ease of” purification and milling.



* Roskill; Natural & Synthetic Graphite Report 2018.

The Graphite Market (HXG Perspective)

A global context for HXG's products



- **Scale** – 2.44mtpa of graphite produced globally in 2017*:
 - 1.55 mtpa of synthetic graphite; and
 - 0.90 mtpa of natural (mined) graphite.
 - 76% of all graphite is from China
- **Natural graphite market** comprises:
 - 0.59 mtpa flake (66%)
 - 0.30 mtpa amorphous (34%)
 - .01 mtpa vein-flake (<1%)
- **Natural graphite sources** by country:
 - China – 0.63 mtpa (44% flake & 56% amorphous. Flake now almost entirely fine and small sized flake.)
 - Brazil – 0.01mtpa, followed by India, Canada and Ukraine
- **Synthetic graphite**:
 - precursor material is a by product from petroleum refining (PetCoke + other varieties)
 - produced by “graphitisation process”– involves heating in an Acheson Furnace for 3 weeks at 2,500 to 2,800^{0C}; Synthetic graphite quality is related to time, temperature and feedstock.

The Graphite Market (HXG Perspective)

A global context for HXG's products



- **Natural flake graphite** is already flaky and crystalline; “graphitisation” has already occurred over the course of millions of years under the influence of temperature and pressure in the Earth’s crust.
- **Synthetic graphite** is expensive but of a consistent quality which is critical for high end applications such as batteries and electrodes:
 - Batteries - 0.4 to 0.5mtpa of graphite goes into batteries, mainly anodes. Natural graphite comprises between 40 to 60% of this and synthetic graphite the balance.
 - Electrodes – 1.1 mtpa of synthetic graphite is used for electrodes in electric arc furnaces (EAF),
- **Major growth opportunity for HXG in batteries and electrodes:**
 - Batteries – Forecast growth rate of between 20 - 30% pa based on EV & ESS
 - Electrodes – Forecast* growth rate of 16-18% pa in steel production
 - China accounts for 50% of world steel production. 30% of world steel production is made using EAF, but only 6% of steel in China is made by EAF.
 - Chinese Govt is closing high-polluting, blast and induction steel furnaces to be replaced by EAF – which requires UHP electrodes

HXG is testing its graphite in electrodes and is in early discussions with industry groups to assess further. Also well leveraged to strong battery demand growth, LiB and other battery chemistries.

Hexagon's plan to develop its graphite strategy

Discussion Outline: - developing a graphite business



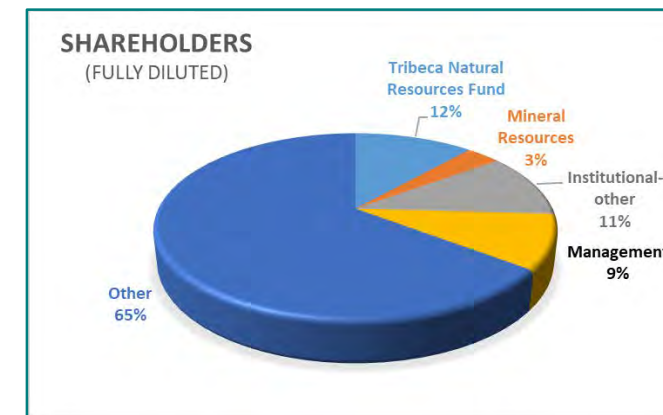
1. **Introducing Hexagon** an Australian listed graphite company
2. **Upstream**; mining & processing into graphite concentrates
 - The McIntosh Flake Graphite Project
 - Funding
 - Flake concentrate product lines
3. **Downstream**; additional processing of graphite concentrates into intermediate products used in diverse range of energy related and industrial applications
 - Purification
 - Flow sheet and product lines
 - Scoping study – including considerations on plant locations
4. **Marketing** – “Success is reliant on market knowledge”
 - Strong SE Asian relationships
 - recent initiatives into the USA
5. **Timelines** – focussed on cash flow and opportunities to fast track
6. **Why Hexagon?** – as an investment or as a supplier of premium graphite materials

Hexagon at a glance

An Australian listed graphite company



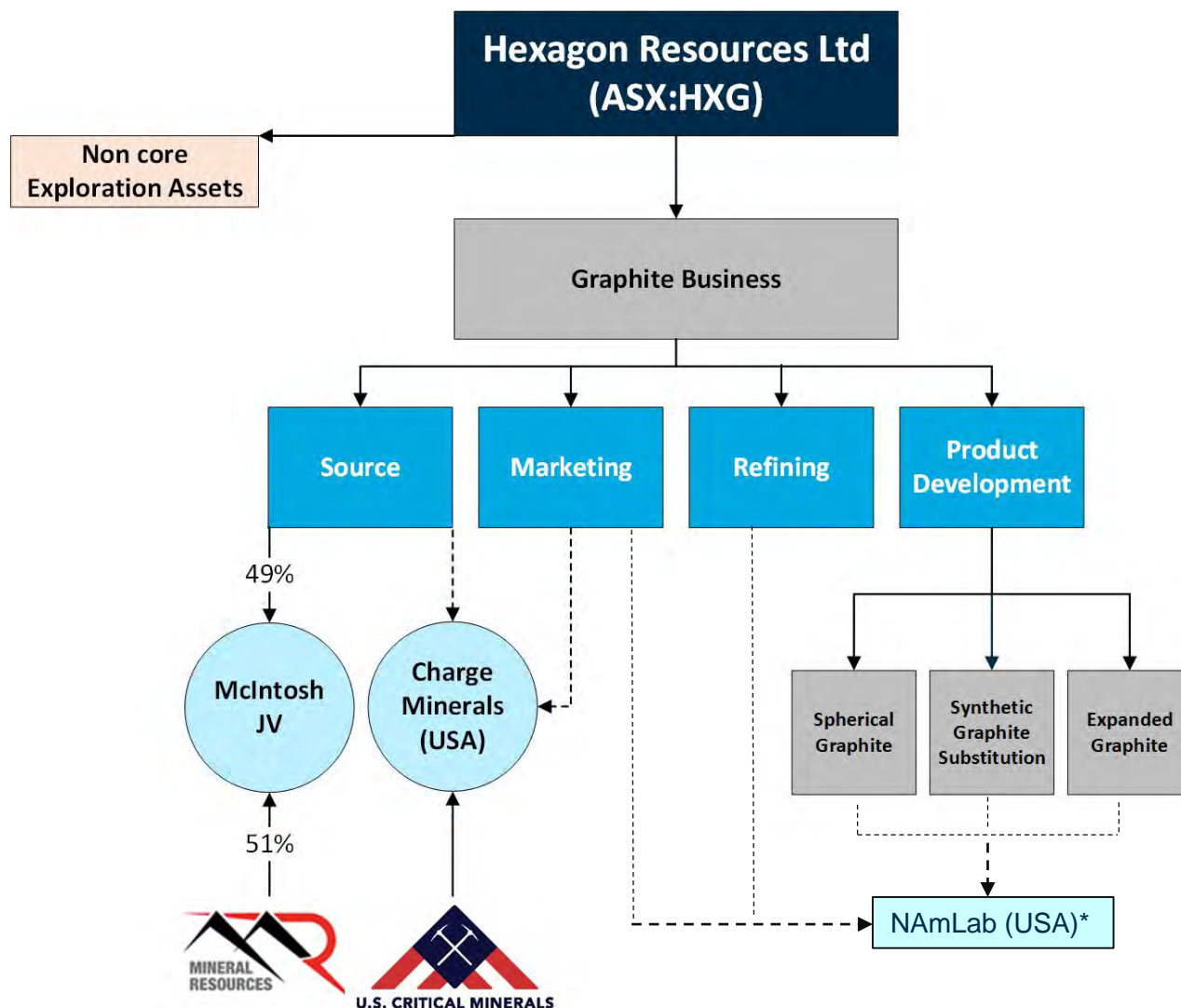
ASX Code	HXG
Shares on Issue	291.8M
Options on issue	24.4M (unlisted)
Share price (19 Mar 2019)	A\$0.14
12 Month high/low	A\$0.28/A\$0.09
Market Capitalisation	A\$44.3M
Debt	Nil
Cash (31 Dec. 2018)	A\$5.8M



- Strong share register – 25% Institutional holders with Tribeca Natural Resources Fund -12%
- Management – 9%
- Strong capital structure for a junior – 292M shares on issue
- Reasonable cash balance - \$5.8M
- No debt or other exotic funding/equity commitments

Hexagon at a glance

Company is organised and aligned to the graphite value chain



Key business segments:

- **Source** – demonstrated high-purity, crystalline, natural flake graphite
- **Refining** – proprietary, low cost process to achieve ultra high purity
- **Product Development** – to cater to a diverse range of premium end users
- **Marketing** – finding the premium niches in a highly fragmented market

- **Key strategic partnerships** - project development, marketing and product development

The Upstream – The McIntosh Project

Located in an established mining region – Western Australia



Current Mineral Resources (Refer Appendix 2).

JORC Classification	Tonnes (Mt)	TGC (%)	Contained Graphite (kt)
Total Indicated & Inferred	21.3	4.5%	964

Full Mineral Resources Table & Location Plan in Attachment 1

Mineral Resources estimated reported 25 April, 2017. A new estimate is in progress to incorporate 2018 drill program. Otherwise no material changes to input data since that time.

Exploration Target* (additional to Mineral Resources)

Prospect	Tonnage Range (Mt)	Grade Range TGC (%)
Total	110 - 220	2.5 – 5.0

***Cautionary Statement:** The potential quantity and grade of the Exploration Targets is conceptual in nature, there has been insufficient exploration work to estimate a mineral resource and it is uncertain if further exploration will result in defining a mineral resource.

The Upstream – The McIntosh Project

Planned - conventional open-pit mines & graphite flotation concentrator



Upstream: Multi open pit mining, simple flotation at c. 2.4Mtpa to produce c. 100,000tpa of high-grade (97-98% TGC) graphite concentrate, likely across 3 flake sizes – subject to completion of Feasibility Study.

The Upstream – The McIntosh Project

Funded by ASX listed Mineral Resources Limited (ASX:MIN)



Earn-in Joint Venture funding

- Mineral Resources Limited (**MRL**) to fund all Feasibility Study work, capital development and ramp-up costs to achieve Commercial Production to earn a 51% interest in the McIntosh Project (subject to a positive feasibility study)
- MRL to manage the McIntosh JV (**MJV**) to provide “pit to wharf” service to the MJV

Risks Mitigated

- No exposure to dilutive capital raisings to build upstream, mine and plant or ramp-up problems or delays
- Reduced operational risks – *MRL is an experienced WA mine operator*
- No third party project debt, convertible notes, securities etc. – *simple financing at the Project level*



“the joint venture with MRL is a major de-risking event for Hexagon”

The Upstream – The McIntosh Project

Graphite is not a commodity, so expenditure is focussed on test work to understand the value



The value and specifications for **GOLD, LEAD, COPPER** etc. are clear and well known.

Value for **GRAPHITE** needs to be demonstrated through test work and Market research.

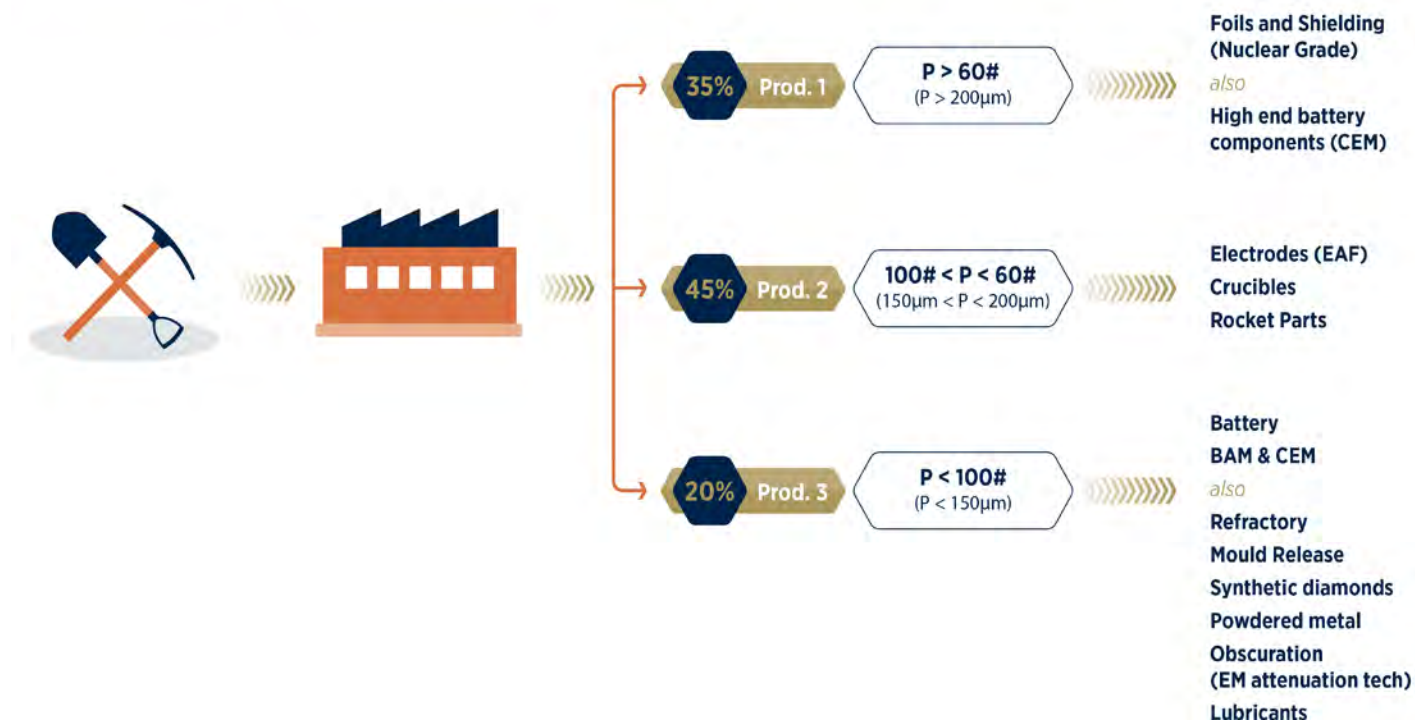
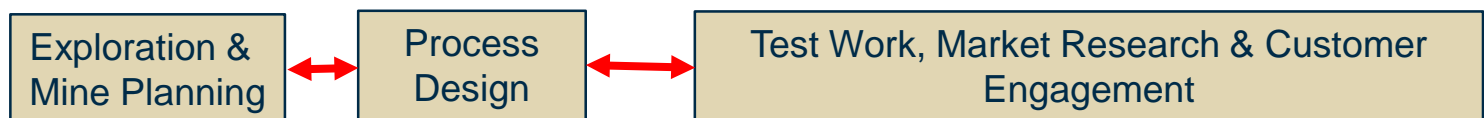
McIntosh Graphite has a unique range of technical attributes, including:

- ✓ **Purity** – high-grade concentrates c. 97-98% TGC from Upstream
 - ultra-high “5-9’s” i.e. 99.999% TGC is achievable at a low cost in Downstream.
- ✓ **HOPG-like** – rare, “Highly Ordered, Pyrolytic Graphite” large, crystalline structures – suitable to displace synthetic graphite.
- ✓ **Large flake** endowment and expandable +60# component.
- ✓ **Specific flake morphology**; rendering it easy and low cost to spheroidise and mill (“easy” *comparatively speaking*).
- ✓ **Excellent electrochemical properties** as shown by test work and coin cell cycling tests.

All of which, makes it highly sought after by a diverse range of intermediate processors and End-Users.

Upstream Graphite Target Markets

Customer focus starts at the Mine & Graphite Concentrator



3 graphite concentrate products planned*:

- ✓ **Product 1 - “Expanded Line”**
destined for foils and shielding (nuclear grade) and Conductivity Enhancement Materials (**CEM**)
- ✓ **Product 2 - “Industrial or Electrode Line”**
HXG’s focus is on electrodes in EAF substituting for synthetic graphite on the basis of enhanced technical properties and lower furnace costs.
- ✓ **Product 3 - “Battery Line”**
Mainly lithium ion Battery Anode Material (**BAM**) and CEM. Also suitable for a range of high-end industrial applications.

*subject to McIntosh Feasibility Study work.

Upstream Graphite Target Markets

Marketing based on quality and diversity; reflects pricing



HXG's estimate of Basket Price Upstream 3 Product mix

Planned Product*	Size Specification (ASTM)	% of Output	HXG-97-98 % TGC \$US/t FOB	
			Lower price range	Higher price range
Product 1 (Expanded)	P > 60#	35	1867	1996
			1931	
Product 2 (Electrodes)	100# < P < 60#	45	1332	1516
			1424	
Product 3 (Battery)	P < 100#	20	880	990
			935	
Basket Price Range		100	1429	1579
Assumed Price			1504	

Based on HXG Market Inquiries; SE Asia, USA and China

*Subject to completion of Feasibility Study

Concentrate Production – 3 Products (1-3)

Note- based on May 2017 PFS** outcomes:

- **Production – 49% MJV share**
 - ✓ 49,000tpa of graphite concentrates
- **Sales:**
 - ✓ Pricing – US\$1,504/t is A\$2,090/t*
- **Costs:**
 - ✓ Unit Cost of A\$1,038/t**
- **EBIT Margin:**
 - ✓ Estimated margin of A\$1,052/t concentrate
- **Feasibility Study in progress managed by MRL. Major opex savings expected.**
 - ✓ 2017 PFS based on different product strategy with no optimisation of mining, processing or capital costs.



Upstream MJV Project aiming to be robust financially on a standalone basis

****Detailed prefeasibility study results reported 31 May, 2017.**

Downstream Graphite Processing

Efficient, low cost purification underpins Hexagon's strategy

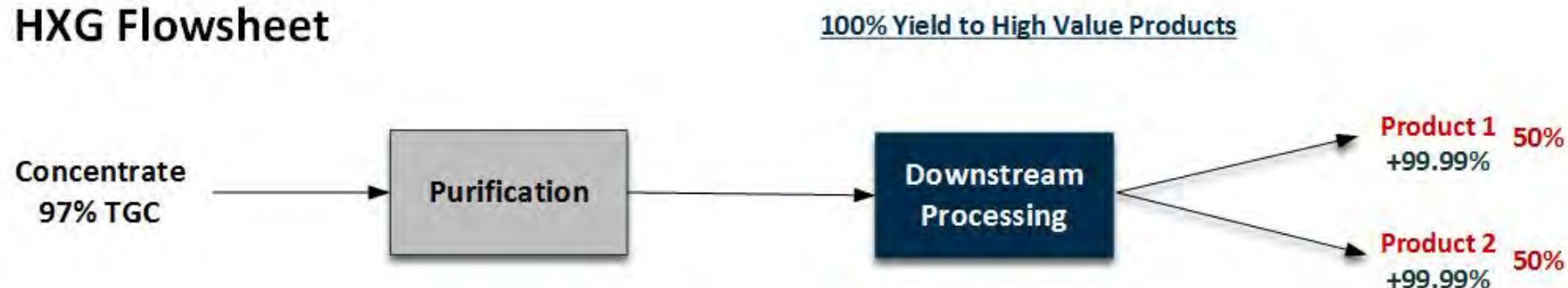


HXG's modified flow sheet – refining first; because it is low cost and results in high yield to high value products.

Traditional Flowsheet

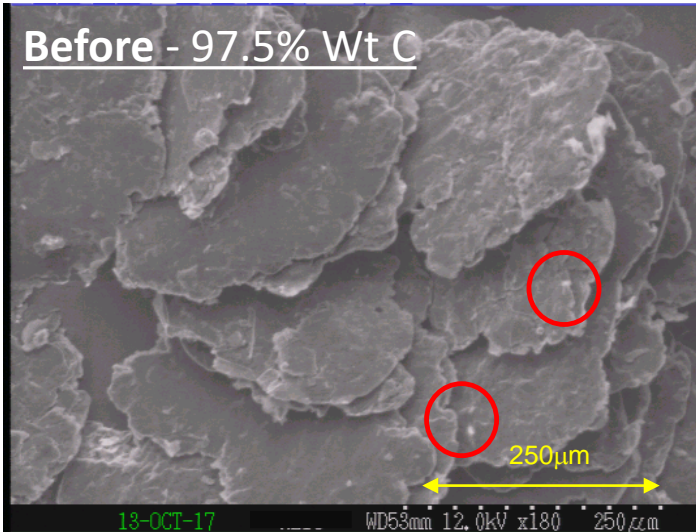


HXG Flowsheet



Downstream Graphite Processing

Innovative downstream flow sheet leveraging off HXG's clean flake



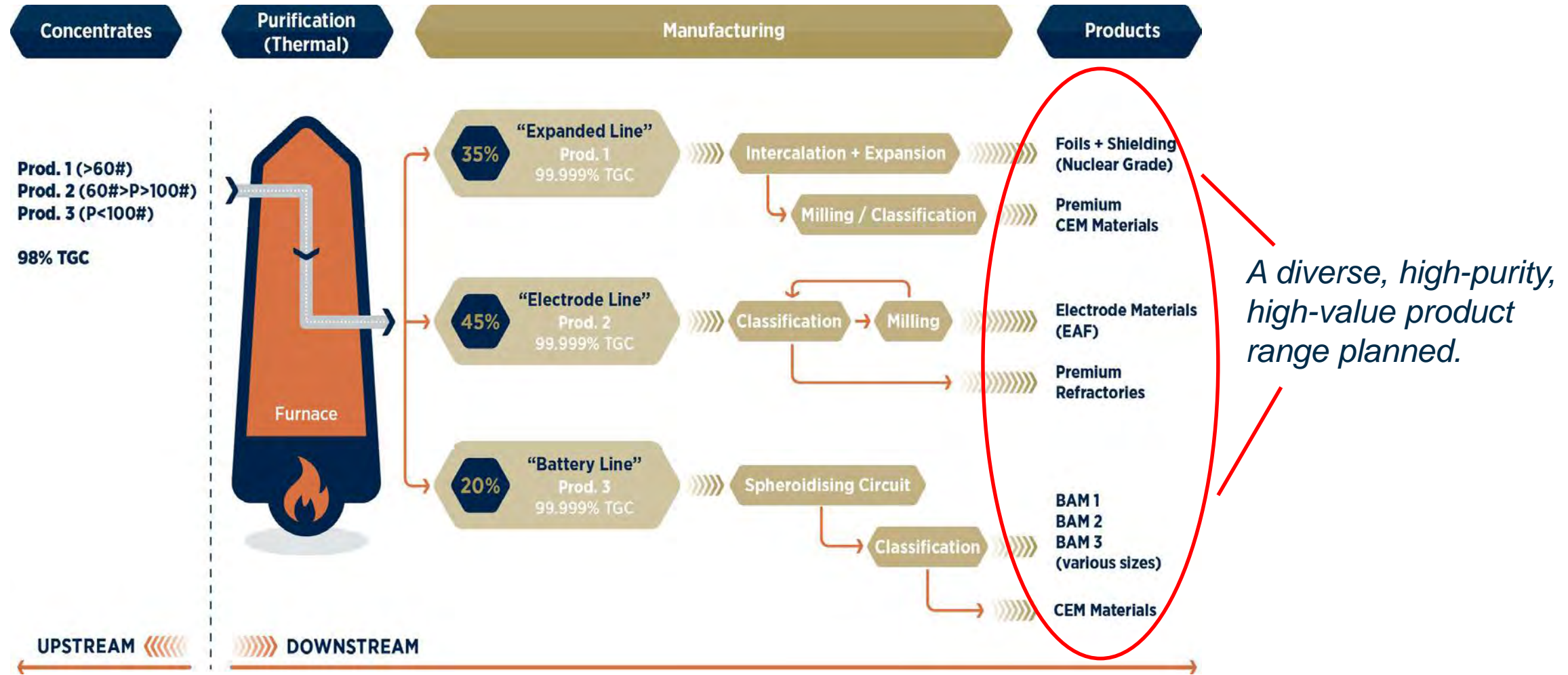
99.9998 wt.% C was achieved by a proprietary thermal purification technique.

- **Price premium:** *Five Nines* is the “nuclear purity world”.
- **Low cost:**
 - ✓ Surficial impurities - require only “light” purification.
 - ✓ HXG planning to adopt proprietary but proven, highly efficient, furnace technology.
- **Low Environmental impact:**
 - ✓ No HF acid leach.
 - ✓ Less energy/t compared to other thermal technologies.

A premium is paid for ultra-high purity materials in batteries and other high-end applications – impurities reduce performance risks.

Downstream processing - Innovation

Low Cost purification establishes a high-yielding, diverse flow sheet.



Low Cost purification underpins near 100% utilisation of mine-site concentrate output to value-added products.

The Downstream Business Case

First financial evaluation of downstream business case – April '19



Downstream Scoping Study is in progress – outcomes due April 2019

- GR Engineering is the Study Manager.

Key Inputs:

- ✓ Source concentrates – “purchased” at market basket price from McIntosh, up to 49,000tpa (Hexagon’s 49%, MJV allocation).
- ✓ Thermal purification
- ✓ 3 downstream process lines
 1. Battery materials – producing various classifications of spherical graphite for BAM and CEM;
 2. Industrial materials – producing various size specifications to be used in blends to produce UHP electrodes, premium refractories and lubricants; and
 3. Expandable graphite precursor (+60 mesh) screening /packaging production.

Site selection

- ✓ Ideally plant site is close to either the upstream source or the major downstream customer.
- ✓ Major considerations are power costs and freight / logistics costs

Downstream sites – Tier 1, low risk jurisdictions

Two sites under evaluation; one in the USA and one in Australia

Natural Graphite Consumption*

Nth America: 73kt

Europe: 106kt

Sth America: 77kt

Natural Graphite Imports*

Japan: 52kt

Sth Korea: 39kt

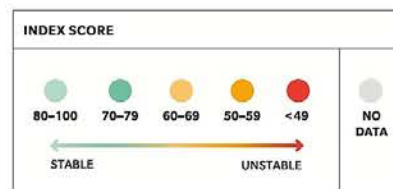
India: 39kt

China: 6kt

R-SEA 20kt

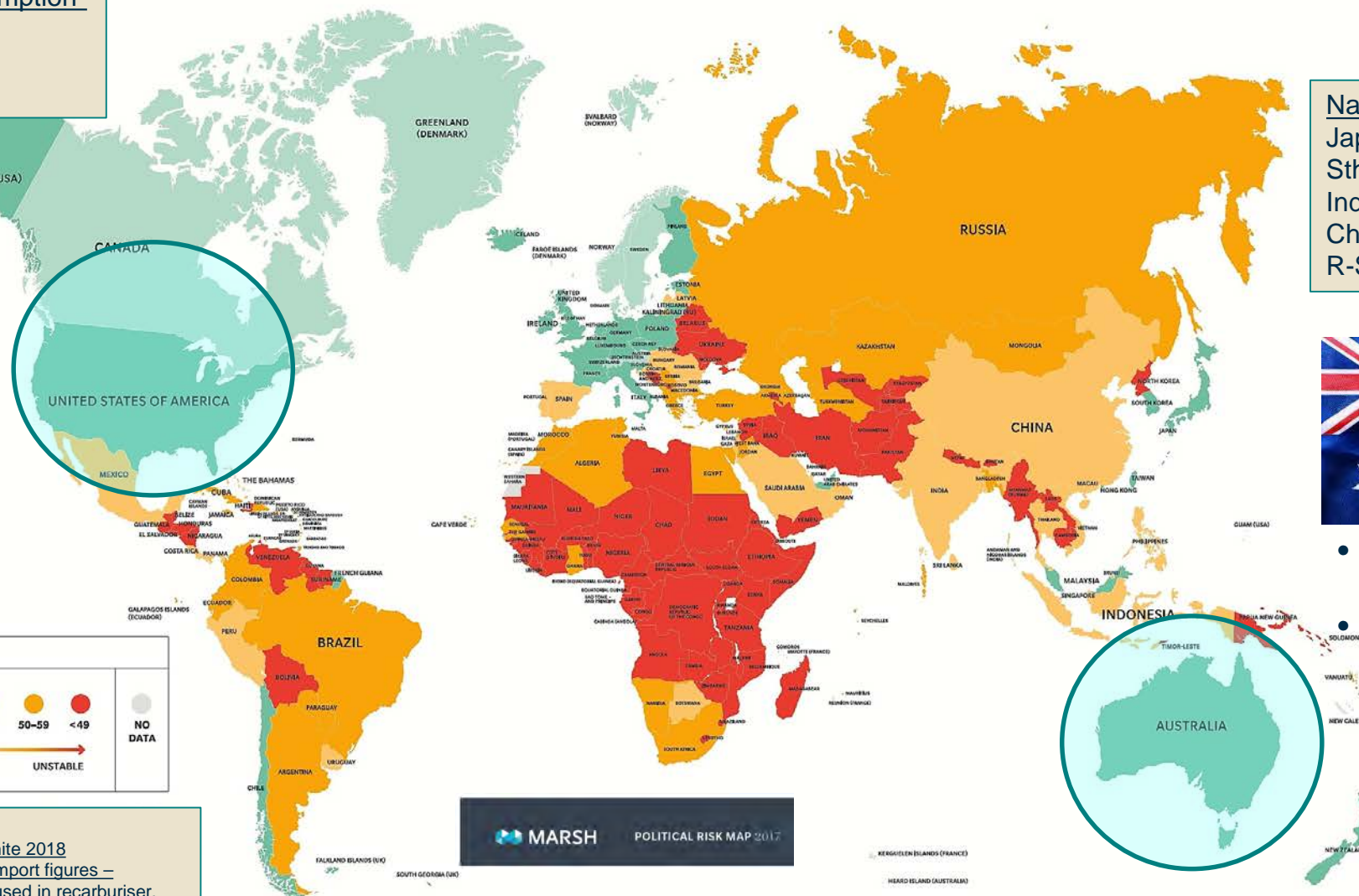


- Close to Markets
- Low power costs



*Source: Roskill

Natural & Synthetic graphite 2018
2017 Consumption and Import figures –
excludes spherical fines used in recarburiser.



- Close to Source & markets
- Moderate & uncertain power costs

Marketing expertise in SE Asia and now the USA

Build team, with sample supply to progress marketing to sales contracts



New Initiatives

- ✓ Increased existing SE Asian relationships with new engagements in the USA.
- ✓ Investigating possible new US source opportunities subject to verifying market opportunities.

SEA- Hexagon has established direct market contacts in Japan, Korea, Taiwan and China for:

- Upstream graphite concentrates
- Planned downstream products

USA - Increasing focus through several key relationships

- United States Critical Minerals (USCM) /Jesse Edmondson – well connected, experienced graphite marketing executive
- Charge Minerals - a strategic partnership collaborating on new marketing opportunities and possible new US upstream opportunities.
- NAMLab* – established graphite processing and battery manufacturing business based in the US. Key strategic partner for Hexagon’s downstream business.
- Engaged 2 highly “graphitized” executives to identify and advance new graphite market opportunities in USA, SE Asia and Europe.

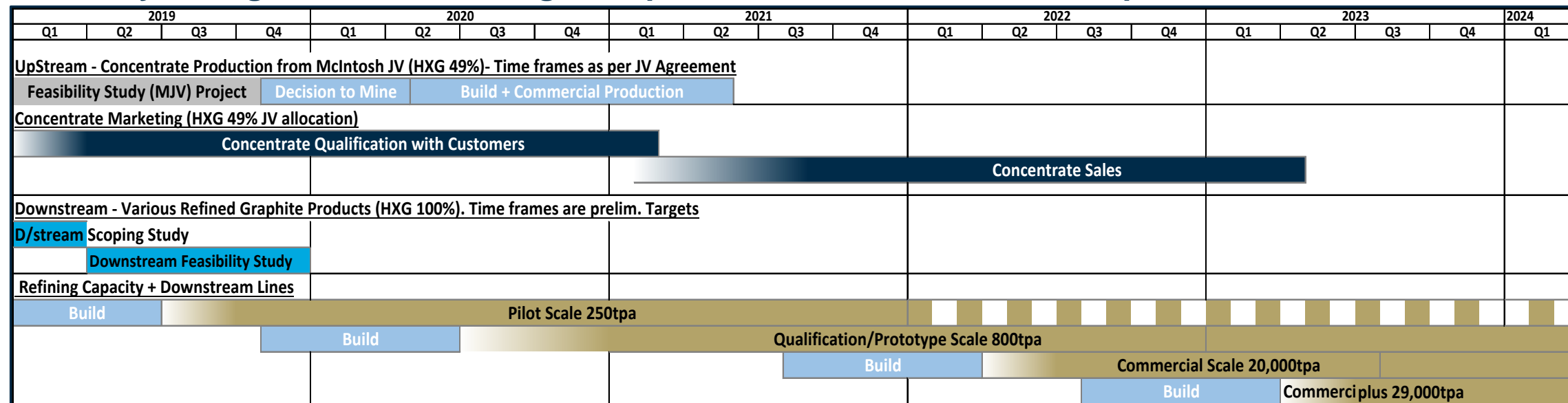
*Hexagon has a confidentiality obligation not to disclose the identity of the organisation referred to NAMLab. It is a well credentialed, ISO accredited test work and speciality graphite processing facility based in the USA.

Hexagon Resources – Timelines

Focussed on achieving sustainable cash flow as soon as possible



Currently Hexagon is dual tracking the upstream and downstream components of its value chain.



Upstream Milestones:

- Updated estimate of Mineral Resources (March 2019)
- Feasibility Study by October 2019
- Decision to Mine/Build by April 2020
- Commercial Production by April 2021

Downstream Milestones:

- Downstream Scoping Study (early April, 2019)
- Piloting – July 2019
- Downstream Feasibility Study by January 2020
- Qualification – July 2020
- Commercial Scale production – April 2022

Customer engagement & sales contracts to underpin both streams (in progress)

Why Hexagon?

as an investment or as a supplier of premium graphite materials



Pursuing a vertically integrated graphite business to produce and sell quality graphite products;

Upstream

- High quality graphite source – McIntosh Project
 - ✓ Concentrate grade
 - ✓ Flake crystallinity
 - ✓ Flake Size distribution
- Funded - potentially fully funded to Commercial Production by Mineral Resources
- Tier 1, low risk jurisdictions – Australia and USA

Downstream

- Ultra high purity - +99.99% TGC
- Innovative flow sheet leveraging off “easy” purification of McIntosh flake
- Detailed graphite market expertise focused on SE Asia and USA
- Diverse and high-quality product offering to attract premium pricing and robust cash flows

Hexagon has the expertise to understand the graphite market and position itself to maximise value

Hexagon Resources Limited

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resources limited

Appendix 1: McIntosh Mineral Resource Estimate

Updated Mineral Resource estimate due in March 2019.

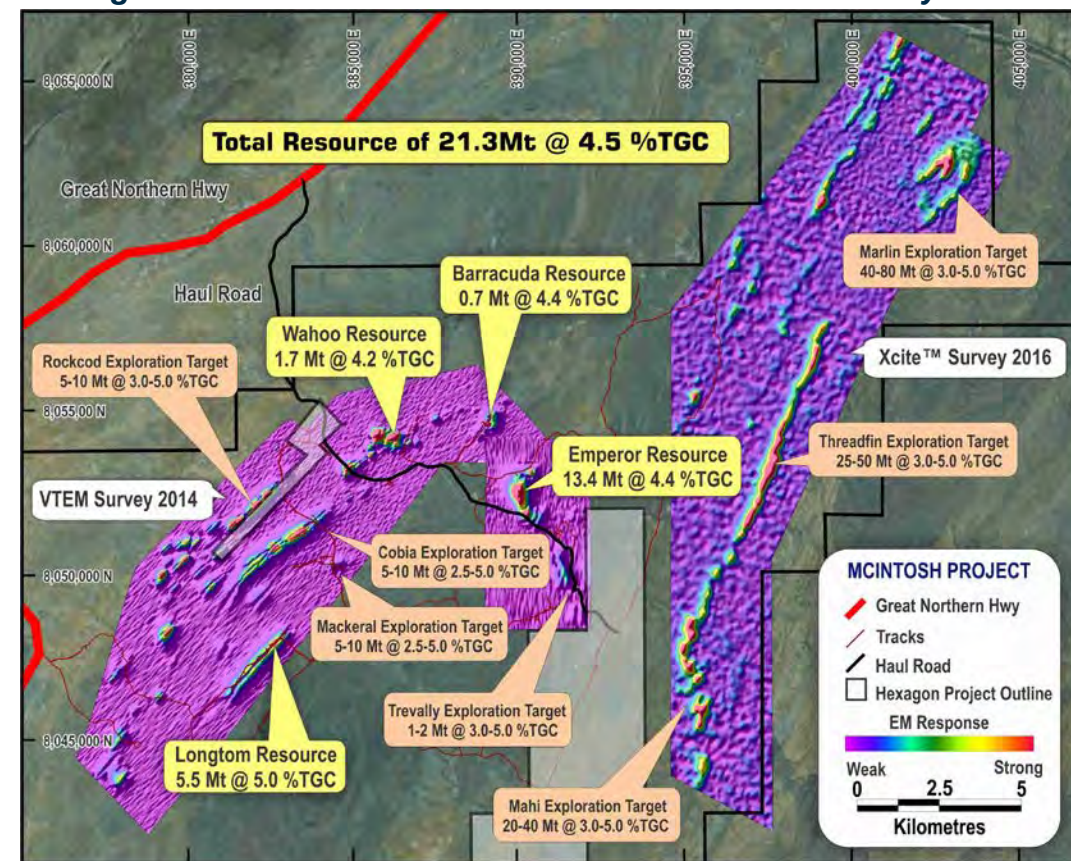


*McIntosh Flake Graphite Project Mineral Resource as at May 2017 reported by deposit and above a 3% TGC cut-off grade.
As per ASX Report dated 25 April, 2017*

Deposit	JORC Classification	Material Type	Tonnes (Mt)	TGC %	Contained Graphite (Kt)
Emperor	Indicated	Oxide	-	-	-
		Primary	8.2	4.3	352
	Inferred	Oxide	-	-	-
		Primary	5.3	4.5	235
	Indicated + Inferred	Oxide + Primary	13.4	4.5	587
Longtom	Indicated	Oxide	0.7	4.7	34.2
		Primary	3.5	5.0	173.4
	Inferred	Oxide	-	-	-
		Primary	1.3	5.2	66.9
	Indicated + Inferred	Oxide + Primary	5.5	5.0	274.3
Wahoo	Indicated	Oxide	0.1	4.2	3.5
		Primary	1.1	4.2	44.3
	Inferred	Oxide	0.1	4.1	3.4
		Primary	0.5	4.2	22.4
	Indicated + Inferred	Oxide + Primary	1.7	4.2	70.1
Barracuda	Inferred	Oxide	0.2	4.5	11.1
		Primary	0.5	4.4	21.1
	Inferred	Oxide + Primary	0.7	4.4	32.2
Total	Indicated + Inferred	Oxide + Primary	21.3	4.5	963.6

Location Plan – McIntosh Mineral Resources (in yellow). Also shown are Exploration Targets (in brown) as reported to ASX 12 April, 2017.*

Background is EM conductors from VTEM and Xcite surveys.



***Cautionary Statement:** The potential quantity and grade of the Exploration Targets is conceptual in nature, there has been insufficient exploration work to estimate a mineral resource and it is uncertain if further exploration will result in defining a mineral resource.

Appendix 3: Competent Persons Attribution



Exploration Results and Mineral Resource Estimates

The information within this report that relates to exploration results, Exploration Target estimates, geological data and Mineral Resources at the McIntosh and Halls Creek Projects is based on information compiled by Mr Mike Rosenstreich who is an employee of the Company. Mr Rosenstreich is a Fellow of The Australasian Institute of Mining and Metallurgy and has sufficient experience relevant to the styles of mineralisation and types of deposits under consideration and to the activities currently being undertaken to qualify as a Competent Person(s) as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves and he consents to the inclusion of this information in the form and context in which it appears in this report.

Metallurgical Test Work Outcomes

The information within this report that relates to metallurgical test work outcomes and processing of the McIntosh material is based on information provided by a series of independent laboratories. Mr Michael Chan and Mr Rosenstreich (referred to above) managed and compiled the test work outcomes reported in this announcement. Mr Chan as well as a highly qualified and experienced researcher at NAMLab planned, supervised and interpreted the results of the metallurgical test work. Mr Chan is a Metallurgical Engineer and a Member of the Australasian Institute of Mining and Metallurgy. Mr Chan and the NAMLab principals have sufficient relevant experience relevant to the style of mineralisation and types of test-work under consideration and to the activities currently being undertaken to qualify as a Competent Person(s) as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves and have consented to the inclusion of this information in the form and context in which it appears in this report.