



ASX ANNOUNCEMENT

25 JANUARY 2019

## **DECEMBER 2018 QUARTERLY ACTIVITIES & CASH FLOW REPORT**

### **1. HIGHLIGHTS**

#### ***Upstream – the McIntosh Joint Venture Project:***

- **Drilling Results**
  - i. MinRes completed total of 10,683m of diamond core (DD) and reverse circulation (RC) drilling.
  - ii. Extensive, thick zone of shallow graphite mineralisation intersected at the new Mahi Mahi target.
  - iii. Feasibility study in progress and updated Mineral Resource estimate to underpin mine development work expected in February, 2019.
- **McIntosh Joint Venture (MJV) (51% MinRes:49% Hexagon)**
  - i. MinRes and Hexagon execute formal Joint Venture agreement, replacing the binding Heads of Agreement.

#### ***Downstream – McIntosh flake graphite concentrate processing:***

- “Five nines” (99.999%) graphite purity achieved for larger, pilot scale sample
- GR Engineering engaged to undertake scoping study of downstream processing facility comprising graphite refining and three production lines.

#### ***Corporate***

- Hexagon presented at several investor and industry specific conference events, meeting with existing and potential investors and graphite end users.
- Closing cash balance of \$5.8 million and no debt.

### **2. COMMENTARY**

Hexagon Resources (ASX: **HXG**, **Hexagon** or the **Company**) achieved two major milestones in the December quarter as it moves towards its core goal of positive cash flow through the commercialisation of its graphite assets, namely:

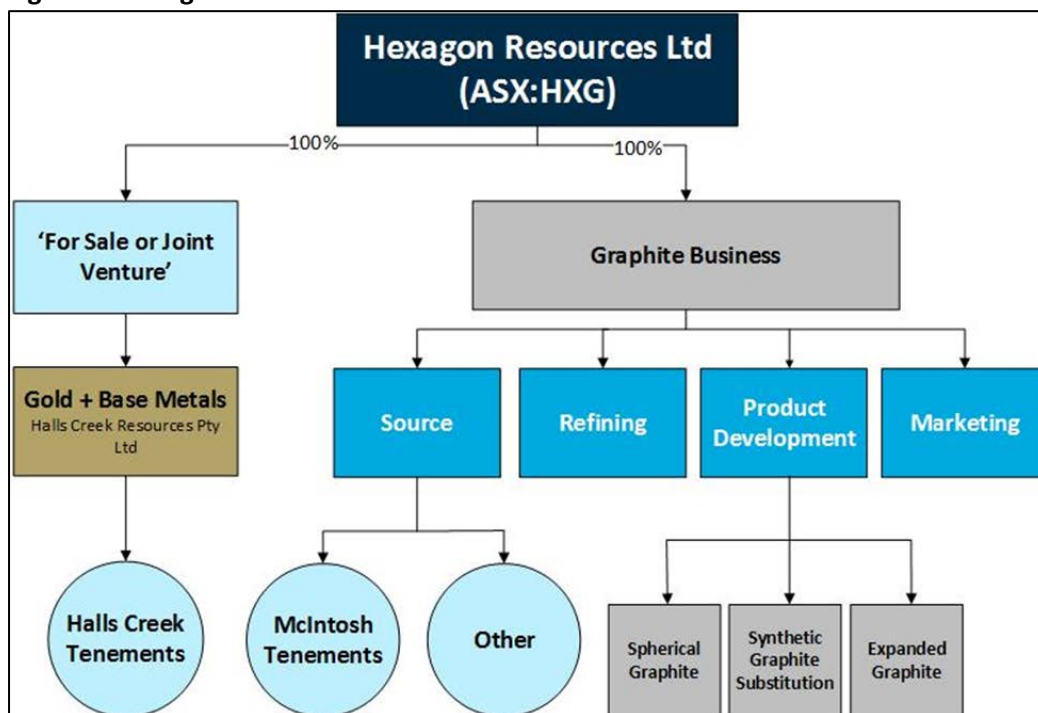
- *Upstream* – highly encouraging early drilling outcomes from the McIntosh Project; and
- *Downstream* – “5-nines” total graphitic carbon purification achieved from a large, pilot scale, 20kg sample.

In coming weeks, Hexagon will provide full results for the McIntosh drill program completed in the December 2018 quarter, which will enable an updated Mineral Resource Estimate from Joint Venture partner Mineral Resources Limited (**MinRes**). Late in the March quarter, Hexagon expects to report on its downstream scoping study examining purification and 3 secondary production lines.



Hexagon's strategy is to leverage the value of its high-quality graphite "source", the McIntosh Project. To do this the Company is establishing a downstream graphite refining and secondary processing business to produce high quality graphite materials for large scale markets, spanning strong-growth, energy storage technologies and high-end industrial applications. The corporate and activities structure (depicted in Figure 1) is aligned to the graphite value chain applicable to its graphite assets and this corporate strategy.

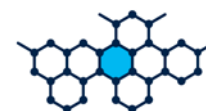
**Figure 1: Hexagon's Business Structure**



Graphite is not a "commodity" but a technically specific industrial mineral. Successful commercialisation is dependent on effective marketing and technical programs to gain customer acceptance supported by a rigorous product qualification process. Different target markets have varying qualification requirements. Hexagon has commenced this process on several secondary product fronts. To increase the marketing momentum, it needs to establish its own graphite product qualification facilities which are planned to comprise a refining furnace, a spheroidising line (for battery materials) and a micronising and classification line (for various industrial applications). A line to further process the larger, expandable flake concentrate will be included at a later stage to maintain a balance between ongoing qualification work and cash receipts from the larger flake concentrate which attracts a pricing premium, particularly if purified.

To execute this strategy, Hexagon has priority access to a pilot scale, refining furnace presently under construction and expected to come online in mid-2019. This enables Hexagon to avoid the expense of constructing its own pilot-scale furnace and can generate the purified samples that it needs for marketing and additional test work. It also provides additional time for a rigorous site selection process.

Hexagon has engaged GR Engineering to undertake a scoping study of the downstream business case, expected to be complete late in the March quarter. As well, the Company is in discussions with various parties on power supply, specific freight logistics and permitting requirements for several sites in Australia and overseas.



The Company's commercialisation strategy centres on the identification of core market segments applicable to the characteristics of McIntosh graphite then following with test work to optimise its product offering and capture customers. Hexagon is pursuing marketing, sales and technical collaboration agreements with a range of potential customer groups. New technical results achieved are attracting outside interest and enable the Company to advance this core business activity with greater confidence. Through early 2019, Hexagon is increasing its marketing capabilities internationally and dedicating additional resources to graphite marketing and sales.

Hexagon's business development plans across the upstream and downstream work programs over the next three to six months will provide clear signals to its stakeholders regarding the progress and scale of the MJV under MinRes' management as well as financial insights into the downstream business for the first time from the GR Engineering scoping study. Ongoing news and test work updates will come from both busy activity streams.

### **3. MCINTOSH FLAKE GRAPHITE PROJECT – UPSTREAM PROJECT (51% MinRes : 49% Hexagon)**

MinRes completed a major drilling program on four MJV prospects: Emperor, Wahoo, Mahi Mahi and Threadfin. Other activities included advancing Native Title agreement negotiations and planning of an extensive metallurgical test work program to optimise and finalise the processing flow sheet

The MJV is between Hexagon and MinRes, with MinRes having the right to earn a 51% interest in the McIntosh tenements by funding all feasibility and development activities through to Commercial Production. MinRes is managing the current program and, subject to a positive Feasibility Study, will manage the MJV operations under a separate Project Services Agreement.

#### **3.1 MJV Site Activities**

Drilling was completed on 30 October with all equipment, samples and personnel demobilised from site and rehabilitation completed in the following two weeks. All samples had been prepared and despatched for assay and characterisation work at the end of December 2018. A complete set of assay results are expected early in the March 2019 quarter.

The program drilled existing Mineral Resources at Emperor and Wahoo and tested new targets at Mahi Mahi and Threadfin; refer Figure 2. Total metres drilled across all of the prospects are summarised in Table 1.

**Table 1: Drill metres by method**

	<b>Actual</b>	<b>Budget</b>
RC (reverse circulation)	7,730	8,515
DC (diamond core)	2,983	2,900
<b>Total metres drilled</b>	<b>10,683</b>	<b>11,415</b>

Subject to receipt of final assays, the JV partners considered the program to be successful in terms of testing new targets not drilled previously such as Mahi Mahi and providing positive supporting data within existing Mineral Resources such as Emperor. Summary interim observations were reported to ASX on 8 October 2018, "Positive Early Drilling Outcomes – McIntosh JV Update" and again in the "September Quarterly Activities and Cash flow Report" dated 29 October 2018.



### 3.2 Joint Venture Agreement

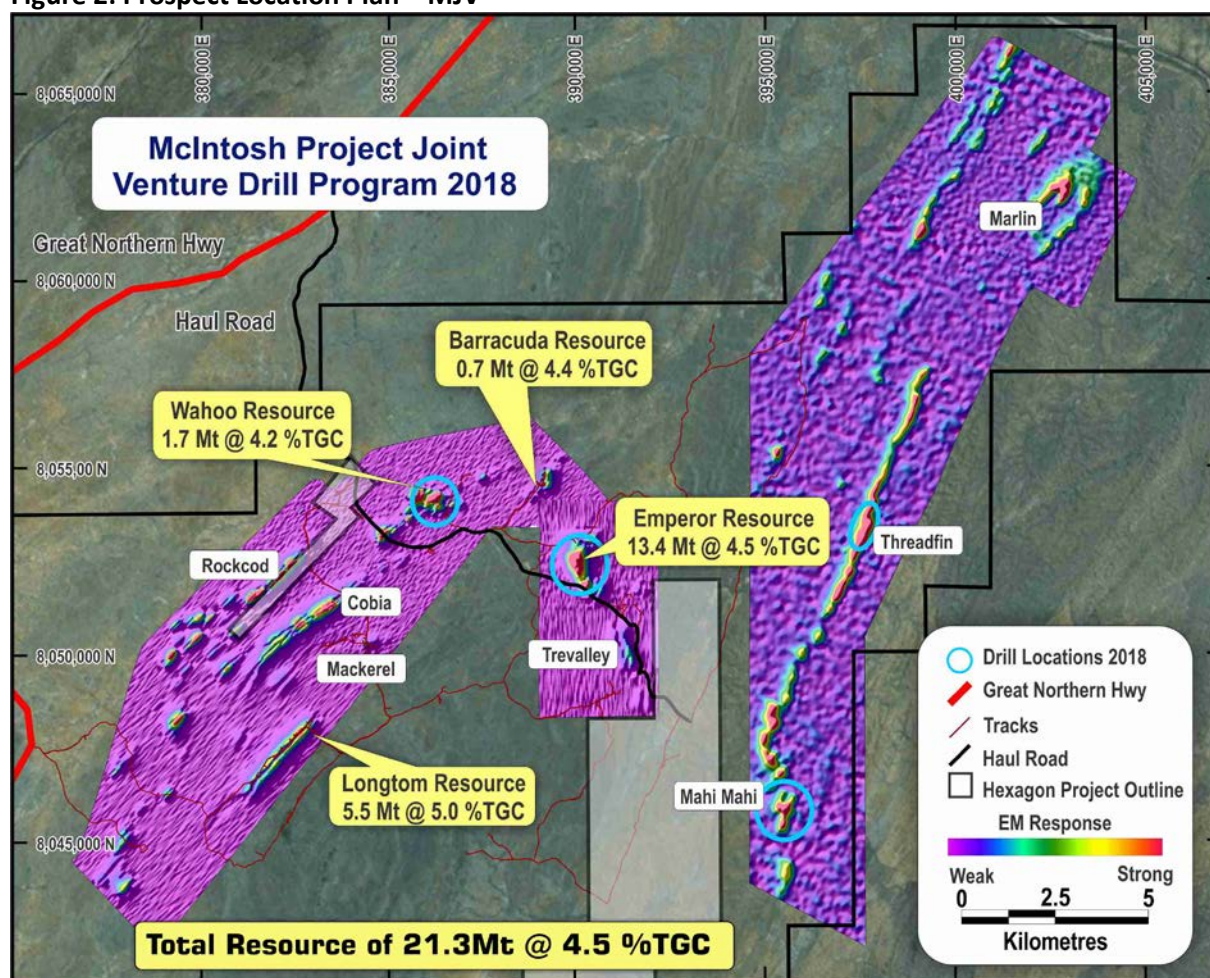
On 7 November 2018, Hexagon and MinRes executed the formal McIntosh Joint Venture Agreement (MJVA). Prior to this date, the MJV activities were conducted under the terms of the binding Heads of Agreement executed on 27 March 2018.

On 11 January, 2019, MinRes formally advised Hexagon that it had satisfied the Farm-In obligation by expenditure of \$300,000 effective on 28 September, 2018. Subject to its review of the supporting documentation Hexagon will facilitate transfer to MinRes of a 51% interest in the McIntosh tenements. Under the terms of the MJVA MinRes is responsible for funding all activities on the MJV up to Commercial Production before 14 May, 2021. The tenements will return to Hexagon, 100% if a Feasibility Study and Project Readiness has not been achieved by 14 October, 2019 and 14 May, 2020, respectively.

### 3.3 Project Permitting and Approvals

The MJV has two applications for mining licences (**MLA**) and one miscellaneous licence application covering the four deposits and areas for proposed infrastructure at McIntosh. These are progressing through the Right to Negotiate process with the Department of Mines, Industry Regulation and Safety and the Native Title Claimant group and their representatives. Representatives of the MJV have continued to meet with the Native Title Claimant group during the quarter and the MJV is continuing to advance these negotiations.

**Figure 2: Prospect Location Plan – MJV**







#### 4. DOWNSTREAM SECONDARY GRAPHITE PROCESSING

Hexagon is pursuing a downstream processing strategy due to the high-quality of its McIntosh Project “source” graphite as it considers that there is significant potential for capturing the value from these rare attributes. This is based on the “easy” purification characteristics and other flake attributes such as its highly crystalline nature and high proportion of +Large flake sizes.

Hexagon engaged GR Engineering to undertake a scoping study to incorporate these technical attributes with engineering and financial estimates. The parameters for the study comprise sourcing graphite concentrates such as Hexagon plans to receive from the MJV, purification as an initial process phase, followed by secondary processing composing three process lines:

- i. Battery materials – producing various classifications of spherical graphite for battery anode material (BAM) and conductivity enhancement material (CEM); and
- ii. Industrial materials – producing various size specifications to be used in blends to produce UHP electrodes, premium refractories and lubricants.
- iii. Expandable graphite precursor ( +60 mesh) screening /packaging production

For the purpose of the scoping study assumptions, the Large (>60#) flake concentrates will initially be sold directly or following purification recognising the importance of fast-tracking cash flow whilst maintaining meaningful scale qualification of the balance of Hexagon’s attributable concentrate.

Activities currently in progress to advance this include:

- Graphite concentrate purification and refining tests;
- Secondary product specific test work including verification of industrial applications including utilisation in UHP electrodes and advanced battery applications; and
- Site selection assessment.

##### 4.1 Graphite Purification Results.

Follow-up purification test work on a large-scale, 19.5kg (43lbs) graphite sample from the McIntosh flake graphite project yielded ultra-high purity, up to “five nines” (99.999%) graphite results.

Test work also confirmed virtually no notable concentrations of critical elements potentially deleterious to advanced batteries and several other high-tech applications with the purified large sample batch (Refer Table 2). Complete details are provided in ASX report, dated 18 December, 2018 and an updated JORC Table 1 relating to that report, is provided in Attachment 2.

NAmLab<sup>1</sup>, Hexagon’s US-based technical partner, successfully purified a 19.5kg batch of natural graphite concentrate from McIntosh grading 97.5 wt. % total graphitic carbon (TGC) to up to 99.9991 wt. % TGC. The purification process being simulated through this test work comprises an electro-thermal fluidised bed (EFB) furnace operating at approximately 2,500°C. EFB is an established technology particularly suited to the thin McIntosh flake where minor impurities are readily accessible, occurring on the flake surface as opposed to inter-grown within the flake layers.

Hexagon is targeting industry leading, low purification costs and low environmental impact for refining of its graphite concentrate feed. It considers these aspects will compare favourably (both from a cost and environmental perspective) with acid purification techniques utilising mixed HF /

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<sup>1</sup> NAmLab refers to Hexagon’s US-based technical partner whose identity cannot be disclosed due to confidentiality obligations.



H<sub>2</sub>SO<sub>4</sub> acids as are currently employed in China with low environmental, health and safety management standards.

**Table 2: ICP Elemental Scan of Purified McIntosh Graphite – critical battery impurities.**

Element	Concentration PPM	Common* Max. Limit
S	7.4010	100
As	0.0000	1.0
Sn	0.4920	2.0
Mo	0.1538	2.0
Sb	0.0000	2.0
Si	0.5724	200
Zn	0.0000	2.0
Pb	0.0000	5.0
Cd	0.0000	5.0
Co	0.0000	3.0
Ni	0.0000	5.0
Fe	0.0000	30
Mn	0.0000	10.0
Cr	0.0000	5.0
V	0.0000	10.0
Cu	0.0000	5.0
Ca	0.0000	30
Al	0.0000	10

*\* Indicative for advanced battery grade graphite.*

## 4.2 Secondary Product Test work

Having identified suitable high-value and deep market opportunities, Hexagon currently has 6 different test work programs underway to verify the suitability of McIntosh derived material focussed on the Battery and Electrode materials lines (refer Figure 3):

### **Battery Materials**

- BAM – in various sizes consistent with specifications of several leading lithium ion battery manufacturers; and
- CEM – also to a range of very fine particle size classifications.

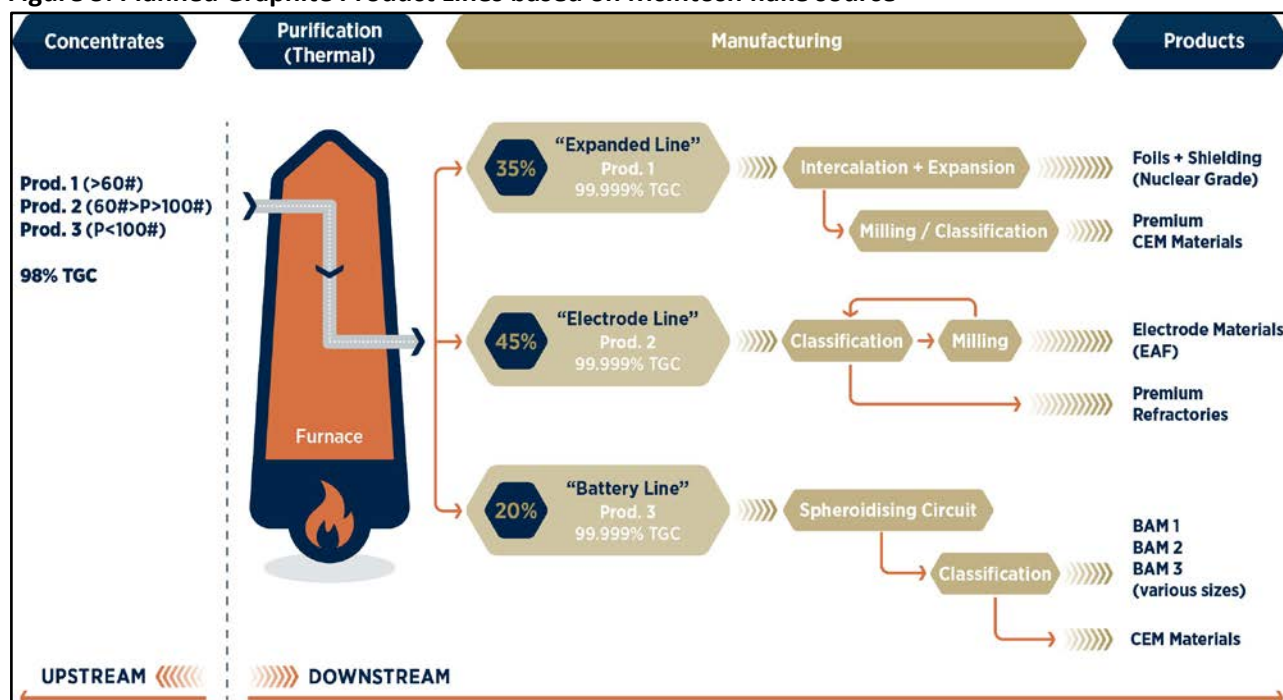
### **Electrode (Industrial) Materials**

- Making and testing UHP electrodes, such as are utilised in electric arc steel making furnaces. Existing electrodes are made of synthetic graphite and Hexagon is testing various blends of its highly crystalline flake in the electrode mix with the objective of lowering operating costs for the furnace operator;
- High purity ultra fine lubricants and mould release agent
- Premium refractories and graphite crucibles for use in specialty applications.
- High purity(4N) fine/ultrafine synthetic diamond precursor
- Pelletised recarburiser for EAF smelting in ductile steel manufacturing.

This work commenced in late 2018 in the US and is expected to be completed during the March 2019 quarterly period.



**Figure 3: Planned Graphite Product Lines based on McIntosh flake source**



### 4.3 Site Selection Study

Site selection for Hexagon's planned downstream processing plant is a critical lead-time component of the scoping study. As part of most qualifying procedures imposed by customers, the qualification scale process plant must be at the same site where the final commercial scale plant is planned to be. Moving sites will require requalifying.

Hexagon is assessing several sites across Australia and overseas using key selection criteria:

- Electricity – this is a large operating cost input of the purification, micronising, spheroidising and classification flow sheet components. In Australia, due to the comparatively high electricity costs and pricing uncertainty, Hexagon is working with specialist advisors and is in direct dialogue with energy retailers to determine if a viable Australian option exists.
- Freight logistics – with assistance from international freight and logistics groups, Hexagon is assessing sites either close to the upstream source or close to the downstream customers to minimise freight charges and handling costs.
- Labour – availability of semi and skilled labour at reasonable costs is essential for the efficient and safe operation of the secondary processing plant.
- Tax and permitting timelines are also being compared for each jurisdiction under consideration.

The outcomes of the scoping study will enable the Company to nominate a preferred site and advance the permitting and commercial support requirements for the establishment of the qualification scale facility.



## 5. DISCOVERY

The Company has two main tenement areas located in the East Kimberley as shown in Figure 4, comprising:

- The McIntosh project – prospective for graphite and base metal massive sulphide deposits; and
- The Halls Creek project – prospective for gold and base metal massive sulphide deposits.

The McIntosh tenements host the McIntosh flake graphite project, subject to the MJV as reported in Section 3 above. Activities regarding Halls Creek are summarised below.

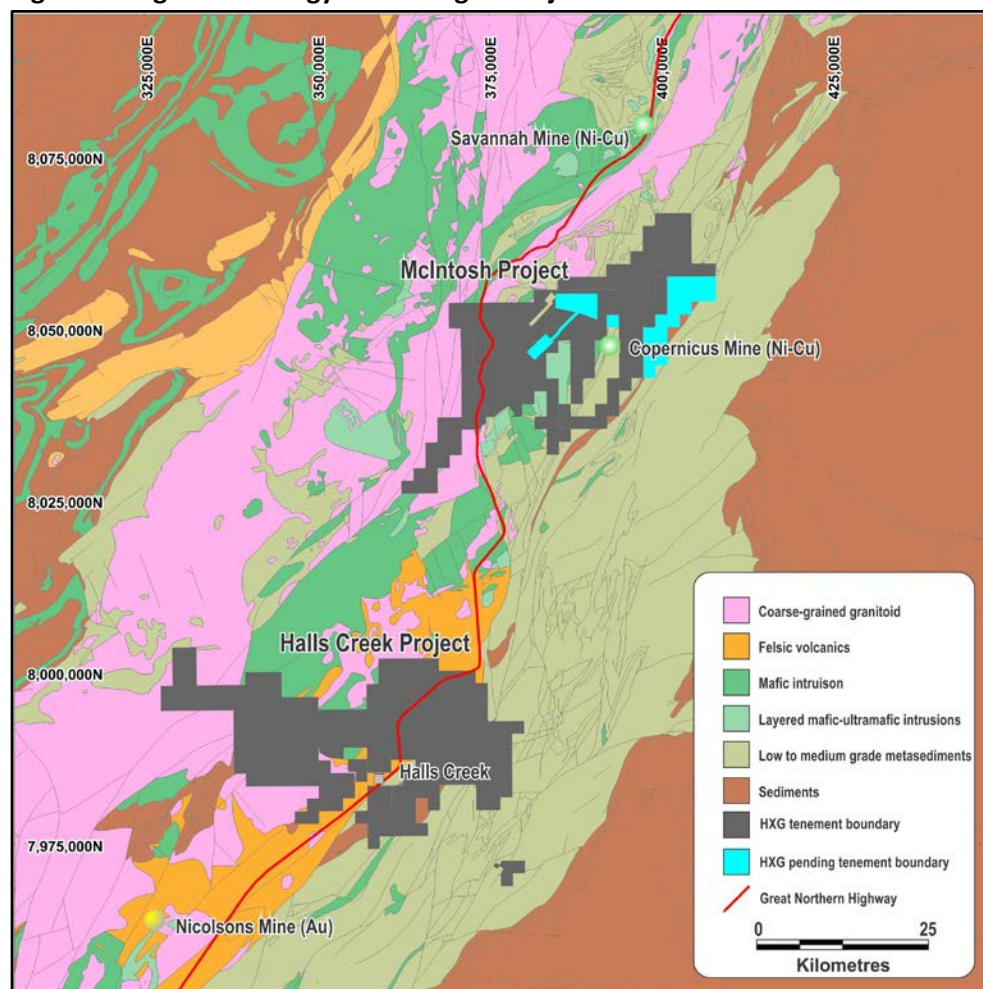
### 5.1 Halls Creek Project

The Halls Creek project is an early-stage exploration project prospective for gold and base metals deposits.

During the quarter, the Company completed a detailed Information Memorandum and advertising program seeking joint venture partners to earn-into the project. Several parties have expressed interest and are reviewing the IM.

A detailed airborne aeromagnetic program is planned for 2019 following the end of the wet season. The Company is awaiting the outcomes of meetings between various Traditional Owner groups to discuss planned work programs across the prospects for 2019.

**Figure 4: Regional Geology and Hexagon Project Location Plan.**







## **6. SUSTAINABILITY**

### **6.1 Health and Safety**

No injuries or major incidents were recorded for the quarter on any Hexagon managed programs.

## **7. CORPORATE**

### **7.1 Financial Position**

The Company finished the December 2018 quarter with \$5.8 million cash at bank.

*Cash outflows:* - a total of \$0.53 million, comprising - \$0.09 million spent on exploration and development\* and \$0.45 million on administration and staff costs – which includes the financing, legal and offtake-related expenditures.

*\*Note* - Exploration & Development expenditure referred to above, mainly comprises Hexagon's expenditure on downstream test work programs for the McIntosh tenements and has been adjusted for reimbursements paid by MinRes. MinRes is funding all of the upstream work under the terms of the MJV agreement.

*Cash inflows:* - there were no significant cash inflows during the quarter.

A Quarterly cash flow and forecast is summarised in the attached Appendix 5B.

The Company has no debt.

### **7.2 Capital Structure**

During the quarter, there were no changes to the Company's capital structure.

Hexagon had on issue 291,783,397 fully paid ordinary shares, 24,397,500 million unlisted options and 3,000,000 employee incentive Performance Rights at the date of this report.

### **7.3 Investor Relations and Marketing**

During the quarter, the Company presented to numerous sophisticated investors, industry events, brokers and analysts in Australia, New Zealand and the USA. These were excellent opportunities to showcase the Company's strategy to investors, analysts, downstream processing and peer companies.

### **7.4 Results of Annual General Meeting**

At Hexagon's Annual General Meeting of Shareholders on 20 November 2018, all resolutions put to the meeting passed with the requisite number of votes.

The resolutions were:

- Remuneration report
- Re-election of Director – Mr. Charles Whitfield
- Election of Director – Ratification of Placement
- Approval of Additional Placement Capacity (special resolution requiring 75% of votes in favour).



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

### ***Metallurgical Test Work Outcomes***

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

**For further information please contact:**

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**Attachment 1: Hexagon Tenement Holdings as at 31 December 2018**

Project	Type	Tenement Number	Ownership Status at end of Quarter	Tenement Status
<b>McIntosh, WA</b>	E	E80/3864	100% Hexagon	Granted
	E	E80/3928	100% Hexagon	Granted
	E	E80/3906	100% Hexagon	Granted
	E	E80/3907	100% Hexagon	Granted
	E	E80/4688	100% Hexagon	Granted
	E	E80/4734	100% Hexagon	Granted
	E	E80/4739	100% Hexagon	Granted
	E	E80/4732	100% Hexagon	Granted
	E	E80/4825	100% Hexagon	Granted
	E	E80/4842	100% Hexagon	Granted
	E	E80/4841	100% Hexagon	Granted
	P	P80/1821	100% Hexagon	Granted
	E	E80/4733	100% Hexagon	Granted
	E	E80/4879	100% Hexagon	Granted
	E	E80/4931	100% Hexagon	Granted
	E	E80/5151	100% Hexagon	Application
	E	E80/5157	100% Hexagon	Application
	L	L80/0092	100% Hexagon	Application
	M	M80/638	100% Hexagon	Application
	M	M80/639	100% Hexagon	Application
<b>Halls Creek, WA</b>	E	E80/4794	100% Hexagon	Granted
	E	E80/4793	100% Hexagon	Granted
	E	E80/4795	100% Hexagon	Granted
	E	E80/4858	100% Hexagon	Granted
	P	P80/1816	100% Hexagon	Granted
	P	P80/1817	100% Hexagon	Granted
	P	P80/1815	100% Hexagon	Granted
	P	P80/1818	100% Hexagon	Granted
	P	P80/1814	100% Hexagon	Granted
	P	P80/1799	100% Hexagon	Granted
	P	P80/1801	100% Hexagon	Granted
	P	P80/1800	100% Hexagon	Granted

+Rule 5.5

## Appendix 5B

# Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13, 01/09/16

### Name of entity

<b>HEXAGON RESOURCES LIMITED</b>	
<b>ABN</b>	<b>Quarter ended ("current quarter")</b>
<b>27 099 098 192</b>	<b>31 December 2018</b>

<b>Consolidated statement of cash flows</b>	<b>Current quarter \$A'000</b>	<b>Year to date (6 months) \$A'000</b>
<b>1. Cash flows from operating activities</b>		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	52	(455)
(b) development	(142)	(177)
(c) production	-	-
(d) staff costs	(189)	(329)
(e) administration and corporate costs	(256)	(652)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	6	14
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Research and development refunds	-	-
1.8 Other (provide details if material)	-	-
<b>1.9 Net cash from / (used in) operating activities</b>	<b>(529)</b>	<b>(1,599)</b>

<b>2. Cash flows from investing activities</b>		
2.1 Payments to acquire:		
(a) property, plant and equipment	-	-
(b) tenements (see item 10)	-	-
(c) investments	-	-
(d) other non-current assets	-	-



Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) property, plant and equipment	-	3
	(b) tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
<b>2.5</b>	<b>Net cash from / (used in) investing activities</b>	<b>-</b>	<b>3</b>

<b>3.</b>	<b>Cash flows from financing activities</b>		
3.1	Proceeds from issues of shares	-	-
3.2	Proceeds from issue of convertible notes	-	-
3.3	Proceeds from exercise of share options	-	-
3.4	Transaction costs related to issues of shares, convertible notes or options	-	-
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (provide details if material)	-	-
<b>3.10</b>	<b>Net cash from / (used in) financing activities</b>	<b>-</b>	<b>-</b>

<b>4.</b>	<b>Net increase / (decrease) in cash and cash equivalents for the period</b>		
4.1	Cash and cash equivalents at beginning of period	6,298	7,361
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(529)	(1,599)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	-	3
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	-
4.5	Effect of movement in exchange rates on cash held	35	39
<b>4.6</b>	<b>Cash and cash equivalents at end of period</b>	<b>5,804</b>	<b>5,804</b>

<b>5. Reconciliation of cash and cash equivalents</b> at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	<b>Current quarter \$A'000</b>	<b>Previous quarter \$A'000</b>
5.1 Bank balances	5,757	6,251
5.2 Call deposits	47	47
5.3 Bank overdrafts	-	-
5.4 Other (provide details)	-	-
<b>5.5 Cash and cash equivalents at end of quarter (should equal item 4.6 above)</b>	<b>5,804</b>	<b>6,298</b>

**6. Payments to directors of the entity and their associates**

- 6.1 Aggregate amount of payments to these parties included in item 1.2
- 6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

<b>Current quarter \$A'000</b>
136
-

6.1: Includes payments to Managing Director

**7. Payments to related entities of the entity and their associates**

- 7.1 Aggregate amount of payments to these parties included in item 1.2
- 7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2

<b>Current quarter \$A'000</b>
-
-

## Mining exploration entity and oil and gas exploration entity quarterly report

8.	<b>Financing facilities available</b> <i>Add notes as necessary for an understanding of the position</i>	<b>Total facility amount at quarter end</b>	<b>Amount drawn at quarter end</b>
		<b>\$A'000</b>	<b>\$A'000</b>
8.1	Loan facilities	-	-
8.2	Credit standby arrangements	-	-
8.3	Other (please specify)	-	-
8.4	Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

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9.	<b>Estimated cash outflows for next quarter</b>	<b>\$A'000</b>
9.1	Exploration and evaluation	337
9.2	Development	470
9.3	Production	
9.4	Staff costs	153
9.5	Administration and corporate costs	324
9.6	Other (provide details if material)	
9.7	<b>Total estimated cash outflows</b>	<b>1,284</b>

10.	<b>Changes in tenements (items 2.1(b) and 2.2(b) above)</b>	<b>Tenement reference and location</b>	<b>Nature of interest</b>	<b>Interest at beginning of quarter</b>	<b>Interest at end of quarter</b>
10.1	Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	E80/4793 Halls Creek	Direct	100% (101 Blocks)	100% (71 Blocks)
10.2	Interests in mining tenements and petroleum tenements acquired or increased	-	-	-	-

### **Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.



Sign here: .

Date: 24 January 2019

Print name: Rowan Caren

### **Notes**

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.



## 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 precollar / 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 precollar / 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 2,883m and 3 diamond drill holes for a total of 294.0m. Additional RC and diamond tail drilling was undertaken from mid-August to end of October, 2018 at the Emperor, Wahoo mineral resource areas and several prospects, namely Threadfin and Mahi Mahi. This data is still to be compiled and all assays are pending.
- 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 1m and a maximum of 2m.
- 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.
- Duplicate analysis and analysis of Certified Reference Material (standards) and blanks was completed, and no issues 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 100 m or less resulted in an Indicated classification and areas with a broader spacing are 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. The latest mineralogical examination of drill samples indicates that graphite occurs across a range of sizes from fine to very large flake, with the majority (80%) being in the size range of 150 to greater than 450 microns. Results of metallurgical test work on core samples collected from Emperor and Wahoo indicate a potentially saleable product for a variety of end uses including the advanced battery market and various industrial applications. Recent screen size analysis of concentrate indicates 84% of the graphite flake is

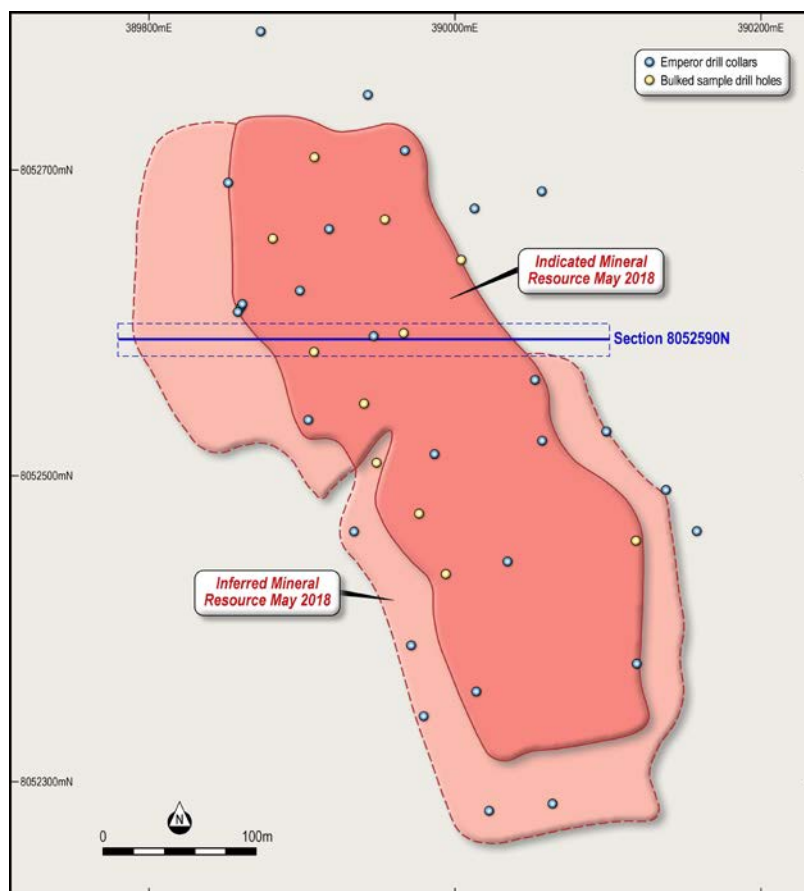


greater than 180 microns. The convergence of these two data sets indicates the presence of predominantly larger flake material at the Emperor Deposit.

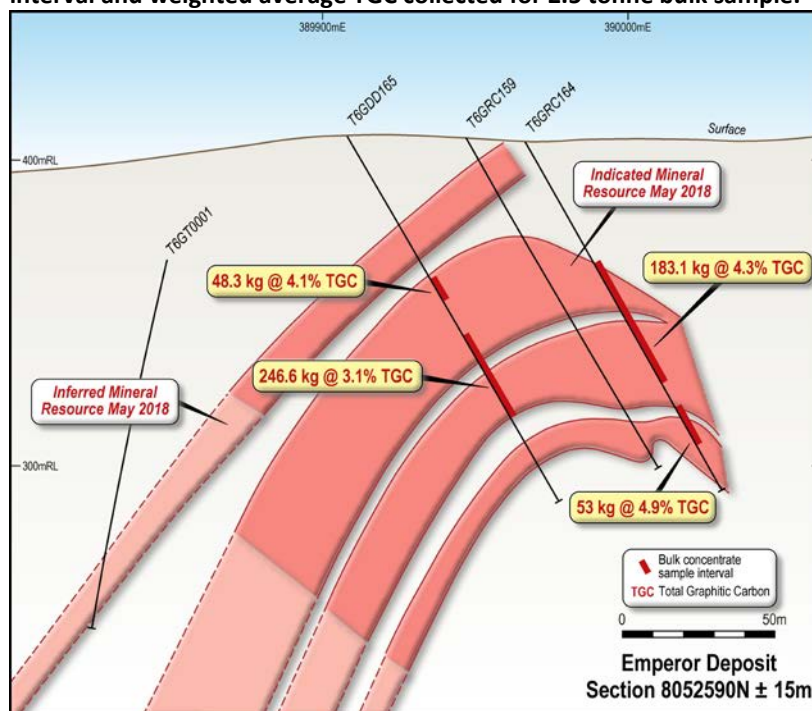
- ✓ In June, 2017, ALS completed pilot processing program of a 2.5 tonne bulk composite sample. The bulk sample was collected in 2016 from selected diamond holes intervals across the Emperor deposit that where grading >3% TGC (Figure 1 & Figure 2). The bulk samples subsequently generated a 100kg of concentrate to provide samples for potential offtake companies. This material achieved a high graphite grade of 97.6% TGC but because it was targeting a flake size of c. 106 microns, this sample was not representative of the potential recoverable flake size distribution. This is because at that time the Company's marketing focus was solely on a product for the lithium ion battery anode market and the perceived optimum feed size for those plants of c. 106 microns.
- ✓ The concentrate assaying and sizing work was undertaken at an ISO 9001:2008 accredited laboratory in the US, highly experienced in graphite applications and test work, utilising conventional assaying and sizing techniques. This same facility has completed two rounds of refining test work; the first on five – sub samples of the concentrate generated at ALS (see above) and the second on a bulk 19.6 kg sample from the same source. Both results indicated the ability to achieve graphite purity of greater than 99.95 wt. % graphitic carbon.
- ✓ There is a large body of test work, in progress from sample sources from the Emperor Resource, this comprises two distinct programs:
  - a. What is referred to as the "Upstream" test work which is aimed at refining and optimising g the upstream flotation concentration of the ore to a range of graphite concentrate products with specific size specifications;.
  - b. What is referred to as the "Downstream" test work is to examine and verify the downstream or secondary processing flowsheet parameters and responses to develop a marketing strategy based on the technical attributes of the material and to match it with end-users requirements.



**Figure 1: Map showing drill collars, locations of diamond drill holes used to make the 2.5 tonne bulk composite sample for the pilot processing program and the current (25<sup>th</sup> May 2017) resource outline.**



**Figure 2. Cross section 8052590N showing the current (25<sup>th</sup> May 2017) resource outline with selected interval and weighted average TGC collected for 2.5 tonne bulk sample.**





## Appendix 1: JORC Table 1 Emperor Resource

### Section 1 Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> </ul>	<p><b>1. Reverse Circulation</b></p> <ul style="list-style-type: none"> <li>RC drilling used high pressure air and a cyclone with a rotary splitter.</li> <li>Samples were collected at one-metre intervals.</li> <li>Approximately 50% of samples were not submitted for assay due to the visual non-mineralised nature of the material collected. All graphitic intervals were submitted for analyses.</li> <li>Duplicate and standards analysis were completed, and no issues identified with sampling reliability.</li> <li>Samples were sent to the ALS laboratory in Perth for assay preparation and then sent to ALS in Brisbane for Total Graphitic Carbon (TGC) analyses.</li> <li>All samples were pulverised to better than 85% passing 75µm with a 10 g aliquot taken for assay.</li> <li>Sampling was guided by Hexagon's protocols and QA/QC procedures.</li> <li>RC drilling samples of 3 to 5 kg weight were shipped to the laboratory in plastic bags; samples were pulverised and milled for assay.</li> </ul> <p><b>2. Diamond Drilling</b></p> <ul style="list-style-type: none"> <li>Drill samples in this program were collected based on geology, 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.</li> <li>Core samples were quarter split HQ3 core using a diamond bladed saw and sent to the ALS laboratory in Perth for assay preparation and then sent to ALS in Brisbane for Total Graphitic Carbon (TGC) analyses.</li> <li>All samples were pulverised to better than 85% passing 75µm with a 10 g aliquot taken for assay.</li> <li>Duplicate samples, CRM standards and blank material were used during the drill programs. Duplicates collected after each 50 samples. Standards were inserted for samples ending in *00,*20,*40,*60 and *80 and blanks for samples ending in *01,*21,*41,*61 and *81. Sampling was guided by Hexagon's protocols and QA/QC procedures.</li> </ul>
<b>Drilling Techniques</b>	<ul style="list-style-type: none"> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<p><b>1. Reverse Circulation</b></p> <ul style="list-style-type: none"> <li>RC drill holes (total of 2,154 m from 18 holes) – completed with face sampling hammers and collected through a cyclone. Sample recovery was estimated at a percentage of the expected sample, sample state recorded (dry, moist or wet), samples tested with 10:1 HCl acid for carbonates and graphite surface float.</li> <li>RC drilling was completed by Egan drilling using an X400 drill rig and United Drilling Services using a DE840 drill rig.</li> </ul> <p><b>2. Diamond Drilling</b></p> <ul style="list-style-type: none"> <li>Diamond drill holes (total of 2,940.5 m for 21 holes) – collected HQ<sub>3</sub> core using a 3m 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.</li> <li>RC pre-collars were drilled with HQ<sub>3</sub> diamond tails for a total of 1,369.3 m from 9 holes.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<p><b>1. RC Drilling</b></p> <ul style="list-style-type: none"> <li>A face sampling hammer was used to reduce contamination at the face.</li> <li>1 m drill chip samples, weighing approximately 2 kg were collected throughout the drill programme in sequentially numbered bags.</li> <li>Split samples were recovered from a cyclone and rig-mounted cone splitter. The sample recovery and physical state were recorded.</li> <li>Every interval drilled is represented in an industry standard chip tray that provides a check for sample continuity down hole.</li> </ul> <p><b>2. Diamond drilling</b></p> <ul style="list-style-type: none"> <li>Core recovery was excellent. Recoveries were measured for each 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</li> </ul>





		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.
<b>Logging</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul style="list-style-type: none"> <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 zone is also recorded.</li> <li>No adjustments have been made to any assay data</li> <li>Geological logging is qualitative in nature.</li> <li>Diamond drilling logging also recorded recovery, structure and geotechnical data.</li> <li>Diamond core was orientated using the Reflex orientation tool.</li> <li>Core was photographed both dry and wet.</li> </ul>
<b>Sub-sample techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<p><b>1. RC Drilling</b></p> <ul style="list-style-type: none"> <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>1m RC drilling samples were submitted to either Actlabs Canada or ALS laboratories in Perth. 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 style="list-style-type: none"> <li>Coarse crush using a jaw crushed to better than 70% passing 6mm.</li> <li>For samples exceeding 3kg received mass, riffle split using a Jones Riffle Splitter 50:50</li> <li>Pulverise up to 3kg of coarse crushed material to better than 85% passing 75µm particle size</li> <li>Small aliquot (~10g) taken for assay.</li> </ol> </li> </ul> <p><b>2. Diamond Drilling</b></p> <ul style="list-style-type: none"> <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 duplicates. Core cutting was carried out under consignment at Westernex in Perth.</li> <li>Duplicate assay results exhibit good correlation with the original assays and no consistent bias is evident.</li> <li>Sample preparation:             <ol style="list-style-type: none"> <li>Coarse crush using a jaw crushed to better than 70% passing 6mm.</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 (~10 g) taken for assay.</li> </ol> </li> <li>Sampling procedures and sample preparation represent industry good practice:</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>The assaying and laboratory procedures used are industry standard and are appropriate for the material tested.</li> <li>Sampling was guided by Hexagon's protocols and QA/QC procedures.</li> <li>For RC samples, standards and field duplicates were inserted at an approximate rate of 1 in every 20 samples collected.</li> <li>Field duplicates were inserted into diamond core samples at a rate of 4 every 100 samples, standards at a rate of 4 every 100 samples and blanks at 2 every 100 samples.</li> <li>Statistical analysis of standards, blanks and duplicates during the QAQC process showed that the data was satisfactory.</li> <li>No issues were identified with sampling reliability</li> </ul>



Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>Hexagon QA/QC checks show that all samples are within acceptable limits. No adjustments to assay data have been made 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 resource 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. The majority of samples used in the estimation for Emperor are diamond core.</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 lab certificates limiting transcription or mapping errors from occurring.</li> <li>No adjustments have been made to the results.</li> </ul>
Location of Data points	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>45 drill hole collars were surveyed using Differential GPS by a surveyor from Savannah Nickel mines for the 2015 program and a contract surveyor (MNG survey) from Broome. The degree of accuracy of drill hole collar location and RL is estimated to be within 0.1 m for DGPS. 3 collars were surveyed using a handheld Garmin 62S and Garmin 76c Global Positioning System (GPS) with a typical <math>\pm 5</math> m accuracy. Topography from contours generated from a LiDAR survey was used to validate collar points and assign RL values to the 3 holes surveyed by GPS that had an RL <math>&gt; 2</math> m different to the topography.</li> <li>Downhole surveys completed for all holes where possible (48 holes). EZshot survey data was used where downhole surveys were not successful. All holes used in the resource have been downhole surveyed using a gyro by ABIM Solutions.</li> <li>Topographic control was adequate for the purposes of Mineral Resource estimation.</li> <li>The map projection used is the Australia Geodetic MGA 94 Zone 52.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>Drill spacing on an approximate 40 m by 40 m grid throughout the majority of the deposit, dropping to 40 m across strike by 80 m along strike to the south of the deposit.</li> <li>Geological interpretation and mineralisation continuity analysis indicates that data spacing is sufficient for definition of a Mineral Resource.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Holes generally drilled dipping at <math>-60^\circ</math> targeting the fold hinge and limbs.</li> <li>Diamond drill core has been orientated using a Reflex ACE tool 9Act II), with <math>\alpha</math> and <math>\beta</math> 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	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <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</li> </ul>



		<p>Brisbane for analysis. A small amount of core samples were sent to Actilabs.</p> <ul style="list-style-type: none"> <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>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• <i>The results of any audits or reviews of sampling techniques and data.</i></li> </ul>	<ul style="list-style-type: none"> <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>

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Drilling was recently completed at the Emperor deposit, on exploration leases E80/3864 and E80/4841, Mahi Mahi on exploration lease, E80/4825 and Threadfin, exploration leases, E80/4739 and E80/4931. These tenements are held by McIntosh Resources Pty Ltd, a wholly owned subsidiary of Hexagon Resources. Mineral Resources Limited is managing the current exploration on the project under the Joint Venture Agreement signed 7 November, 2018 whereby Mineral Resources may earn a 51% interest in the tenements by funding all feasibility and development activities through to Commercial Production. .</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>• <i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <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>
<b>Drill hole Information</b>	<ul style="list-style-type: none"> <li>• <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:</i> <ul style="list-style-type: none"> <li>• <i>easting and northing of the drillhole collar</i></li> <li>• <i>elevation or RL (elevation above sea level in metres) of the drillhole collar</i></li> <li>• <i>dip and azimuth of the hole</i></li> <li>• <i>down hole length and interception depth</i></li> <li>• <i>hole length.</i></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <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. Hole locations tabulated in an Appendix to this announcement report.</li> <li>• Additional drilling was undertaken between August and October 2018, however these samples are still being processed and none of this material is included in any samples relating to this report.</li> </ul>
<b>Data aggregation methods</b>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Data compiled in Excel and validated in Datashed by an external data management consultancy.</li> <li>• RC samples were all 1 m in length, diamond core samples vary between 1m and 2 m samples.</li> <li>• Metal equivalents are not reported as this is an industrial mineral project where the mineral properties define grade (e.g. flake size and purity).</li> <li>• A nominal 3% Total Graphitic Carbon cut-off has been applied in the determination of significant intercepts</li> </ul>
<b>Relationship between mineralisation</b>	<ul style="list-style-type: none"> <li>• <i>If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Mineralised widths at Emperor are estimated to be typically between 5 m and 70 m, compared with RC samples of 1m width. There is a very close relationship between the</li> </ul>



<b>widths and intercept lengths</b>	<ul style="list-style-type: none"> <li><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect.</i></li> </ul>	<p>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.</p> <ul style="list-style-type: none"> <li>The graphitic schist horizon has been interpreted as an anticlinal fold. Angled drill holes (generally 60°) have targeted the mineralised unit with the priority to intersect the limbs perpendicular to the strike of the graphitic schist horizon, although in some areas this was not possible and holes were drilled down dip. However 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> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>Not Relevant as metallurgical test work results are being reported. However Figure 1 illustrates where a purification furnace fits in to the downstream flow sheet.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>Metallurgical results for a bulk 19.5kg sample of concentrate are being reported. Two sub samples were analysed and both results reported. As well, all battery critical deleterious elements are reported.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li><i>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.</i></li> </ul>	<ul style="list-style-type: none"> <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> <li>Test work and petrographic examinations to gather data on the mineralogy, flake size distributions and elemental associations were undertaken and reported. The methods comprised petrographic examination-including systematic flake length estimates, screen sizing analyses, assaying (as above).</li> <li>Metallurgical test work is underway and being reported progressively on McIntosh concentrate material produced from previous test work. The results reported herein are derived from such a sample and is focused on refining or purification of the graphite concentrate as part of a downstream processing route. This recent work is being managed and undertaken by a well credentialed and experienced private company in the US and Hexagon staff have inspected these facilities. Hexagon has a confidentiality obligation not to disclose the entities name and hence refers to it as NAmLab. The test work completed by NAmLab, which achieved 99.999 wt. % TGC was designed to simulate the utilisation of a fluidised bed electrothermal furnace operating at c. 2,500°C.</li> <li>In an EFB furnace, graphitic material is cascaded down into a counter current of upwelling nitrogen gas around a central electrode core and a crucible creating millions of short-lived electrical arcs to generate temperatures of between 2,000 and 3,000°C. This is a continuous process with purified graphite collecting at the base of the furnace and impurities and ultra-fines being carried up and exit as furnace flue and ultimately captured in a scrubber and baghouse system. This is in contrast to slow, static thermal purification systems such as Acheson furnaces, which operate in a batch mode with very long (approximately 3 weeks) residence times.</li> </ul> <p>Another well credentialed and experienced laboratory was also engaged to benchmark the NAmLab purification results utilising traditional Acheson Furnace type technology but carry with a more advanced pyrolysis features in it</p>





<b>Further work</b>	<ul style="list-style-type: none"> <li>• <i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> </ul>	<ul style="list-style-type: none"> <li>• Continuation of the test work programs gathering mineralogical data to formulate a geometallurgical model, primary processing test work to improve the Stage 1 process flow sheet and continue the downstream processing test work on material derived from the stage 1 process flow sheet.</li> </ul>
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