

# **ASX ANNOUNCEMENT**

31 May 2017

# PRE-FEASIBILITY STUDY CONFIRMS VIABILITY OF HEXAGON'S MCINTOSH FLAKE GRAPHITE PROJECT

The Board of Hexagon Resources Limited (ASX: HXG) is delighted to report on the key outcomes of the Company's Pre-Feasibility Study (PFS) into the development of the first stage of its 100% owned McIntosh Flake Graphite Project, located in Western Australia.

The outcomes confirm the technical and financial viability of the initial project development and provide a very strong rationale to advance the project through a Feasibility Study (FS) towards development.

# Key points from the PFS include:

- ✓ Pre-tax NPV (8%) of A\$272 million (Post tax NPV (8%) of A\$183 million).
- ✓ Pre-tax IRR of 50% (Post tax IRR of 39%).
- ✓ EBITDA annual average is estimated to be A\$100 million with an EBITDA margin of 51%.
- ✓ An assertive marketing strategy underpinned by an annual production target of 2.4 million tonnes processed to produce approximately 88,000 tonnes of flake graphite concentrate grading 98% total graphitic carbon (TGC) on average per year.
- ✓ These Stage 1 PFS outcomes are underpinned by a maiden Ore Reserve of 11.9 million tonnes grading 4.3% TGC containing 511,000 tonnes of graphite, all classified as Probable.
- ✓ The PFS is based on mining and processing 14.3¹ million tonnes grading 4.3% TGC comprising the Probable Ore Reserve and Inferred Resource material of 2.4 million tonnes grading 4.2% TGC. The Inferred material comprises only 16% of the total and the majority is assumed to be mined in the last 2 years of the schedule.
- ✓ Product price of A\$2,087 (US\$1,565) per tonne of concentrate is assumed at an exchange rate of A\$1.0=US\$0.75 over the initial 7 year project life.
- ✓ Start-up capital cost is estimated to be A\$148 million and includes a 15% contingency, based on the purchase of all new equipment; significant savings are expected by securing second hand components e.g. in the processing plant and second hand camp.
- ✓ Unit operating costs are estimated to average A\$1,038/tonne of concentrate sold and A\$42/tonne processed, with work already underway to further optimise the process efficiency.
- ✓ Independent engineering company Scope Australia contributed to and managed the PFS which is completed to an accuracy level of -15% to +30%.



✓ Feasibility Study (FS) work is already underway to incorporate an exciting array of potentially significant enhancement opportunities to reduce capital costs, reduce operating costs, improve revenue uplift through process improvements and downstream processing test work as well as additional drilling planned to start mid-year to increase the resource and reserve base (outlined in Section 13).

#### **Important and Cautionary Notes:**

- 1. Uncertainty related to Inferred Resources: Approximately 84% of this production target is in the Indicated Mineral Resource category and 16% is in the Inferred Mineral Resource category. The Company has concluded that it has reasonable grounds for disclosing a production target which includes a modest proportion of Inferred classified material as explained in Section 6. However, there is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.
- 2. **Exploration Target**: The potential quantity and grade of the Exploration Target 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.

# **PFS Outcomes - Commentary**

The PFS outcomes are based on a mining and ore processing rate of 2.4Mtpa, at an average diluted grade of 4.3% total graphitic carbon (TGC), to produce approximately 88,000 tonnes per year of high-grade, 98% TGC flake graphite concentrate. The Company's marketing strategy is to produce high-grade and premium quality flake concentrate. This is planned to attract long-term off-take parties to "build" their procurement policy around large scale, quality production from a stable, reliable jurisdiction such as Australia, located close to their manufacturing bases, most likely in Southeast Asia. Through key partnerships and underpinned by the prerequisite test work, this will provide the pathway to produce and sell higher value intermediate products to the battery manufacturers and other high-specification markets including possibly the expandable graphite sector.

Hexagon's Managing Director Mike Rosenstreich said: "We are very pleased with the PFS outcomes, which are a significant step on the path to commercialisation of McIntosh. They indicate the viability of the project even on these initial or stage 1 parameters and give us some considerable certainty of a sensible base case and substantial upside as we move towards development."

"We are taking a more assertive marketing approach than many of our peers in terms of impacting the graphite market. We consider that the demand side for graphite, especially natural graphite, is significantly underestimated in current forecasts. A key market factor is the opportunity to displace more expensive synthetic graphite from the battery sector with consistent high quality natural flake product."

"The McIntosh product, with high grade, purity and excellent electrical attributes with large scale production capacity from a stable jurisdiction, will generate unique marketing opportunities and strategic relationships. This is the basis for the Company's assertive scale of production which will also facilitate more opportunities for product diversification whilst maintaining a 'meaningful' scale of production for our core customers."

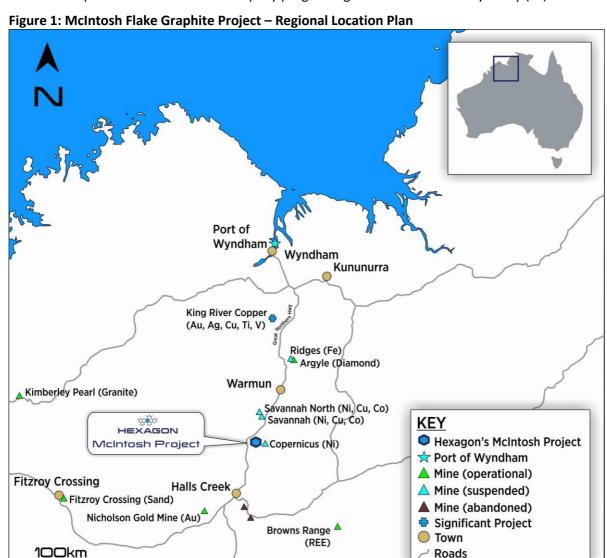
The FS process will include several new study packages such as ore sorting, and changes to the process flow sheet to preserve flake size as well as work to increase the resource base. These are very exciting enhancements with the potential to further de-risk the project, improve margins and greatly increase value.



#### **PFS KEY FINDINGS & OUTCOMES**

# 1. Introduction.

Hexagon Resources Limited owns 100% of the McIntosh Flake Graphite Project comprising 330 km<sup>2</sup> of tenements in the eastern Kimberley region of Western Australia (refer Figure 1). The Company has completed extensive drilling and metallurgical test work culminating in the Pre-Feasibility Study outcomes reported herein and is now rapidly progressing a Definitive Feasibility Study (FS).



The Company has applied for its initial series of Mining Licences and has just completed the field work for the final series of flora and fauna surveys for its environmental assessment study. An experienced consultant has been engaged to assist Hexagon in identifying and negotiating with key stakeholder and traditional owner groups to ensure equitable and balanced land access and commercial arrangements are put in place with a long-term collaborative outlook.

The Company's objective is to be in production as soon as possible. It is planning to complete the FS in Q1/Q2 of 2018, supported by committed offtake agreements and through Q2 have finalised financing for the Project, which would enable construction activities to be advanced before the wet season in late 2018.



# 2. Product Marketing and Project Development Strategy

# 2.1 Product Marketing

Production of a flake graphite concentrate product is the first step in a complex value chain of intermediate products and end-user applications. Hexagon is focussing, in particular on battery manufacturers and the expandable graphite sector.

A major exciting trend in the still emerging and immature lithium-ion battery sector is the enhanced technical attributes of natural flake graphite over synthetic graphite and therefore the potential for natural flake to displace the more expensive synthetic graphite in the high-end user procurement chain - subject to consistent quality. Hexagon considers that its product could be ideally positioned to achieve this on the basis of long-term supply from a stable jurisdiction such as Western Australia, producing a consistent, high grade and high purity graphite concentrate from a location close to the main end users' manufacturing facilities.

The benign aspects of the McIntosh ore make it amenable to production of a high quality and high-grade product with no notable deleterious elements and without costly and environmentally hazardous acid purification or screening. The Company has engaged battery materials specialists to assist it in planning and undertaking further detailed test work for downstream processing - where again the feedstock source and environmentally friendly credentials for its products should generate market appeal and a pricing premium.

The PFS is focussed on producing a high-grade bulk graphite concentrate for direct sale. However this is only the starting point from which Hexagon is undertaking additional downstream test work to confirm its application to the lithium-ion battery market and potentially also diversify into the expandable graphite sector for use in fire retardants, shielding and specialty gaskets and seals – another growth sector for graphite.

The overall marketing strategy is to secure a cornerstone offtake partner from a growing group of high-end graphite users looking to obtain uniquely high-quality product supply, but reluctant to be reliant on African sourced product. This off-take party could safely seek to build their procurement budget around McIntosh product as the mainstay ingredient. This might be either singly or a combination of flake concentrate (i.e. low down in the value chain), or ideally, as a purified, uncoated spherical graphite product which sells for four to six times more than graphite concentrate.

## 2.2 Project Development Strategy

To take advantage of these opportunities Hexagon needs to demonstrate the scale of its project in terms of annual production capacity and long-term mine life. This will be progressed through completing the FS and undertaking further resource delineation drilling on its extensive exploration targets. The Company has reported Exploration Targets of 110 to 220 million tonnes potentially containing an additional 3 to 11 million tonnes of graphite located proximal to the planned primary processing facility (*Refer Cautionary Note 2 above in regard to uncertainty of Exploration Targets*).

Hexagon plans to undertake sufficient drilling to generate ore reserves to support a project life of 15 to 20 years to underpin the FS. From that time onwards, sufficient exploration and drilling would be undertaken on an ongoing basis to maintain that project life and a "visible" pipeline of exploration targets.

The large scale of the Project i.e. 2.4 million tonnes per year processing capacity to produce on average 88,000 tonnes of product per year reflects two key issues:

McIntosh is not high-grade with an insitu Mineral Resource grade of 4.3% TGC, so economies
of scale are required to make the project robust and viable (albeit the lack of deleterious
elements helps to offset some of the processing differential); and



Hexagon is taking an assertive marketing approach in terms of impacting the market. It
considers that the demand side for graphite, especially natural graphite is significantly
underestimated in current forecasts and that demonstrating large scale production capacity
from a stable jurisdiction will generate unique marketing opportunities and strategic
relationships. This scale of production facilitates more opportunities for product
diversification whilst maintaining a "meaningful" scale of production for each.

#### 3. PFS Financial Outcomes

The PFS has been undertaken to a -15% and + 30% level of accuracy. The Project construction is scheduled to take 12 months (year 1), with forecast ramp up to 60% of design capacity in year 2, with full scale production for years 3 to 8. This is regarded as the initial phase of the Project and drilling is currently being planned to increase the Mineral Resource and Ore Reserve base.

Mining is planned to occur in stages from a total of four deposits, with ore being processed at a centrally located flotation concentrator to produce flake graphite concentrate which will be trucked to the port of Wyndham and shipped to customers, most likely in Southeast Asia. A summary of the key physical outcomes is presented in Table 1.

Table 1: PFS "Physicals" Outcomes

	Units	Per Year (average)	Life of Mine (LOM)
Ore mined	tonnes	2.4 mtpa	14.3 Mt
Strip Ratio	W:O	-	4.5
Total Mined	bcm	-	28.7 M
Head grade	% TGC	4.1 to 4.4	4.3
Plant Recovery	%	87 - 93	93
Concentrate	t	88,000	574,000
Concentrate Grade	% TGC	98	98

The financial outcomes present a viable project and are summarised in Table 2. This is based on mining and processing Ore Reserves and Mineral Resources within the four pit designs and includes 16% Inferred Resource material as outlined in Cautionary Note 1.

**Table 2: PFS Financial Outcomes** 

	Units	Life of Mine
Site Operating Cost	A\$/t Conc.	987
Realisation Costs (FOB)	A\$/t Conc.	51
Total Operating Cost	A\$/t Conc.	1,038
Start-up Capital (15% Contingency)	A\$M	148.6
Sustaining Capital	A\$M	24.9
Sales	A\$M	1,197
Sales	A\$/t Conc.	2,087
EBITDA	A\$M	654
EBITDA Margin	%	51
Pre-Tax NPV (RoD 8%)	A\$M	272
Post-Tax NPV (RoD 8%)	A\$M	183
Pre-Tax IRR	%	50
Post -Tax IRR	%	39
Payback Period (from first production)	Years	2.5



# 4. Flake Graphite Concentrate Sales

The key to success for any industrial minerals project is securing offtake which is achieved by ensuring that the specifications of the material produced match the specifications required by the customer. The flake graphite market in relation to the battery sector is quite immature and highly fragmented on both the supply and demand sides. In Hexagon's opinion, that creates opportunities for a range of procurement contracts in terms of quantity of material, pricing and commitment period — and ideally Hexagon will manage its offtake risk by diversifying these three aspects across a concentrate aimed at the battery market and possibly also the expandable graphite sector. In the Company's view, its assertive approach in terms of scale of product supply to market demand from a safe and reliable source, complements this strategy.

For the purposes of the PFS and to gain that vital foothold into the offtake negotiation process, Hexagon has through extensive test work demonstrated the capacity to consistently produce a bulk flake graphite concentrate of grades c.98% TGC with no notable deleterious elements, hence without any acid purification steps. Also, initial testing has demonstrated outstanding electrical attributes, highly encouraging for the batteries sector. As well as concentrate grade and purity, flake size is also an important price determinant – though for battery use in particular, "size isn't everything". A summary of the flake size distribution in the McIntosh concentrate from the current process flow sheet is summarised in Table 3. Additional test work is being planned to look at shifting the flake size distribution upwards in sizing to increase the applicable markets for the concentrate. In the current flow sheet the feed material is milled to 80% less than 106 microns yielding the size distribution in Table 3. Unfortunately that previous test work was not focused on flake size preservation and this represents an important opportunity. Graphite flakes are "breakage resistant" compared to the enclosing gangue minerals and along with other processing attributes make this a valid test work goal.

Table 3: McIntosh Flake Graphite Concentrate – Flake Size Distribution

	Fine	Small	Medium	Large	Jumbo
Size -Microns	< 75	+75 - 150	+150 - 180	+180 - 300	+300 - 500
Proportion- Weight %	27	44	10	17	2

The graphite market is highly competitive and opaque in terms of general product pricing and this is more pronounced in the "non-standard" materials such as the higher grade concentrates that Hexagon plans to produce. This makes product pricing for revenue assumptions challenging and potentially speculative. To gain a realistic price perspective for its product over the initial project period Hexagon has:

- reviewed fundamental supply and demand forecasts for the end products that its graphite will
  most likely end up in lithium ion batteries;
- noted expert industry commentators on current and historic trends for graphite product sales; and
- reviewed the collective pricing information and assumptions compiled for 13 peer companies.

Focusing on the peer group graphite concentrate price comparison (which is a consensus view underpinned by the same underlying demand fundamentals and informed by the same industry experts), Table 4 presents a summary of different product specifications to provide broad pricing context. Hexagon's sample of 13 Companies comprises all of the companies with publicly available PFS and FS price data reported to ASX and TSX up to 20 May, 2017. In terms of jurisdiction, Africa dominated, with ten of the projects located there, two in Canada and one in Australia. Hexagon considers geography is relevant to "customer appeal" and pricing in terms of sovereign risk issues and supply logistics into Southeast Asia; both are aspects where Australian projects have a distinct advantage.



Table 4: Graphite Concentrate Price Comparison with Peer Companies

	Units	Grade <97% TGC	Grade > 97% TGC	All Grades
No of Companies		6	7	13
		Based on Reported "Bas	sket Prices"	
Minimum Price	US\$/t	1,000	1,174	1,000
Maximum Price	US\$/t	1,687	2,500	2,500
Mean Price	US\$/t	1,368	1,884	1,583
	Based on (	Calculated* average price	e per tonne of product	
Minimum Price	US\$/t	798	2,160	798
Maximum Price	US\$/t	1,839	2,500	2,500
Mean Price	US\$/t	1,408	2,160	1709

<sup>\*</sup> refers to weighted average price per tonne based on the reported size category prices – effectively the Company's basket price adjusted for discounting and other artefacts.

On this basis, the Company has selected a price of US\$1,565/tonne of concentrate, reflecting product grade, purity, flake size and favourable shipping logistics with respect to likely end markets. No basket prices have been assumed because Hexagon proposes to produce a bulk concentrate (i.e. all sizes – no screening), sell on an FOB basis (Free On Board an outbound ship) with "fixed" price over the current initial life of the Project. The assumed exchange rate is 1 AUD to US\$0.75, which is the current exchange rate.

# 5. Geology & Mineral Resource Estimates

The Company has its own in house geological team responsible for new discoveries, data acquisition and the Mineral Resource estimates. The Mineral Resources utilised in this PFS were reviewed by Optiro Pty Ltd, a leading, independent resources and mining consultancy group.

## 5.1 Geology

The McIntosh Project graphite deposits occur as discrete horizons within the schist terrain of the Halls Creek Mobile Zone of Western Australia. The host stratigraphy is the Tickalara Metamorphics which extend for approximately 130 km along the western side of the Halls Creek Fault, a major NNE trending structure.

Hexagon has identified graphitic schist horizons and discrete deposit targets based on GSWA mapping and electromagnetic (EM) anomalism over a strike length in excess of 15 km within the project area, with potential for an additional 35 km strike length of graphite bearing material from lower order EM anomalies. In addition to the current Mineral Resources, the Company has estimated an Exploration Target of 110 to 220 million tonnes grading between 2.5 to 5% TGC – which provides the scope for significant increases in the current resource base underpinning this PFS (Refer Figure 2).

(Please refer ASX Report 12 April 2017 for full details. Also note - *Cautionary Statement:* The potential quantity and grade of the Exploration Target 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.)



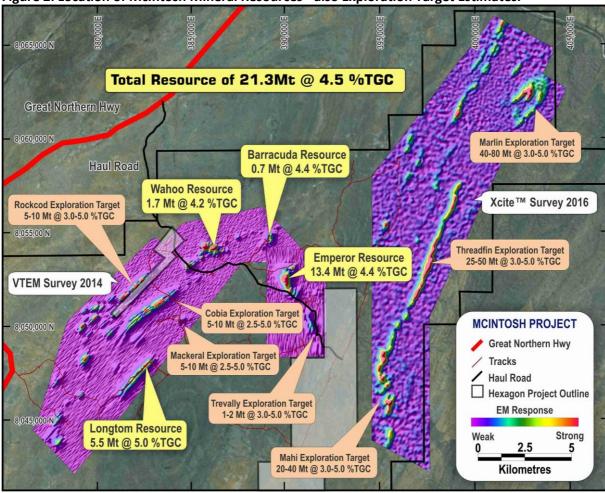


Figure 2: Location of McIntosh Mineral Resources - also Exploration Target Estimates.

Note: The Mineral Resources (in yellow) are in addition to the "undrilled" Exploration Target areas (in beige).

## 5.2 Mineral Resource Estimate

An updated Mineral Resource estimate was reported to ASX on 24 May, 2017 for each of the four deposits being evaluated in this PFS. The structural setting comprises attenuated open and closed fold structures with variable plunge trends, often with higher grade graphitic zones occurring in thickened fold hinge zones. Several domains have been outlined based on dominant lithology and grades controlled by the lithological layering and fold structures.

The current Mineral Resource estimate is presented in Table 5. The likelihood of eventual economic extraction was considered in terms of possible open pit mining, likely product specifications, possible product marketability and potentially favourable logistics to port. It is concluded that the McIntosh Project contains an Industrial Resource for graphite in terms of JORC Code 2012 Clause 49.

A range of products is being considered by Hexagon. Metallurgical test work completed to date indicates a flake graphite concentrate produced from the McIntosh resource is amenable for sale into the lithium ion battery market. Please refer to reports; "Excellent Stage 1 Lithium Ion Battery Results from McIntosh And \$2m Placement," 6 October 2016 and with respect to potential graphene markets, "Outstanding Graphene and Graphite Bulk Scale Results Markets", 3 May 2016. Metallurgical test work has been completed on samples from the Emperor and Wahoo deposits, and diamond drill samples from the Longtom and Barracuda deposits indicate similar geological and mineralisation characteristics.



Table 5. McIntosh Flake Graphite Project Mineral Resource as at May 2017 reported by deposit and above a 3% TGC cut-off grade.

Deposit	JORC Classification	Material Type	Tonnes (Mt)	TGC %	Contained Graphite (Kt)
	Indicated	Oxide	-	-	-
	mulcateu	Primary	8.2	4.3	352
Emperor	Inferred	Oxide	-	-	-
	merrea	Primary	5.3	4.5	235
	Indicated + Inferred	Oxide + Primary	13.4	4.4	587
	Indicated	Oxide	0.7	4.7	34
	Indicated	Primary	3.5	5.0	173
Longtom	Inferred	Oxide	-	-	-
		Primary	1.3	5.2	67
	Indicated + Inferred	Oxide + Primary	5.5	5.0	274
	to disease d	Oxide	0.1	4.2	3.5
	Indicated	Primary	1.1	4.2	44
Wahoo		Oxide	0.1	4.1	3.4
	Inferred	Primary	0.5	4.2	22
	Indicated + Inferred	Oxide + Primary	1.7	4.2	70
	Inferred	Oxide	0.2	4.5	11
Barracuda	inierrea	Primary	0.5	4.4	21
	Inferred	Oxide + Primary	0.7	4.4	32
Total	Indicated + Inferred	Oxide + Primary	21.3	4.5	964

Note: Rounding may result in differences in totals for tonnage and grade

Drilling is currently planned to test existing resource target areas with the aim of substantially increasing the overall resource base as well as elevating the confidence classifications within the existing Mineral Resource estimates.

# 6. Mining

A maiden Ore Reserve for the McIntosh Project has been estimated for each of the three deposits at McIntosh; Emperor, Longtom and Wahoo based on the current Mineral Resource (May 2017). The combined total is 11.9 million tonnes grading 4.3 % TGC as summarised in Table 6.

Table 6: McIntosh Ore Reserve as at May 2017

Deposit	JORC Classification	Pit Stage	Tonnes (Mt)	TGC %	Contained Graphite (Kt)
	Probable -	Stage 1	3.3	4.0	130
Emperor	Probable	Stage 2	4.4	4.2	182
	Probable		7.6	4.1	313
	Probable -	Stage 1	1.2	4.9	578
Longtom		Stage 2	2.2	4.7	104
	Probable		3.4	4.8	162
	Durah ah la	Stage 1	0.5	4.2	21
Wahoo	Probable -	Stage 2	0.4	3.7	15
	Probable		0.9	3.9	36
Total	Probable		11.9	4.3	511

Note: Rounding may result in differences in totals for tonnage and grade



The Ore Reserve estimate was undertaken at a nominal cut-off grade of 3% TGC and based on optimised pit shells assuming product price of A\$1,800/t. The Ore Reserve estimate is inclusive of the Mineral Resource estimate reported in Table 5 above. A summary of the modifying factors for the estimation of the Probable Ore Reserve are in Attachment 1, Section 4.

The Ore Reserve was estimated by Mr Steve O'Grady who qualifies as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves and who consents to the inclusion of this information in the form and context in which it appears in this report.

This PFS is based on mining Ore Reserve and Mineral Resource from the pit designs for each deposit. The "in-pit" Mineral Resource component comprises Inferred Mineral Resources which comprises 16% of the total production target. This is tabulated in Table 7 below and totals 2.36 million tonnes grading 4.2% TGC.

Table 7: McIntosh Inferred Resource within the Pit Designs and included in the Production Target

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Deposit	JORC Classification	Pit Stage	Tonnes (Mt)	TGC %	Contained Graphite (Kt)
	Inferred -	Stage 1	.02	3.0	0.5
Emperor	interreu –	Stage 2	1.3	4.2	56
	Inferred		1.3	4.2	56
	Inferred —	Stage 1	-	-	-
Longtom		Stage 2	.06	4.9	2.9
	Inferred		.06	4.9	2.9
	Informed	Stage 1	0.08	4.0	3.2
Wahoo	Inferred -	Stage 2	0.43	3.9	17
	Inferred		0.51	3.9	20
Downsouds	Inferred	Stage 1	0.51	4.3	19
Barracuda	Inferred		0.51	4.3	19
Total	Inferred		2.36	4.2	99

Note: Rounding may result in differences in totals.

There is significant uncertainty related to Inferred Resources but the Company considers that it has reasonable grounds for disclosing a production target which includes a modest proportion of Inferred classified material as set out further below. Notwithstanding, it is important to note that there is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

Figure 3 illustrates the relative proportion of Probable Ore Reserve and Inferred Mineral Resource comprising the overall Production Target each period and the overall proportion of Probable Ore Reserve mined, highlighting the decline in years 7 and 8 with increasing Inferred Mineral Resource. The total proportions of Indicated Mineral Resources (Probable Ore Reserve) and Inferred Mineral Resource mined from each deposit and related waste tonnages are summarised in Table 8. The waste to ore ratios are presented with the Indicated material assuming the "Inferred" is classified as waste and with the "Total" assuming the Inferred material is delineated, mined and processed.

Given that the Inferred Mineral Resource generally occurs near the base of each deposit, has similar grades and geology to the Indicated Mineral Resource or is extracted late in the project life, the Company considers it reasonable to include it in this PFS-scale economic assessment – understanding that for FS assessment, further drilling will be required to confirm and upgrade the classification of that material to be included in any Ore Reserve.



Figure 3: Production Target by JORC Classification mined each year



The production rates were determined on two main objectives:

- to achieve a "meaningful scale of production" to support an "assertive" marketing strategy; and
- gain important economies of scale in the mining (and processing) areas acknowledging that these are not high-grade deposits.

Iterations were carried out at lower production rates but at this point, 2.4 Mtpa appears to be the optimum rate subject to securing the prerequisite offtake.

Table 8: A summary of the Production Target by Deposit and Resource Classification

Deposit	JORC Classification	Tonnes (Mt)	Grade (% TGC)	Contained Graphite (Kt)	W:O	% Inferred
	Indicated	7.65	4.1	313	5.8	
Emperor	Inferred	1.33	4.2	56	-	
Linperoi	Total	8.98	4.1	369	4.8	15%
	Waste	43.0				
	Indicated	3.40	4.8	60	4.5	
Longtom	Inferred	0.06	4.9	2.9		
Longton	Total	3.5	4.8	165	4.4	2%
	Waste	15.1				
	Indicated	0.92	3.9	36	6.3	
Wahoo	Inferred	0.51	3.9	20		
	Total	1.43	3.9	56	3.7	36%
	Waste	5.26				
	Indicated	-	-	-	-	
Barracuda	Inferred	0.45	4.3	19		
	Total	0.45	4.3	19	3.3	100%
	Waste	1.5				
	Indicated	12.0	4.3	511	5.6	
PFS Total	Inferred	2.36	4.2	99		
	Total	14.32	4.3	609	4.5	16%
	Waste	64.93				

Note: Rounding may result in differences in totals for tonnage and grade



The overall mining plan is based on a standard process of open pit optimisation, pits designs and scheduling assuming conventional "WA style" open pit mining comprising, drill, blast, load and haul to a Run-of-Mine (ROM) stockpile at the processing plant site. The scheduling philosophy was based around managing strip ratio and accessing higher grade deposits earlier in the project life.

It is anticipated that nearly all the deposits will require drill and blast from surface and ore will be loaded out using three 100 to 80 tonne hydraulic excavators each supported by a fleet of five standard 90 tonne dump trucks for haulage to the ROM or waste rock dumps. The third excavator and truck fleet is a contingency in the assessment to the operating costs and to mitigate any productivity risk to ore supply. The Longtom deposit is approximately 8 km from the ROM and the plan is to utilise road trains for haulage to the ROM. Operating costs specific to the project were provided by a well-regarded and experienced Australian mining contractor and are summarised in Table 9 which also includes Hexagon's mine supervision costs.

**Table 9: McIntosh LOM Mining Costs** 

Contractor Costs	Quantity (Mbcm)	Unit Rate (\$/bcm)	Total \$M
Load and Haul	28.7	6.0	172.2
Drill and Blast	28.7	2.78	79.8
Haulage to ROM	1.3	7.31	9.6
Total	-	-	262
Total Mining Cost	Quantity (Mt)	Unit Rate (\$/t ore)	Total \$M
Contractor	14.3	18.3	262
Owners Mine Team		0.7	10.0
Total	-	19.0	272

Note: Rounding may result in differences in totals.

## 7. Processing

The McIntosh Project flow sheet has been developed following extensive test work on McIntosh drill samples predominantly from the Emperor and Wahoo deposits. Test work was undertaken mainly at ALS Global Laboratories in Australia and focused on achieving high grade and high purity concentrates in preference to flake size preservation, as the Company had already set a strategy aimed at product sales to the battery sector.

Results demonstrated that acceptable graphite recoveries of between 90 to 95% TGC could be achieved at a final graphite concentrate grade of 98% TGC for a mass pull of approximately 4%.

The following test procedure was employed:

- Grinding to a P80 of 106 microns
- Conditioning and then rougher flotation
- Regrinding of the rougher concentrate tumbling mill
- Two stages of cleaner flotation
- Regrinding of the cleaner concentrates bead mill and
- 2 to 3 stages of re-cleaner flotation.

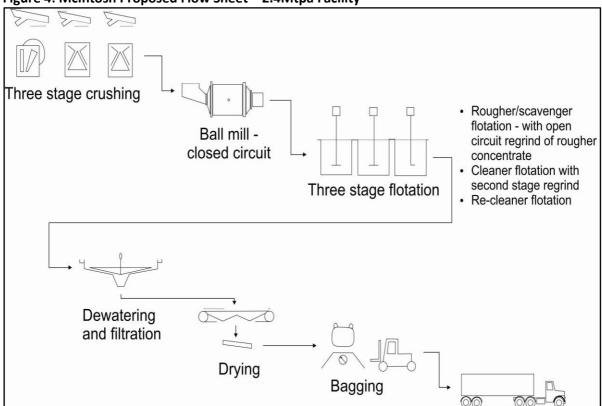
Test work for this Stage 1 processing route is ongoing and a 2.5 tonne composite sample of McIntosh drill core has been delivered to ALS Global for pilot plant testing to create 100 kg of flake concentrate for Stage 2 – downstream, processing test work (spheronisation and expandability), as well as for off take samples. The monitoring of that material through the pilot process has to date yielded results entirely consistent with the bench scale test work.



The current flow sheet based on test work done to date is summarised in Figure 4 below with the key elements comprising:

- Three stage crushing to a P80 of 12mm (i.e. more than 80% of material less than 12 mm)
- Ball mill (5.2MW) closed circuit with cyclones to a P80 of 106 microns
- Three stage flotation
- Rougher/scavenger flotation with open circuit regrind of rougher concentrate
- Cleaner flotation with second stage regrind
- Re-cleaner flotation
- Dewatering and filtration
- Drying
- Bagging
- Tailings thickened and pumped to a tailings storage facility.

Figure 4: McIntosh Proposed Flow Sheet - 2.4Mtpa Facility



The plant has been designed and priced by Scope Australia based on high-quality and proven equipment from reputable international suppliers. The design and costs are based on an annualised production rate of 2.4 Mtpa or 300 tph producing an average of approximately 88,000 tonnes of concentrate per year over the initial stage 1 life of the Project. The planned unit operating cost is estimated to be \$13 per tonne processed and \$355 per tonne of product as presented in Table 10.



**Table 10: Process Plant Operating Costs** 

Item	\$/Year (A\$M)	\$/t Processed	\$/t of Product
Crushing/grinding Consumables	4.8	2.0	55
Power	10.6	4.8	131
Reagents	6.5	2.7	74
Plant Labour	3.6	1.6	43
Maintenance	2.9	1.5	40
Product Despatch	1.0	0.4	12
Total	29.5	13.0	355

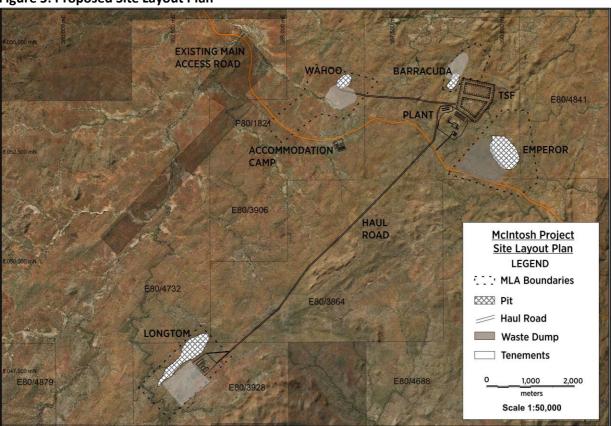
Note: Rounding may result in differences in totals.

#### 8. Infrastructure

The key elements of infrastructure to support the operation are shown in Figure 5 and comprise:

- Power station installed capacity of 10 MW, centrally located to supply the camp, processing plant and proximal bores, to be supplied on a BOO basis.
- Camp capacity to accommodate 180 people in typical FIFO/hotel standard single, dedicated rooms
- Tailings storage facility constructed in stages and designed for the seasonal cyclonic rainfall events and suitable to store acid forming tailings material.
- Bore field to deliver a daily site requirement of 4.5Ml/day from 6 to 7 production bores, as well as pit dewatering bores which may also be suitable for water supply.
- Roads the site already has excellent quality road access to the sealed Great Northern
  Highway 10 km to the west. An internal 8 km haul road suitable for road trains will need to be
  constructed between the ROM and the Longtom deposit.

Figure 5: Proposed Site Layout Plan





# 9. Logistics

The McIntosh Project is well located being adjacent to a sealed national highway and 295 km from the port of Wyndham – which links directly to Southeast Asia, the likely location of key customers.

The concentrate product will be dispatched from site in 1 tonne bulka bags on semi-trailers for road train haulage to Wyndham Port. Each haul will comprise approximately 50 to 60 tonnes requiring 5-6 triple road train journeys per day to meet the monthly haulage requirement of c.8000-9000 tonnes. Wyndham Port has previously been utilised to export bulk commodities such as iron ore, base metals concentrates and other industrial minerals. There is sufficient undercover storage capacity at the Port for several months of McIntosh product inventory.

Positive discussions are ongoing with management at the Port and local trucking companies to be confident of the availability and capacity of the Port facilities and local freight logistics. Information from preliminary pricing terms submitted to Hexagon have been utilised in the PFS.

The Company plans to sell its product on an FOB basis but will be responsible for the piloting, storage and ship loading charges. Whilst there are reportedly numerous ships of varying sizes and loading configurations in the region, Hexagon has not yet determined whether it can rely on regular scheduled shipping or if its customers will use special charters. In the FS process and in discussions with offtake parties the Company will explore in more detail shipping opportunities and pre-payment structures.

# 10. Environmental and Permitting

#### 10.1 Environmental

There are two key aspects specific to the McIntosh Project impacting the formulation of the Company's Environmental Management Plan;

- cyclonic rain events and management of water run-off to reduce erosion and sediment loading; and
- containment of potentially acid forming (PAF) material to prevent acid rock drainage from waste rock dumps.

In the McIntosh Project area over 80% of the average rainfall occurs between December and March, generally associated short intense down pours. The recorded maximum to date is 200 mm. The site layout has been designed to comply with standard flood mitigation and drainage design for an average recurrence level of five years consistent with the requirements of this part of Australia. The objective is to protect infrastructure, maintain road access, prevent any contaminated run-off and minimise erosion and sediment loading into drainages from site excavations.

The Company has recognised the PAF nature of some portions of the waste lithologies as indicated by some assay data and geological logging. As part of the PFS, Hexagon has made provision in its capital cost estimates to line the base of the waste rock dumps with an impermeable liner proportional to the preliminary conservative estimates of the volume of PAF waste material likely to be mined. Additional operating costs have also been allocated for any rehandling or other site works. In the FS process the Company will have more detailed data on the actual volumes of PAF material and plans to utilise a mix of open pit back filling and specifically designed encapsulating waste dumps as are employed on many other mining sites.

# 10.2 Permitting

Mining Licence Applications (MLAs) over the main operational areas have been submitted to the Department of Mines and Petroleum. MLA boundaries are shown in Figure 5.



Comprehensive flora and fauna environmental field surveys were recently completed at the McIntosh deposit with reports pending. A subterranean fauna environmental field survey is planned to be completed before the end of June, 2017. This is the final stage of the flora and fauna study requirements to support Hexagon's Mining Proposal application.

Heritage surveys have been undertaken over the main deposit sites. This process of investigation and assessment is ongoing with a new survey due to commence in a few months as the Company seeks to expand its exploration and development activities.

Land use agreements with the Malarngowem Traditional Owners have been initiated with the engagement of an experienced consultant. A good relationship has been established in the local community over the past few years particularly with local members being routinely employed on site.

# 11. Capital and Operating Costs

# 11.1 Capital Costs

Pre-production capital costs in this PFS comprise all expenditure required to achieve first production of graphite concentrate as set out in Table 11.

It is important to note that these estimates assume that all equipment required to run the operation is purchased as "new". It also assumes that the Company purchases all the major items of equipment other than the 10 MW power station which has been assumed to be provided on a "through the fence" power supply basis. In reality, once a commitment to start the mine construction is made and funds committed, the Company would seek to secure suitable equipment second hand or enter into "Build Own Operate" (BOO) style supply contracts for a wider range of services possibly crushing and screening or the accommodation village, as well as power. For example – for the camp, 80% savings could be available on the camp buildings compared to new. There are additional potential capital cost savings of up to \$15 to \$20 million available by pursuing BOO contracts or purchase of second hand equipment for accommodation and crushing alone.

Estimates for sustaining capital are also included which comprises mainly additions to the tailings dam and preparations for management of possible acid rock drainage issues associated with the construction of waste rock dumps.

Table 11 Capital Expenditure Summary (all A\$M)

Capital Item	Start-up Capital	Sustaining	LOM
Mine establishment	11.4	7.1	18.5
Processing Plant	60.3		60.3
Plant Services & Utilities	6.2		6.2
Onsite Infrastructure	12.4	17.8	30.2
Indirect Costs	12.9		12.9
Power Transmission	1.5		1.5
Accommodation Camp	13.6	-	13.6
Bore Field	3.6	-	3.6
Other	0.6	-	0.6
EMPCM	6.0		6.0
Owners Costs	0.2		0.2
Contingency	19.3		19.3
	147.8	24.9	172.7

Note: Rounding may result in differences in totals.



Costs for pre-start consumables are included in Operating costs.

Costs related to site closure and rehabilitation have not been included as the basis of this PFS is that it represents Stage 1 of a long-term project assuming ongoing exploration success in discovering and converting resources to reserves.

# 11.2 Operating Costs

Operating costs in this PFS comprise all expenditure required for the ongoing operational and support activities to enable production of graphite concentrate. These are notionally split into the core site activities as follows:

- Mining contract mining, ore haulage, PAF handling and owners mining team;
- Processing all fixed and variable input costs for the plant;
- General and Administration includes administration and management staff, accommodation and insurance costs. Note these have not been allocated around other site activities;
- Realisation costs relate to logistics charges of delivering concentrate onto vessels at the Wyndham Port;
- Sustainability refers to key operational sustaining activities, namely Safety, Environmental Management and Community Relations; and
- Royalties comprise State Royalties and likely Royalties payable to traditional owner groups levied on an FOB Sales basis.

The operating costs are summarised in Table 12. The Company has not included ongoing corporate or exploration costs.

Table 12: Operating Cost Summary (all A\$)

Operational Activity	\$/t Processed	\$/t Concentrate
Mining and ore haulage	19.3	483
Processing	13.4	334
General and Administration	1.7	42
Realisation Costs	2.0	51
Sustainability	0.4	10
Royalties	4.7	117
Total	41.6	1,038

Note: Rounding may result in differences in totals.

The \$/t concentrate is based on c.96kt concentrate per year which is the average for the 5 full years of production.

# 12. Financial Modelling and Sensitivity Evaluation

## 12.1 Financial Model

A financial model describing a series of "Operating Cases" was created to assist in the assessment of the viability of the McIntosh Project. The key outcomes are presented in Tables 1 and 2 earlier in the report. The main modelling assumptions are presented in Table 13 below.

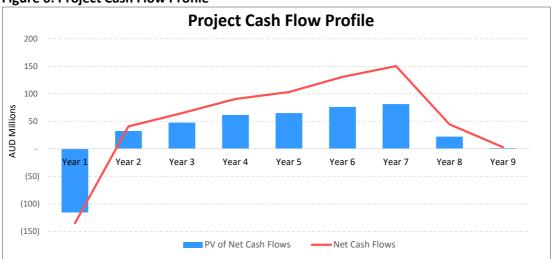
**Table 13: Financial Model - Main Assumptions** 

Model Input	Value	Comment
Project Ownership	100%	Hexagon owns all tenements 100%
Escalation	Nil	Available but not applied
State Royalty	5%	Levied on FOB sales value
Corporate Tax rate	30%	Current legislation
Discount Rate	8%	Possible cost of capital in low risk jurisdiction
Funding - Equity	100%	A simple opening assumption.
Funding - Debt	Nil	In process – nothing assumed

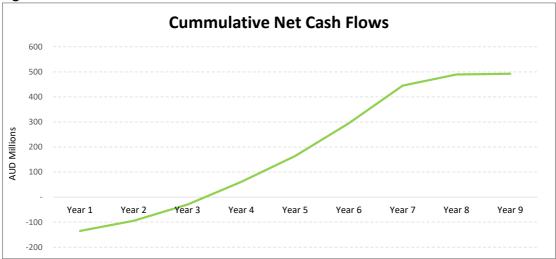


Figure 6 presents a net cash flow profile for the Project and Figure 7 a cumulative net cash flow over the project's stage-1 term. The payback period is estimated to be 2.5 years from the start of production in Year 2.

**Figure 6: Project Cash Flow Profile** 



**Figure 7: Cumulative Net Cash Flows** 



# 12.2 Sensitivity Evaluation

Concentrate Price, Operating Costs and Capital Costs were selected as the critical factors to assess at this PFS level of evaluation. Concentrate price serves as a proxy for head grade and metallurgical recovery, all of which impact straight to the bottom line of any operation.

Figure 8 summarises the sensitivity of pre-tax NPV to variation of these criteria in a range of  $\pm$ -25%. As expected, the project is most sensitive to "Concentrate Price" with a 25% fall in concentrate price (i.e. from US\$1,565/t to US\$1,170/t) generating a 70% fall in Project value from an NPV of A\$272 million down to A\$78 million. This is mirrored in the Internal Rate of Return (IRR) as shown in Figure 9.



Figure 8: Sensitivity Diagram – NVP to Concentrate Price, Operating and Capital Costs.

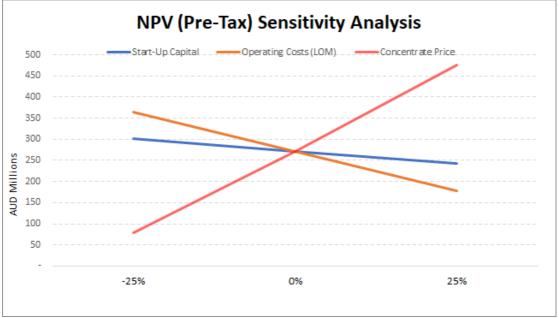
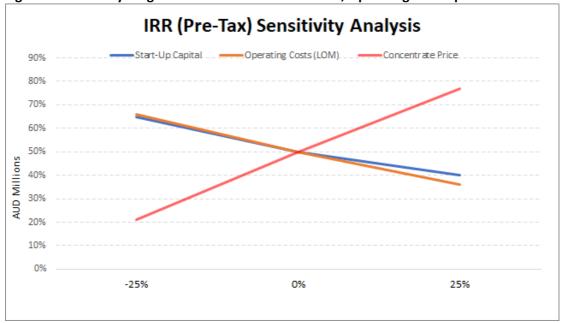


Figure 9: Sensitivity Diagram – IRR to Concentrate Price, Operating and Capital Costs.



# 13. Opportunities in the FS

These PFS outcomes confirm the technical and financial viability of the Project and provide a very strong rationale to advance the project to a FS where major "value-add" opportunities need to be assessed. These exciting enhancements to the PFS include expanding the Mineral Resource base via known targets, ore-sorting and downstream processing as well as very significant process flow sheet improvements.



## 13.1 Resource expansion

The Company has extensive tenement holdings which it considers are highly prospective for the discovery and delineation of additional graphite resources to sustain a long-term mining and processing operation at McIntosh. Electromagnetic (EM) surveys have delineated approximately 50 strike km of stratigraphy favourable for hosting graphite deposits. Hexagon has already modelled this data and achieved excellent reconciliation of EM targets with currently defined Mineral Resources. This modelling was a key input into the recent Exploration Target estimate of 110 to 220 million tonnes of additional graphite mineralisation potential. Hexagon plans to verify that 50+ year potential project life indicated by the Exploration Target estimate to consolidate its business plan to attract and retain customers.

**Cautionary Note** - Exploration Targets: The potential quantity and grade of the Exploration Target 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.

# 13.2 Ore Sorting

Test work on this very exciting processing opportunity commenced in April, 2017 and samples are in preparation to continue this study. Preliminary results indicated mineralised intervals can be divided into:

- Low Density Conductive graphite stream;
- Low Density Non-Conductive silica and waste stream; and
- High Density Conductive sulphides and pyroxene (waste stream).

The opportunities under investigation are:

- Reduce the scale of the required processing equipment saving on capital costs;
- Reduce operating costs with less material passing through the main plant and perhaps also less abrasive material which may also improve processing efficiency; and
- Reduce downstream or collateral effects e.g. acidification of tailings by rejecting high-sulphide material prior to grinding.

# 13.3 Plant Improvements

Detailed review of the process flow sheet and recent test work has highlighted several opportunities to improve the current PFS level process flow sheet:

- Review of front-end comminution to consider low energy equipment like mineral sizers and HPGR crushing;
- Coarser grind for flotation resulting in smaller mill and power requirements;
- Preserve flake size currently the feed material is ground to a P80 passing 106 microns and
  the resultant concentrate yields 71% of flake size being Fine to Small. Size preservation is
  possible given that graphite flakes are "breakage resistant" with a Bond Work Index of
  approximately 48 compared to 15 for gangue minerals. Also, graphite has a lower specific
  gravity, which combined with shape factors (e.g. flakes rather than euhedral particles), they
  report to cyclone overflow at coarser size than the gangue minerals; and
- Recovery of sulphides from the tailings stream to provide an additional revenue stream and /or decrease environmental load on the tailings dam.

These are very exciting possibilities to significantly enhance the project economics if the ore sorting test work proves successful in combination with these planned flow sheet improvements.



## 13.4 Downstream Processing

The initial focus will be on:

- a. Spheronisation and purification test work (battery market), planned to commence June 2017;
- b. Intercalation test work (for expandable graphite market), planned to commence June, 2017; and
- c. As well as further review on the market and application of graphene where the Company has previously achieved encouraging test work results.

Downstream processing represents opportunities to achieve higher margins and gain greater benefit of the quality technical attributes of the McIntosh concentrate – such as grade, purity, crystallinity and excellent electrical properties which may minimise downstream processing costs and yield quality intermediate products. As an example, spherical graphite sells for four to six times higher prices than standard flake graphite concentrates, – acknowledging that the conversion or yield of graphite concentrate to spherical graphite is typically between 20% to 60%.

Hexagon is already working with several technical experts in the battery material and battery design fields to evaluate its product for the battery end market and to design test work programs which meet the stringent standards imposed by the battery manufacturers as part of their pre-qualification processes. Pre-qualification can be a lengthy process and this is planned to fast track that.

# 14. Outline Development Schedule & Funding

The next phase of activity for the Company is to complete a FS to fast-track the Project toward commercialisation. Discussions on offtake and financing will be advanced in parallel with the planned FS activities.

- FS: subject to site access around the wet season and funding the objective is to complete the FS in a 6 to 8 month time frame. Careful consideration of the overall marketing strategy will come into play as the Company balances its focus around flake graphite concentrate production and sales and its desire to advance its role into the secondary stage processing for all or a portion of its concentrate production. Pre-qualification requirements of its secondary products such as potentially purified spherical graphite will impact on these considerations.
- Development: following on from that, having taken proper account and accommodation of secondary processing options and subject to project financing and the normal approvals process the Company considers that construction might commence late Q2 of 2018 with first production in approximately 12 months thereafter. Again, seasonal aspects around "the wet" will also need to be considered in terms of the start of any construction activities.
- Financing: the Company has commenced discussions with a range of parties canvassing a
  variety of funding options for the Project. This includes standard debt-equity, offtake based
  structures as well as seeking a partner to fund the development. All discussions remain at a
  preliminary stage and no agreements or terms have been settled. These PFS outcomes
  enable this activity to be advanced more rapidly.

### 15. PFS contributors

The PFS was a collaboration between Hexagon and a variety of reputable experienced industry consultants listed in Table 14. Scope Australia was engaged in April, 2017 to manage and compile the completion of the PFS. Scope has reviewed the information presented in this ASX Report and consents to its inclusion in this report.



**Table 14: Key Consultants Contributing to PFS** 

Scope of work
Independent audit of Hexagon's Mineral Resources
Waste and tailings characterisation test work
Metallurgical support, Project overview and peer review
Metallurgical test work and pilot plant program ongoing
Metallurgical test work
Hydrological review
TSF design and costing
Geotechnical Study
Plant design, costing, power, camp and study management Pit optimisation, designs and scheduling
Graphite market commentary
Fauna environmental surveys
Flora environmental surveys

# 16. Competent Persons' Attributions

# **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 Project is based on information compiled by Mr Shane Tomlinson and Mr Mike Rosenstreich who are both employees of the Company. Mr Rosenstreich is a Fellow of The Australasian Institute of Mining and Metallurgy and Mr Tomlinson is a Member of the Australian Institute of Geoscientists. They both, individually have 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 they consent to the inclusion of this information in the form and context in which it appears in this report.

## Ore Reserves and Mine Planning

This Ore Reserve statement has been complied in accordance with the guidelines defined in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code – 2012 Edition) and should read in conjunction of the Section 4 Estimation and Reporting of Ore Reserves.

The Ore Reserve has been compiled by Stephen O'Grady, Principal of Intermine Engineering Consultants, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr O'Grady has had sufficient experience in Ore Reserve estimation relevant to the style of mineralisation and type of deposit under consideration to qualify as Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Mineral Resources and Ore Reserves. Mr O'Grady consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

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# Appendix 1: JORC Table 1 Summary

- Geology interpretation was undertaken based on a combination of geological logging data from drill holes, surface mapping and modelled conductive plates from the VTEM survey of 2014.
- Drilling method the drilling method used is a combination of reverse circulation (RC) and diamond. The mineralisation for Emperor is defined by 9 RC drill holes for a total of 1,134 m, 21 diamond drill holes for a total of 2,940.5 m and 9 RC pre-collar / diamond tail holes for 1,369.3 m. The mineralisation for Longtom is defined by 37 RC drill holes for a total of 4,146 m, 1 diamond drill hole for a total of 54.9 m and 4 RC pre-collar / diamond tail holes for 620.6 m. The mineralisation for Wahoo is defined by 26 RC drill holes for a total of 2,023 m and 11 diamond drill holes for a total of 1,257.8 m. The mineralisation for Barracuda is defined by 35 RC drill holes for a total of 2,883 m and 3 diamond drill holes for a total of 294.0m.
- Sampling one-metre drill chip samples were collected throughout the RC drill programme in sequentially numbered bags. Core samples from diamond drill holes were collected based on geology and a minimum interval of 1 m and a maximum of 2 m.
- Sub-sampling analysis was undertaken at ALS laboratory where samples initially undergo a coarse crush using a jaw crusher to better than 70% passing 6mm. Samples exceeding 3 kg were spilt using a Jones Riffle Splitter 50:50. Pulverising was completed to 85% passing 75µm in preparation for analysis.
- Sample analysis method all samples were sent to ALS for preparation and for Total Graphitic Carbon (TGC), Total Carbon and Total Sulphur (S) analyses. A 0.1 g sample is leached with dilute hydrochloric acid to remove inorganic carbon. After filtering, washing and drying the remaining sample is roasted at 425°C to remove organic carbon. The roasted residue is analysed for carbon using a high temperature LECO furnace with infrared detection for percentage units.
- QA/QC Duplicate analysis and analysis of Certified Reference Material (standards) and blanks was completed and no issues were identified with sampling reliability or contamination.
- Estimation methodology grade estimation was undertaken using Surpac software to model graphitic mineralisation using a nominal 3% TGC cut-off grade and to estimate TGC by ordinary kriging at Emperor, Longtom and Wahoo and inverse distance (cubed) at Barracuda.
- Resource Classification classification is based on confidence in geological and grade continuity using the drilling density, geological model, modelled grade continuity and conditional bias measures (slope of the regression and kriging efficiency) as criteria. Indicated Mineral Resources are defined where the drill spacing is sufficient to assume geological and grade continuity and where diamond drill samples have been assessed for graphite quality. As a general rule, drill spacing of 40 m by 40 m or less resulted in an Indicated classification for Emperor and Wahoo and areas with broader spacing are classified as Inferred. For Longtom drill spacing of approximately 25 m by 50 m or less resulted in an Indicated classification and areas with a broader spacing are classified as Inferred. The Barracuda Mineral Resources have been classified as Inferred. The results from metallurgical test work at the McIntosh project have been considered for Mineral Resource classification. The likelihood of eventual economic extraction was considered in terms of possible open pit mining, likely product specifications, possible product marketability and potentially favourable logistics to port and it is concluded that graphite at the McIntosh Project is an Industrial Resource in terms of JORC Code Clause 49.
- Cut-off parameters the Mineral Resource is reported above a 3% TGC cut-off grade.
- Mining modifying parameters planned extraction is by open pit mining and mining factors such as dilution and ore loss have not been applied.
- Metallurgical methods no metallurgical assumptions have been built into the resource model. Data from mineralogy and preliminary metallurgical test work has been considered for Mineral Resource classification. Mineralogical examination of samples indicates that graphite occurs across a range of sizes from fine to large flake, with the majority (70%) being in the small to large size range. Results of metallurgical test work on core samples collected from Emperor and Wahoo indicate a potentially saleable product into the Lithium Ion battery market. ALS is currently producing a 100 kg concentrate from a 2.5 tonne bulk composite sample collected from diamond core drilling at Emperor to provide samples for potential offtake companies. This work is currently incomplete, but from a simple flotation process used to date indicates the potential for a saleable concentrate.



# Appendix 1: JORC Table 1 McIntosh Mineral Resource

**Section 1 Sampling Techniques and Data** 

Criteria	JORC Code Explanation	Commentary
Sampling techniques	Nature and quality of sampling     Include reference to measures taken	Reverse Circulation     RC drilling used high pressure air and a cyclone with a rotary splitter.
techniques	Include reference to measures taken to ensure sample representivity and	<ul> <li>RC drilling used high pressure air and a cyclone with a rotary splitter.</li> <li>Samples were collected at one-metre intervals.</li> </ul>
	the appropriate calibration of any	<ul> <li>Approximately 50% of samples were not submitted for assay due to</li> </ul>
	measurement tools or systems	the visual non-mineralised nature of the material collected. All
	used.	graphitic intervals were submitted for analyses.
		Duplicate and standards analysis were completed and no issues
		identified with sampling reliability.
		<ul> <li>Samples were sent to the ALS laboratory in Perth for assay preparation and then sent to ALS in Brisbane for Total Graphitic</li> </ul>
		Carbon (TGC) analyses.
		All samples were pulverised to better than 85% passing 75µm with
		a 10g aliquot taken for assay.
		Sampling was guided by Hexagon's protocols and QA/QC
		procedures.
		<ul> <li>RC drilling samples of 3 to 5kg weight were shipped to the laboratory in plastic bags; samples were pulverised and milled for assay.</li> </ul>
		Diamond Drilling
		<ul> <li>Drill samples in this program were collected based on geology,</li> </ul>
		varying in thickness from 0.1 m to 2 m intervals. Sampling was
		completed so samples could be composited to one metre intervals
		within the geological units.
		<ul> <li>Core samples were quarter split HQ3 core using a diamond bladed saw and sent to the ALS laboratory in Perth for assay preparation</li> </ul>
		and then sent to ALS in Brisbane for Total Graphitic Carbon (TGC)
		analyses. Longtom core samples were sent to Actlabs in Canada
		for analysis.
		<ul> <li>All samples were pulverised to better than 85% passing 75µm with</li> </ul>
		a 10g aliquot taken for assay.
		Duplicate samples, CRM standards and blank material were used during the drill programs. Duplicates callected after each 50
		during the drill programs. Duplicates collected after each 50 samples. Standards were and blanks were inserted at a rate of 1 in
		20 samples.
		Sampling was guided by Hexagon's protocols and QA/QC
		procedures.
Drilling Tookniques	Drill type (e.g. core, reverse  properties and help harments	1. Reverse Circulation
Techniques	circulation, open-hole hammer, rotary air blast, auger, Bangka,	<ul> <li>RC drill holes (total of 2,154 m from 18 holes at Emperor, 4,146 m from 37 holes at Longtom, 2,023 m from 26 holes at Wahoo and</li> </ul>
	sonic, etc) and details (e.g. core	2,883 m from 35 holes at Barracuda) – completed with face
	diameter, triple or standard tube,	sampling hammers and collected through a cyclone. Sample
	depth of diamond tails, face-	recovery was estimated at a percentage of the expected sample,
	sampling bit or other type, whether	sample state recorded (dry, moist or wet), samples tested with 10:1
	core is oriented and if so, by what method, etc).	HCl acid for carbonates and graphite surface float.  RC drilling was completed by Egan drilling using an X400 drill rig at
	method, etc).	Emperor, Longtom and Barracuda deposits and United Drilling
		Services using a DE840 drill rig at Emperor and Wahoo deposits.
		2. Diamond Drilling
		Diamond drill holes (total of 2,940.5 m for 21 holes at Emperor,
		1,257.8 m for 11 holes at Wahoo and 294 m for 3 holes at
		Barracuda) – collected HQ <sub>3</sub> core using a 3 m core barrel and drilled by Terra Drilling using a Hanjin Powerstar 7000 track mounted rig.
		Core orientation was recorded using a Reflex EZ Shot instrument.
		RC pre-collars were drilled with HQ <sub>3</sub> diamond tails for a total of
		1,369.3m from 9 holes by a combination of Terra Drilling (core) and
		United Drilling (RC).
		<ul> <li>Diamond drill holes (total of 54.9 m for 1 hole at Longtom) – collected HQ<sub>3</sub> core using a 6 m core barrel and drilled by Mt Magnet</li> </ul>
		Drilling using a truck mounted modified Mole top drive diamond rig.
		Core orientation was recorded using a Reflex EZ Shot instrument.
		<ul> <li>RC pre-collars were drilled with HQ<sub>3</sub> diamond tails for a total of 620.6</li> </ul>
		m from 4 holes at Longtom by a combination of Mount Magnet
		Drilling (core) and Egan Drilling (RC).
Drill sample	Method of recording and assessing	1. RC Drilling
recovery	core and chip sample recoveries	A face sampling hammer was used to reduce contamination at the face.
	<ul> <li>and results assessed.</li> <li>Measures taken to maximise sample</li> </ul>	<ul><li>face.</li><li>1 m drill chip samples, weighing approximately 2 kg were collected</li></ul>
	recovery and ensure representative	throughout the drill programme in sequentially numbered bags.
	nature of the samples.	Split samples were recovered from a cyclone and rig-mounted cone
		splitter. The sample recovery and physical state were recorded.



•	Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Every interval drilled is represented in an industry standard chip tray that provides a check for sample continuity down hole.      Diamond drilling     Core recovery was excellent. Recoveries were measured for each
•	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.  Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	<ul> <li>run between core blocks and measurements recorded. Core was photographed and logged for RQD and geology.</li> <li>Analysis from one pair of twin holes drilled at Hexagon's Longtom resource (an adjacent and similar style graphite deposit) noted a lower graphite content in the RC samples when compared with diamond core. Insufficient work has been completed on comparing RC and diamond methods to rule out drilling by RC.</li> <li>All RC and diamond drilling (100%) was logged for geology in the field by qualified geologists. Lithological and mineralogical data was recorded for all drill holes using a coding system developed specifically for the Project. Primary and secondary lithologies are recorded in addition to texture, structure, colour, grain size, alteration type and intensity, estimates of mineral quantities, graphite intensity and sample recovery. The oxidation is also recorded.</li> <li>No adjustments have been made to any assay data</li> </ul>
•	The total length and percentage of the relevant intersections logged.	<ul> <li>Geological logging is qualitative in nature.</li> <li>Diamond drilling logging also recorded recovery, structure and</li> </ul>
	the relevant interessions regged.	geotechnical data.
		<ul> <li>Diamond core was orientated using the Reflex orientation tool. Core was photographed both dry and wet.</li> </ul>
techniques and sample preparation •	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.  For all sample types, the nature, quality and appropriateness of the sample preparation technique.  Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.  Whether sample sizes are appropriate to the grain size of the material being sampled.	<ul> <li>NRC Drilling</li> <li>All samples marked with unique sequential sample number</li> <li>RC drilling samples were bagged at the drill site in calico bags with a second outer plastic bag to prevent loss of fines. The sample sizes are considered to be appropriate to the grain size of the material being sampled.</li> <li>1 m RC drilling samples were submitted to ALS laboratories in Perth for sample preparation before being sent to ALS laboratories in Brisbane for analysis. The samples were riffle split on a 50:50 basis, with one split pulverised and analysed for Total Graphitic Carbon (TGC), Total Carbon (TC) and Total Sulphur (TS) using a LECO Furnace, and the other split held in storage.</li> <li>For RC samples, standards and field duplicates were inserted at an approximate rate of 1 in every 20 samples collected. Duplicate assay results exhibit good correlation with the original assays and no consistent bias is evident.</li> <li>Sample preparation: <ol> <li>Coarse crush using a jaw crushed to better than 70% passing 6 mm.</li> <li>For samples exceeding 3 kg received mass, riffle split using a Jones Riffle Splitter 50:50</li> <li>Pulverise up to 3 kg of coarse crushed material to better than 85% passing 75µm particle size</li> <li>Small aliquot (~10g) taken for assay.</li> </ol> </li> <li>Diamond Drilling <ol> <li>Diamond drill core was cut into half core (used for metallurgical testing) and the remaining half sawn into quarter core using diamond blade core-saw. Quarter core was used for samples and uplicates. Core cutting was carried out onsite by Hexagon employees for Emperor, Wahoo and Barracuda core from the 2015 drill program and under consignment at Westernex in Perth for the 2016 drill program are under consignment at Westernex in Perth for the 2016 drill program core from Emperor. Longtom core was cut in Hexagon's Perth warehouse.</li> <li>Samples for Emperor, Wahoo and Barracuda were submitted to ALS laboratories in Brisbane to be analysed for Total Graphitic Carbon (TGC), Total Carbon (TC) and T</li></ol></li></ul>



		4. Small aliquot (~10g) taken for assay.
		Sampling procedures and sample preparation represent industry good practice:
Quality of assay data and laboratory tests	The nature, quality appropriateness of the assa laboratory procedures us whether the technique is copartial or total.  Nature of quality control pradopted (e.g. standards, duplicates, external lachecks) and whether aclevels of accuracy (i.e. lack and precision have been est	standard and are appropriate for the material tested.  Sampling was guided by Hexagon's protocols and QA/QC procedures.  For RC samples, standards and field duplicates were inserted at an approximate rate of 1 in every 20 samples collected.  Field duplicates were inserted into diamond core samples at a rate of 4 every 100 samples and blanks at 2 every 100 samples.  Statistical analysis of standards, blanks and duplicates during the
Verification of sampling and assaying	The verification of sintersections by either inde or alternative company pers. The use of twinned holes. Documentation of primary dentry procedures, data vedata storage (physical and exprotocols. Discuss any adjustment data.	<ul> <li>based on the analysis of duplicates, standards and blanks.</li> <li>Standards from ALS laboratory were found to be acceptable.</li> <li>Duplicate analysis was completed and no sampling issues were identified.</li> <li>CSA verified several graphite intersections in core and RC chip samples during a visit to Hexagon's warehouse during January 2015.</li> <li>During a site visit in October 2015, a geological consultant from CSA verified that the diamond drilling, geological logging and sampling practices were of industry standard. The consultant also verified graphite intersections in core samples.</li> <li>Analysis from one pair of twin holes drilled at Hexagon's Longtom deposit noted a lower graphite content in the RC samples when compared with diamond core. It is suggested that RC samples are biased due to the loss of fine material.</li> <li>The Hexagon database is hosted in a SQL backend database, ensuring that data is validated as it is captured and exports are produced regularly. Assay results are merged into the database from the laboratory certificates limiting transcription or mapping errors from occurring.</li> </ul>
Location of Data points	Accuracy and quality of surv to locate drillholes (collar an hole surveys), trenches workings and other location. Mineral Resource estimation Specification of the grid system Quality and adequacy of top control.	registered surveyor from Savannah Nickel mines or a contract surveyor (MNG survey) from Broome. The degree of accuracy of drill hole collar location and elevation is estimated to be within 0.1 m for DGPS.  em used.  registered surveyor from Savannah Nickel mines or a contract surveyor (MNG survey) from Broome. The degree of accuracy of drill hole collar location and elevation is estimated to be within 0.1 m for DGPS.
Data spacing and distribution	Data spacing for repo Exploration Results. Whether the data spac distribution is sufficient to the degree of geological al continuity appropriate for the Resource and Ore estimation procedure(s) classifications applied. Whether sample composi- been applied.	<ul> <li>Drill holes for Emperor and Wahoo deposits are on an approximate 40 m by 40 m grid throughout the majority of the deposits, increasing to 40 m across strike by 80 m along strike on the ends of each deposit.</li> <li>Drill holes for Longtom and Barracuda deposits are on an approximate 25 m by 50 m grid throughout the majority of the deposits, increasing to 25 m across strike by 100 m along strike on the ends of each deposit.</li> <li>Geological interpretation and mineralisation continuity analysis</li> </ul>
Orientation of data in relation to	Whether the orientation of achieves unbiased sample	sampling • Holes generally drilled dipping at -60° perpendicular to graphite



geological structure	possible structures and the extent to which this is known, considering the deposit type.  If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	<ul> <li>and Wahoo deposits and sub-vertical stratiform mineralisation at Longtom and Barracuda deposits.</li> <li>Diamond drill core has been orientated using a Reflex ACE tool 9Act II), with α and β angles measured and positioned using a Kenometer. MapInfo software was used to calculate dip and dip direction for each structure.</li> <li>The relationship between the drilling orientation and the orientation of key mineralised structures is not considered to have introduced a sampling bias.</li> </ul>
Sample Security	The measures taken to ensure sample security.	<ul> <li>Unique sample number was retained during the whole process</li> <li>RC and diamond samples were placed into calico bags and then into self-sealing plastic bags prior to being put into bulka bags. The bulka bags were then transported by road. RC samples were sent to the ALS laboratory in Brisbane for preparation and analysis and diamond core samples were sent to ALS in Perth for preparation and then to ALS in Brisbane for analysis. For Longtom deposit diamond core samples were sent to Actlabs in Canada for analysis.</li> <li>Drill core transported to Westernex was secured on pallets with metal strapping and transported to Perth by road train.</li> <li>The sample security is considered to be adequate.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>Sampling techniques and data collected methods have been audited by CSA during a site visit in October 2015</li> <li>Field data is managed by an independent data management consultancy Rocksolid Solutions.</li> <li>All data collected was subject to internal review</li> </ul>

<b>Section 2 Report</b>	ing of Exploration Results	
Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.  The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	<ul> <li>Drilling at the Emperor deposit occurred on exploration leases E80/3864 and E80/4841.</li> <li>Drilling at the Longtom deposit occurred on exploration leases E80/3928 and E80/4732.</li> <li>Drilling at the Wahoo deposit occurred on exploration lease E80/3906.</li> <li>Drilling at the Barracuda deposit occurred on exploration lease E80/3906.</li> <li>These tenements are held by McKintosh Resources Pty Ltd which is a wholly owned subsidiary of Hexagon Resources. Hexagon Resources are the managers of exploration on the project.</li> </ul>
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	• The East Kimberley has been largely explored for base metals and diamonds with no active previous exploration for graphite. Graphite had been noted by Gemutz during regional mapping in the Mabel Downs area for the BMR in 1967, by Rugless mapping and RAB drilling in the vicinity of Melon Patch bore, to the east of the Great Northern Highway in 1993 and has been located during nickel exploration by Australian Anglo American Ltd, Panoramic Resources Ltd and Thundelarra Resources Ltd over the last 20 years.
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The McIntosh Project graphite schist horizons occur in the high grade terrain of the Halls Creek Mobile Zone of Western Australia. The host stratigraphy is the Tickalara Metamorphic which extend for approximately 130 km along the western side of the major Halls Creek Fault. The metamorphic rocks reach granulite metamorphic facies under conditions of high-temperature and high pressure although the metamorphic grade in the McIntosh Project area appears to be largely upper amphibolite facies with the presence of key minerals such as sillimanite and evidence of original cordierite.</li> <li>Hexagon has identified potential graphite schist horizons based on GSWA mapping and EM anomalism over a strike length in excess of 15 km within the project area, with potential for an additional 35 km strike length of graphite bearing material from lower order EM anomalism.</li> </ul>
Drill hole Information	A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:     easting and northing of the drillhole collar     elevation or RL (elevation above)	<ul> <li>21 diamond drill holes for 2,940.5 m and 18 RC drill holes for 2,154 m and 9 RC precollar diamond tail (RD) holes for 1,369.3 m completed at the Emperor deposit.</li> <li>1 diamond drill hole for 54.9 m, 37 RC drill holes for 4,146 m and 4 RC precollar diamond tail (RD) holes for 620.6 m completed at the Longtom deposit.</li> <li>11 diamond drill holes for 1,257.8 m and 26 RC drill holes for 2,023 m completed at the Wahoo deposit.</li> </ul>



	<ul> <li>sea level in metres) of the drillhole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> <li>3 diamond drill holes for 294 m and 35 RC drill holes for 2,883 m (38 drill holes in total) were completed at the Barracuda deposit.</li> <li>For hole locations refer to ASX announcement Updated Graphite Mineral Resource, 25th May 2017.</li> </ul>
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Not relevant as reporting a Mineral Resource.</li> <li>Not relevant as reporting a Mineral Resource.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect.</li> <li>At Wahoo the modelled graphitic schist horizon, although in some areas this was not possible and holes were drilled down dip.</li> <li>At Wahoo the modelled graphitic schist units have been interpreted as the west limb of a syncline feature striking north-east. Angled drill holes (generally 60°) have targeted the mineralised unit with the priority to intersect perpendicular to the strike of the graphitic schist horizon.</li> <li>At Longtom the graphitic schist horizon has been interpreted as a steeply dipping unity with thin bands of internal waste. Angled drill holes (generally 60°) have targeted the mineralised unit with the priority to intersect the graphitic schist horizon has been interpreted as a steeply dipping unity with thin bands of internal waste. Angled drill holes (generally 60°) have targeted the mineralised unit with the priority to intersect perpendicular to the strike of the graphitic schist horizon.</li> <li>At Barracuda the graphitic schist horizon has been interpreted as sub-vertical unit striking north, north-east. Angled drill holes (generally 60°) have targeted the mineralised unit with the priority to intersect perpendicular to the strike of the graphitic schist horizon.</li> <li>There is a very close relationship between the graphitic schist unit and Total Graphitic Carbon (TGC%) assays. The presence of graphitic schist is clearly evident in both the RC chips and diamond drill core so that the assay widths can be clearly related to the geological logs.</li> <li>Interpreted EM data and the width of intersections where holes were drilled perpendicular to the unit have allowed for a good indication of unit thickness to be made and applied in areas where the information is not available.</li> <li>Explora</li></ul>
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drillhole collar locations and appropriate sectional views.  Not relevant as reporting a Mineral Resource.  Not relevant as reporting a Mineral Resource.
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> <li>Exploration results are not being reported for the Mineral Resource areas.</li> </ul>
Other substantive exploration data	<ul> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> <li>The September 2014 VTEM Supermax survey over the McIntosh Flake Graphite Project covered a total of 642 line kilometres and identified a total of 12 high-priority anomalies. Five of these were previously identified by induced polarisation (IP) and historical electromagnetic (EM) techniques and confirmed to be flake graphite schist by geological field mapping, petrographic analysis, rock chip sampling and exploration drilling.</li> <li>VTEM geophysical work was carried out by Geotech Limited with the data validated and processed by Southern Geoscience Consultants (SGC).</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Further diamond core drilling has been recommended to twin and verify existing RC holes across all four deposits. This core is planned to be assayed for TGC and examined petrographically to assess graphite flake characteristics.</li> <li>Additional dry density work on core to be carried out on mineralised and background domains.</li> <li>Estimate S% content into resource model</li> </ul>



	Program to assess moisture content of material across all four deposits.  Multi-element analysis of mineralisation and waste material  Ongoing metallurgical test work at Emperor and Wahoo, and test work at Longtom and Barracuda deposits.
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	ation and Reporting of Mineral Re	
Criteria	JORC Code explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.  Data validation procedures used.	<ul> <li>Primary data was captured into spreadsheet format by the supervising geologist, validated and subsequently loaded into Hexagon's database.</li> <li>Database extracted as an .mdb access file from Datashed and validated before importing into Surpac.</li> <li>Additional data validation by Optiro; included checking for out of range assay data and overlapping or missing intervals.</li> </ul>
Site Visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	<ul> <li>Numerous site visits were completed by S. Tomlinson during the 2015 and 2016 drilling periods. The diamond and RC drill rigs were inspected, sampling procedures checked, RC chips and diamond core logged.</li> <li>Drilling data collected for the Longtom resource was completed by previous Lamboo / Hexagon Employees.</li> </ul>
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.     Nature of the data used and of any assumptions made.     The effect, if any, of alternative interpretations on Mineral Resource estimation.     The use of geology in guiding and controlling Mineral Resource estimation.  The factors affecting continuity both of grade and geology.  The extent and variability of the	<ul> <li>Geological interpretation based on lithology logging, structural logging, geochemical sampling, prospect scale surface mapping and modelled VTEM data collected during the 2014 VTEM Supermax survey.</li> <li>Drill coverage to ~40 m by 40 m for Emperor and Wahoo and ~25 m by 50 m for Longtom and Barracuda.</li> <li>Mineralisation wireframe produced based on soft 3% TGC cut-off grade delineating ore/waste boundary. Internal dilution (TGC &lt;= 3%) at widths approximately &gt;=3 m downhole in the main mineralised envelopes for Emperor and Longtom deposits have been modelled as individual domains. Further modelling of mafic intrusive bodies (dilution) have also been modelled at Emperor and Wahoo deposits.</li> <li>The base of oxidation has been modelled for all four deposits.</li> <li>Confidence in the grade and geological continuity is reflected in the Mineral Resource classification.</li> <li>The Emperor resource extends 480 m north-northwest to south-</li> </ul>
	Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	<ul> <li>southeast. The mineralisation occurs within an anticline of the hosting graphite schist units ranging in thickness between 5 and 70 m. Mineralisation is open along strike and at depth along the fold limbs.</li> <li>The Longtom resource extends approximately 800 m north-east to south-west. The mineralisation follows steeply dipping unit of the hosting graphite schist unit and has a width of approximately 25 m. Mineralisation is open along strike and at depth.</li> <li>The Wahoo resource consists of multiple graphite units over an area extending 300 m west southwest. The mineralisation follows the bedding of the hosting graphite schist units ranging in thickness between 5 and 15 m. Mineralisation is open to the south west.</li> <li>The Barracuda resource extends 300 m south-west to north-east. The mineralisation follows the bedding of the hosting graphite schist units ranging in thickness between 5 and 20 m.</li> </ul>
Estimation and modelling techniques	<ul> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables</li> </ul>	<ul> <li>The resource was modelled using Geovia's Surpac v6.7 modelling software.</li> <li>Drill hole sample data was flagged from interpretations of the top and base of the mineralisation horizon.</li> <li>Samples were composited to 1 m down hole length.</li> <li>Top grade cuts were not required (low coefficient of variation and no outlier grades).</li> <li>Statistical analysis was completed to investigate low correlation variances, boundary conditions between domains, and fresh/oxide. Emperor</li> <li>TGC mineralisation continuity was interpreted from variogram analyses to have a horizontal range of 170 m (north-west to southeast).</li> <li>The maximum extrapolation distance is 20 m along strike and 20 m across strike.</li> <li>Grade estimation was into parent blocks of 40 mE by 20 mN by 5 mRL. Block size was selected based on kriging neighbourhood analysis.</li> <li>Total Graphitic Carbon (TGC) estimated by Ordinary Kriging (OK) for mineralised domains (1 to 4) at the parent block scale.</li> </ul>



- economic significance (e.g. sulphur for acid mine drainage characterisation).
- In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.
- Any assumptions behind modelling of selective mining units.
- Any assumptions about correlation between variables.
- Description of how the geological interpretation was used to control the resource estimates.
- Discussion of basis for using or not using grade cutting or capping.
- The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.

- The search ellipses were oriented within the plane of the mineralisation.
- Three estimation passes were used; the first search was based upon the variogram ranges in the three principal directions; the second search was two times the initial search and the third search was four times the initial search, with reduced sample numbers required for estimation.
- Aproximately70% of the block grades were estimated in the first pass for domain 1 (main envelope) and 49% for domain 4.
   Longtom
- TGC mineralisation continuity was interpreted from variogram analyses to have a horizontal range of 140 m (north-east to southwest).
- The maximum extrapolation distance is 140 m along strike and 108 m down dip. The interpreted EM plates show that mineralisation extends in these areas.
- Grade estimation was into parent blocks of 40 mE by 10 mN by 5 mRL. Block size was selected based on kriging neighbourhood analysis.
- Estimation of TGC was carried out using OK at the parent block scale.
- The search ellipses were oriented within the plane of the mineralisation.
- Two estimation passes were used; the first search was based upon the variogram ranges in the three principal directions; the second search was two times the initial search.
- Approximately 95% of the block grades were estimated in the first pass.

#### Wahoo

- TGC mineralisation continuity was interpreted from variogram analyses to have a horizontal range of 40 m (west-southwest).
- The maximum extrapolation distance is 20 m along strike and 20 m across strike.
- Grade estimation was into parent blocks of 40 mE by 20 mN by 5 mRL. Block size was selected based on kriging neighbourhood analysis
- Estimation was carried out using OK at the parent block scale.
- The search ellipses were oriented within the plane of the mineralisation.
- Three estimation passes were used; the first search was based upon the variogram ranges in the three principal directions; the second search was two times the initial search and the third search was four times the initial search, with reduced sample numbers required for estimation.
- Around 90% of the block grades were estimated in the first pass.
   Barracuda
- Total Graphitic Carbon (TGC) estimated by Inverse Distance cubed (ID³) for mineralised domains.
- TGC mineralisation continuity was interpreted to cover 100 m (3 drill lines).
- The maximum extrapolation distance is 20 m along strike and 20 m across strike.
- Grade estimation was into parent blocks of 30 mE by 20 mN by 5 mRL. Block size was selected based on kriging neighbourhood analysis.
- The search ellipses were oriented within the plane of the mineralisation.
- Two estimation passes were used for domain 1; the first search was 100 m along the major axis with the second search three times the initial search. One estimation pass was completed for domain 2 with a radius of 100 m along the major axis.
- Around 90% of the block grades were estimated in the first pass.
   All Deposits
- The estimated TGC block model grades were visually validated against the input drillhole data, comparisons were carried out against the drillhole data and by northing, easting and elevation slices.
- There is no production data and so no reconciliation has taken place.
- Sulphur will be estimated into the model, as sulphide minerals have the potential to affect metallurgical processes for recovering graphite. The available metallurgical test work results indicate that the sulphide minerals do not present any issues in recovering graphite. Sulphur is not correlated with TGC.



Cut-off parameters Mining factors or assumptions	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.      The basis of the adopted cut-off grade(s) or quality parameters applied.      Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral	The Emperor, Longtom, Wahoo and Barracuda deposits sit above the water table. Down hole dipping during the 2015 field season did not intercept water.  Moisture content has not been tested  The Mineral Resource is reported above a 3% TGC cut-off grade to reflect current commodity prices and open pit mining methods.  It is assumed that extraction will be by open pit mining and that the mineralisation is economic to exploit to currently modelled depths.  Mining factors such as dilution and ore loss have not been applied.  No assumptions about minimum mining widths or dilution have been made.
Metallurgical factors or assumptions	Resources may not always be rigorous.  The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous.	<ul> <li>A 99% graphite concentrate was produced from a process of crushing and grinding material from the McIntosh project. See results in metallurgical test work conducted by ALS Global in Adelaide. Refer to announcement released 18 January 2016.</li> <li>Metallurgical test work on Emperor and Wahoo material shows that the sulphides present are easily liberated from the graphite by flotation. This test work is considered applicable to the proximal Longtom and Barracuda deposits based on similar geological characteristics.</li> <li>The results from metallurgical test work have been considered for Mineral Resource classification.</li> </ul>
Environmental factors assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation.	No assumptions have been made regarding waste and process residue     Comprehensive flora and fauna environmental field surveys were recently completed at the McIntosh deposit with reports pending. A Subterranean fauna environmental field survey is planned to be completed before the end of June. This is the final stage of the flora and fauna study requirements to support Hexagon's Mining Proposal application.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.      The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.  Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	<ul> <li>Dry density for Emperor, Wahoo and Barracuda deposits was assigned a value of 2.85 t/m³ (fresh) and 2.65 t/m³ (oxide) based on 25 dried core samples and water emersion technique carried out by SGS.</li> <li>Dry density for Longtom deposit was assigned a value of 2.70 t/m³ (fresh) and 2.40 t/m³ (oxide) based on core samples sent to Actlabs and UltraTrace Laboratories for SG test work. Both laboratories used the standard weight in water/weight in air method to estimate the SG.</li> <li>Geophysical gamma density data was also obtained but has not been included in the resource.</li> </ul>
Classification	The basis for the classification of the Mineral Resources into varying confidence categories.  Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).  Whether the result appropriately reflects the Competent Person's view of the deposit.	<ul> <li>Mineral Resources have been classified on the basis of confidence in geological and grade continuity using the drilling density, geological model, modelled grade continuity and conditional bias measures (slope of the regression and kriging efficiency) as criteria.</li> <li>The results from metallurgical test work have been considered for Mineral Resource classification.         Emperor     </li> <li>Measured Mineral Resources - none defined.</li> <li>Indicated resources have been defined in the centre of the deposit where material was estimated in the first pass estimation and drill spacing is generally 40 m by 40 m.</li> <li>Inferred material occurs in the northern and southern limits of the deposit where drilling data is sparser (to 40 m by 80 m), but still sufficient to assume continuity of mineralisation. Confidence for the</li> </ul>



			resource in these areas is also from the VTEM survey completed over the area.  Longtom  Measured Mineral Resources - none defined. Indicated resources have been defined in the upper portion of the deposit where the drill spacing is approximately 25 m by 50 m. Inferred material occurs in the lower section of the deposit where drill spacing is approximately 200 m along strike, but still sufficient to assume continuity of mineralisation. Confidence for the resource in these areas is also from the VTEM survey completed over the area.  Wahoo  Measured Mineral Resources - none defined. Indicated resources have been defined in the upper portion of the deposit where the drill spacing is approximately 40 m by 40 m. Inferred Resources have been defined where the drill spacing is greater than 40 m by 40 m, but still sufficient to assume geological continuity. This is based on the confidence in the drill spacing and the VTEM survey that mineralisation is continuous throughout the resource.  Barracuda  Measured Mineral Resources - none defined. Indicated Resources at the Barracuda deposit have been classified as Inferred and are defined within area where the drill spacing is at least 20m by 50m and there is confidence in the geological and grade continuity. Confidence for the resource in these areas is also provided by the VTEM survey completed over the area.  All Deposits  The classifications for each deposit considers all available data and quality of the estimate and reflects the Competent Person's view of the deposit.
			the deposit.  The likelihood of eventual economic extraction was considered in terms of possible open pit mining, likely product specifications and possible product marketability.
Audits reviews	or	The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>The Emperor, Longtom, Wahoo and Barracuda resources have been externally audited by Optiro in May 2017.</li> <li>CSA carried out a site visit in 2015.</li> </ul>
Discussion relative accuracy/ confidence	of	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation.</li> </ul>	<ul> <li>The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the JORC Code (2012 Edition).</li> <li>The mineral resource is a global estimate of tonnes and grade.</li> <li>Relative tonnages and grade above the nominated cut-off grades for TGC are provided in this announcement. Volumes of the collated blocks sub-set by mineralisation domains were multiplied by the dry density value to derive the tonnages. The contained graphite values were calculated by multiplying the TGC grades (%) by the estimated tonnage.</li> <li>No production data is available to reconcile results with.</li> </ul>

Section 4 – Estimation and Reporting of Ore Reserves

Criteria	Explanation	Commentary		
Mineral Resource estimate for conversion to Ore Reserves	Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.      Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	<ul> <li>The Mineral Resource models for the McIntosh Flake Graphite project have been developed by Hexagon Resources Ltd as outlined in the May 2017 report and the Ore Reserve has been determined using these models.</li> <li>The stated Mineral Resource is inclusive of the Ore Reserve.</li> </ul>		
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul> <li>A site visit was not undertaken by the Competent Person as a site visit would not materially affect the determination of the Ore Reserve. The Competent Person has instead relied on reports from other independent consultants and site surveys in determining the viability of the Ore Reserve.</li> </ul>		
Study status	The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.	Studies undertaken and the modifying factors applied to enable the Mineral Resource to be converted to an Ore Reserve are based on a Pre-Feasibility level estimation of costs, modifying factors and parameters so that the resulting mine plan is technically achievable		



Cut-off parameters	<ul> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> <li>The cut-off grade applied is based on a cashflow positive method where the profitability of the resource block after modifying factors and the metallurgical and mass recovery are applied to the in-situ TGC grade. The nominal cut-off grade for processing is around 1.96% TGC. At Emperor and Wahoo there is a small percentage of resource blocks with this lower grade whereas at the other deposits the TGC grade is above 3%.</li> </ul>
Mining factors or assumptions	<ul> <li>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</li> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</li> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc.), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource madel used for pit and stope optimisation (if appropriate).</li> <li>The maining dilution factors used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul>
Metallurgical factors or assumptions	<ul> <li>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</li> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</li> <li>Any assumptions or allowances made for deleterious elements.</li> <li>The existence of any bulk sample or pilot scale test work and the degree to which such samples are</li> <li>The ore will be processed via standard flotation concentration to produce a graphitic concentrate.</li> <li>The technology is well tested and employed in key graphite production centres such as China</li> <li>Extensive bench scale test work has been undertaken on samples from the Emperor and Wahoo deposits. At present a 2.5 tonne composite sample is being piloted at ALS Global laboratory in Perth to produce 100 kg of flake graphite concentrate. To date results from this large sample are entirely consistent with the batch results interpreted to design the current process flow sheet.</li> <li>High and lower grade domains of mineralisation have been modelled, however the deposit grades are generally very similar: between 4% and 5% TGC. Otherwise no metallurgical effects related to regional variability have been identified.</li> <li>The key assumptions are a graphite recovery of 93.2% to product a concentrate grading 98% TGC based on a mass pull of approximately 4% of the feed mass.</li> </ul>



Environmental	considered representative of the orebody as a whole.  • For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?  • The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	<ul> <li>No deleterious elements of any note have been detected.</li> <li>As stated above, a bulk sample is currently being processed. It is a composite of core samples from the Emperor and Wahoo deposits. Inspection of core from Longtom demonstrates that those metallurgical assumptions at this level of study can be applied to the Longtom mineralisation also.</li> <li>Comprehensive flora and fauna environmental field surveys were recently completed at the McIntosh Project area with reports pending. A subterranean fauna environmental field survey is planned to be completed before the end of June 2017. This is the final stage of the flora and fauna study requirements to support Hexagon's Mining Proposal application.</li> <li>The key environmental issues are:         <ol> <li>Water run-off, flooding and erosion from cyclonic rainfall events which is addressed through significant site and drainage works; and</li> <li>Encapsulated storage on impermeable membranes of PAF waste rock material from each of the deposits estimated to comprise 70% of the waste mine. This has been addressed</li> </ol> </li> </ul>
		by allocation of capital to the waste pad preparation and an ongoing allowance for rehandling etc. As part of the DFS Hexagon plans to utilise in-pit dumping as a lower cost and more effective waste rock storage solution.
Infrastructure	The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	Infrastructure for the project will be required to be installed prior to extraction of the Ore Reserve. Plant, services, accommodation, access and internal roads have been costed by Scope Australia.
Costs	The derivation of, or assumptions made, regarding projected capital costs in the study.	<ul> <li>Mine operating costs are based on haulage distances and monthly total movement targets that were used in unit cost estimation by contractor MACA.</li> </ul>
	The methodology used to estimate operating costs.	Mine administration and ancillary costs have been based on current market levels.
	Allowances made for the content of deleterious elements.      The source of exchange rates used	<ul> <li>Processing costs include allowances for crushing, beneficiation, processing, administration and transport. These costs have been provided by Scope Engineering.</li> </ul>
	in the study.	Deleterious elements are not a factor.
	Derivation of transportation charges.	Quotes for transport and port handling have been used.
	The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.  The basis for forecasting or source of treatment and refining charges.	Royalties for WA State and Native title have been applied to the concentrate.
	The allowances made for royalties payable, both Government and private.	
Revenue factors	The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.	<ul> <li>Flake graphite concentrate production for revenue calculations is based on the mine schedule and modifying factors applied.</li> <li>The Company has assumed an FOB price of US\$1,565/tonne of concentrate with an AUD rate of US\$0.75. This is based on a consensus price range from its detailed analysis of peer company assumptions and industry commentator forecasts. This price is not</li> </ul>
	The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co- products.  The derivation of assumptions made of metals, minerals and co-	regarded as conservative or as optimistic.     Pricing reflects any deleterious elements so penalties have not been applied. McIntosh concentrate does not contain any notable deleterious elements.
Market assessment	The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the	<ul> <li>The sectors of the graphite market that Hexagon is targeting (batteries and expandables) are expected to show strong demand growth over the next 5 years as reported by a host of industry commentators, driven by increasing demand for batteries and high-</li> </ul>



	future.	end techno	end technological uses for expandable graphite.				
	<ul> <li>A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>Price and volume forecasts and the basis for these forecasts.</li> <li>For industrial minerals the custome specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	estimates of however, the that increase estimated to is planning locality and the dispecification.  The natural fragmented likely the document of the dispecification.	estimates of the size of the flake graphite concentrate market – however, the growth prospects are strong and the market trend is that increasing natural flake graphite will replace synthetic which is estimated to be 3-4 times the size of the natural market. Hexagon is planning to attract large scale offtake on the basis of quality, locality and environmental credentials.  The natural flake graphite market focussed on batteries is fragmented and immature. China is the dominant supplier and likely the dominant battery end user at present.  Standard product specifications comprise the total graphitic carbon grade which must generally exceed 90 to 95% TGC to be saleable and the distribution of flake size – with the minimum saleable specification generally being "Fine".				
			he McIntosh				
Economic	The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic input including estimated inflation, discounting the study of the seconomic input.						
	rate, etc.	Model Input	Value	Comment			
	NPV ranges and sensitivity to variations in the significant assumptions and inputs.	Project Ownership	100%	Hexagon own	s all tenemer	nts 100%	
		Escalation	Nil	Available but	not applied		
		State Royalty	5%	Levied on FO	B sales value		
		Corporate Tax rate	30%	Current legisla	ation		
		Discount Rate	1 8% 1		of capital	in low risk	
		Funding - Equity	100%	A simple opening assumption.			
		Funding - Debt	Nil	In process – nothing assumed			
		<ul> <li>All major suppliers.</li> </ul>	<ul> <li>All major cost inputs have been supp suppliers.</li> </ul>		plied by co	ntractors and	
			Sensitivity analysis have been completed for the 3 main value drivers; commodity price, operating costs and Capita				
			The base case NPV is A\$272 million the following table prese resultant NPV when key inputs are varied +/- 25%:			able presents	
		1.000.11.11.1		25% 0%	+25%		
		Price	•	78 <b>272</b>	476		
		Oper Cost	rating s	365 <b>272</b>	179		
		Capi Cost		<b>272</b>	243		
Social	The status of agreements with key			ns have been su		the Company	
	stakeholders and matters leading to social licence to operate.	Heritage s	is working through that approval process.				
				on extended are	·	•	
		Owners (To and approvious local stake	<ul> <li>Hexagon is working towards Land Use Agreements with Traditional Owners (TO) as part of the normal WA Mining Licence application and approval process. It enjoys positive working relationships with local stakeholder groups and routinely employs members of local TO groups.</li> </ul>				
Other	To the extent relevant, the impact of the following on the project and/or		The approvals required for the commencement of mining at the mine are complete. Based on information provided there should be				



	the estimation and classification of the Ore Reserves:  Any identified material naturally occurring risks.  The status of material legal agreements and marketing arrangements.  The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility of reasibility of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.
Classification	<ul> <li>The basis for the classification of the Ore Reserve is based on the Mineral Resource classification.</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</li> <li>Classification of the Ore Reserve is based on the Mineral Resource classification.</li> <li>Indicated and Inferred Mineral Resources are contained within the pit designs and only the Indicated Resources have been converted to Probable Ore Reserves.</li> <li>The result appropriately reflects the Competent Person's view of the deposit.</li> </ul>
Audits or reviews	The results of any audits or reviews of Ore Reserve estimates.      The Ore Reserve estimates have been reviewed internally by Hexagon Resources and are considered to appropriately reflect the results of the application of the modifying factors to the Mineral Resources to a Pre-Feasibility Study level.
Discussion of relative accuracy/ confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant to nechnical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>Accuracy and confidence discussions of any applied Modifying Factors that may have a material impact on Ore Reserve iability, or for which there are remaining areas of uncertainty at the current study stage.</li> <li>The design, schedule and financial model on which the Ore Reserves are based has been completed to a Pre-Feasibility standard with a corresponding level of confidence.</li> <li>A degree of uncertainty is associated with the geological and Mineral Resource estimates and the Ore Reserve classification reflects the level of confidence in the Mineral Resources estimates and the Ore Reserve classification reflects the level of confidence in the Mineral Resources and the Ore Reserve estimates of modifying mining factors, geotechnical and processing parameters that are of a confidence level reflected in the level of the study. The Competent Person is satisfied that a suitable margin exists that the Ore Reserve estimate would remain economically viable with any negative impacts applied to these factors or parameters.</li> <li>There is a degree of uncertainty in the level of the study. The Competent Person is satisfied that the assumptions used to determine the economic viability of the Ore Reserves are based no recreatinty at the competation and financial model on fidence.<!--</th--></li></ul>