

21 March 2023

# Graphite Exploration Target Estimate

## Leliyn Graphite Project, NT

Kingsland Minerals Ltd (ASX:KNG) (Kingsland or Company) is pleased update shareholders on proposed exploration activities and the estimation of an Exploration Target for its significant Leliyn Graphite discovery in the Northern Territory.

### HIGHLIGHTS

- **JORC 2012 Exploration Target estimate delivered**
- **Highlights potential for significant flake graphite deposit over 20 km strike**
- **Exploration drilling to commence in April/May 2023**

Kingsland Minerals has estimated an Exploration Target for the Leliyn Graphite Project. The Exploration Target is based on historical drill results, petrographical analysis and field reconnaissance conducted by Kingsland. A drilling program, including both Reverse Circulation (RC) and Diamond Core drilling, is currently being planned to commence during the June 2023 quarter.

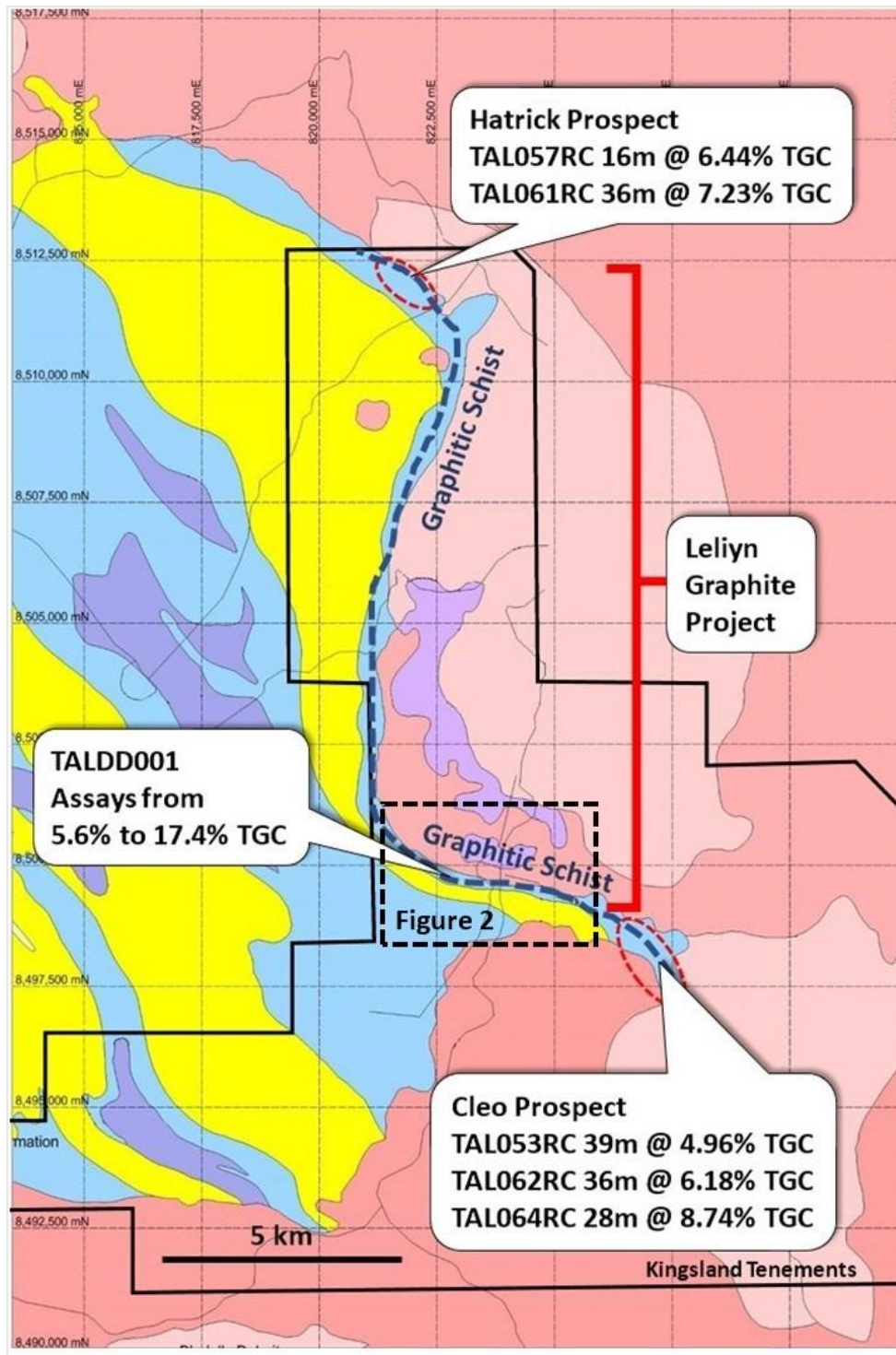
**Table 1: Leliyn Graphite Project Exploration Target**

Tonnes (Mt)	Grade (% TGC)	Contained Graphite (Mt)
200 -250	8-11	16 -27

**The quantity and grade of the Exploration Target for the Leliyn Graphite Project is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.**

Kingsland Minerals' Managing Director , Richard Maddocks said, "*The potential scale of the Leliyn Graphite Project easily qualifies as a globally significant tier one asset in a tier one location. We are now preparing a drilling program to progress the Leliyn Graphite Project, focussing on a 5 km section of the total 20 km length of graphitic schists within our tenement package. This section provides an optimal starting point and will form the basis for this significant Exploration Target highlighting the potential for Leliyn to develop into a world class flake graphite deposit. Drilling will initially focus on obtaining samples for metallurgical test-work and estimating a Mineral Resource. There is so much unrealised potential here and I'm excited for the results of the upcoming exploration program.*"

The Exploration Target is based on a strike length of the graphitic schist unit of 5,000m, depth of 200m, width of 100m and an estimated dry bulk density of 2.5 t/m<sup>3</sup>. The width and depth are based on historical drilling presented in the Figure 3 cross-section. The length is based on field inspections of outcropping graphitic schist. The grade range is based on historical Total Graphitic Carbon (TGC) assays taken in RC and, in particular, Diamond Core drill hole TALDD001. Table 1 presents the Exploration Target as a range incorporating possible variations in the above dimensions and grade.



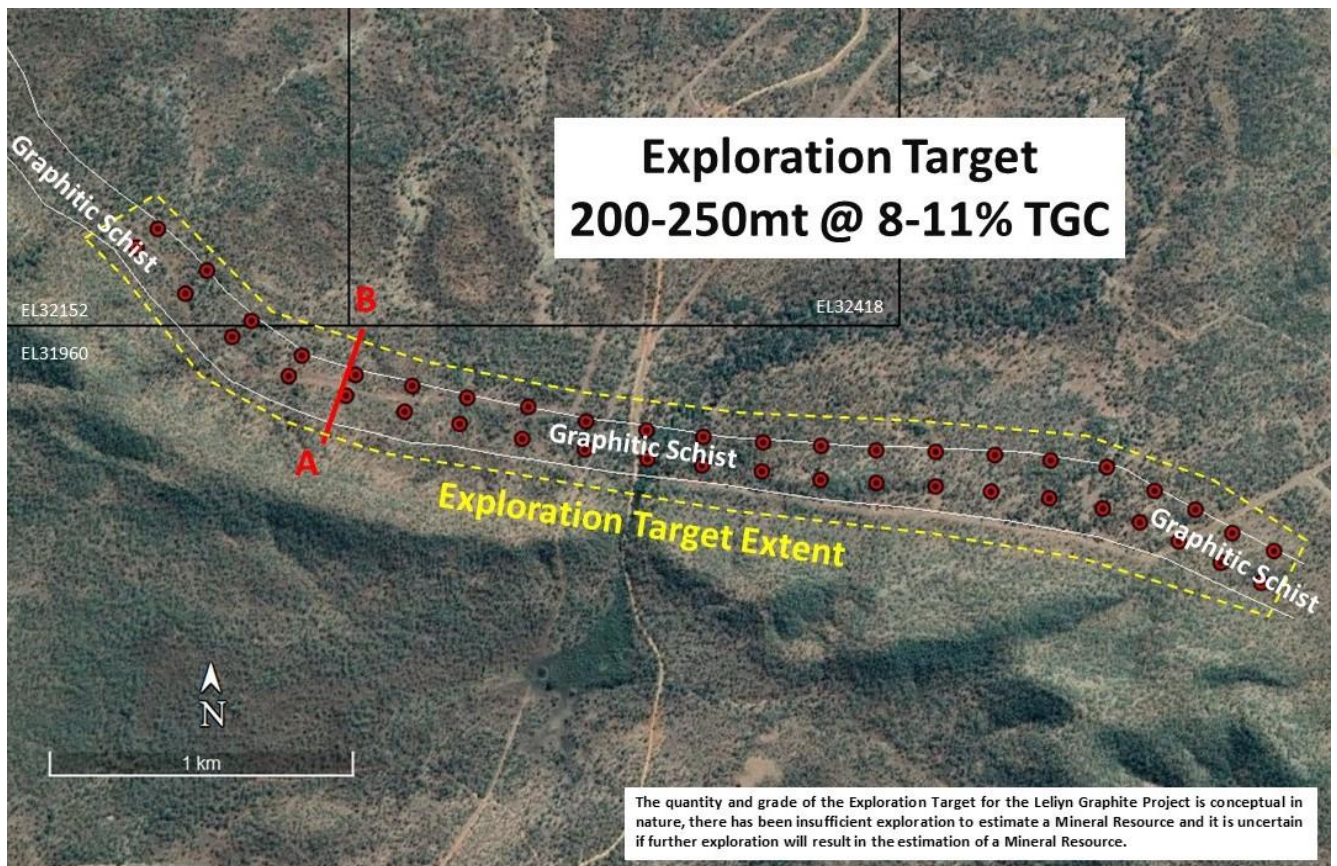
**Figure 1: Kingsland Allamby Tenements showing graphitic schist and location of Figure 2<sup>1</sup>**

<sup>1</sup> Refer KNG announcement Feb 1 2023 'Significant Graphite Discovery'



Figure 1 shows the geology of the Allamber Project area highlighting the contact between sediments of the Masson Formation and Cullen Granite. The Masson Formation is a series of carbonaceous shales and slates which have been metamorphosed to graphitic schists along the granite contact. Historic graphite sampling is also shown (refer KNG announcement, February 1, 2023, 'Significant Graphite Discovery').

The strike length of the graphitic schist unit within Kingsland tenements is approximately 20km. The planned exploration program will focus on a 5 km strike length of graphitic schist to the south of the total graphitic schist extent. The Figure 2 inset illustrated in Figure 1 shows the location of the proposed exploration program and Exploration Target.



**Figure 2: Proposed Drilling Program and extents of Exploration Target showing location of cross section in Figure 3**

Figure 2 shows the area of proposed drilling and the extents of the Exploration Target. This section of the graphitic schist is 5 km long and the drilling on cross-section A-B (Figure 3) indicates a true thickness of about 100m.

**This Exploration Target is based on about 25% of the total strike extent of the graphitic schist unit. Significant potential exists outside of the Exploration Target.**



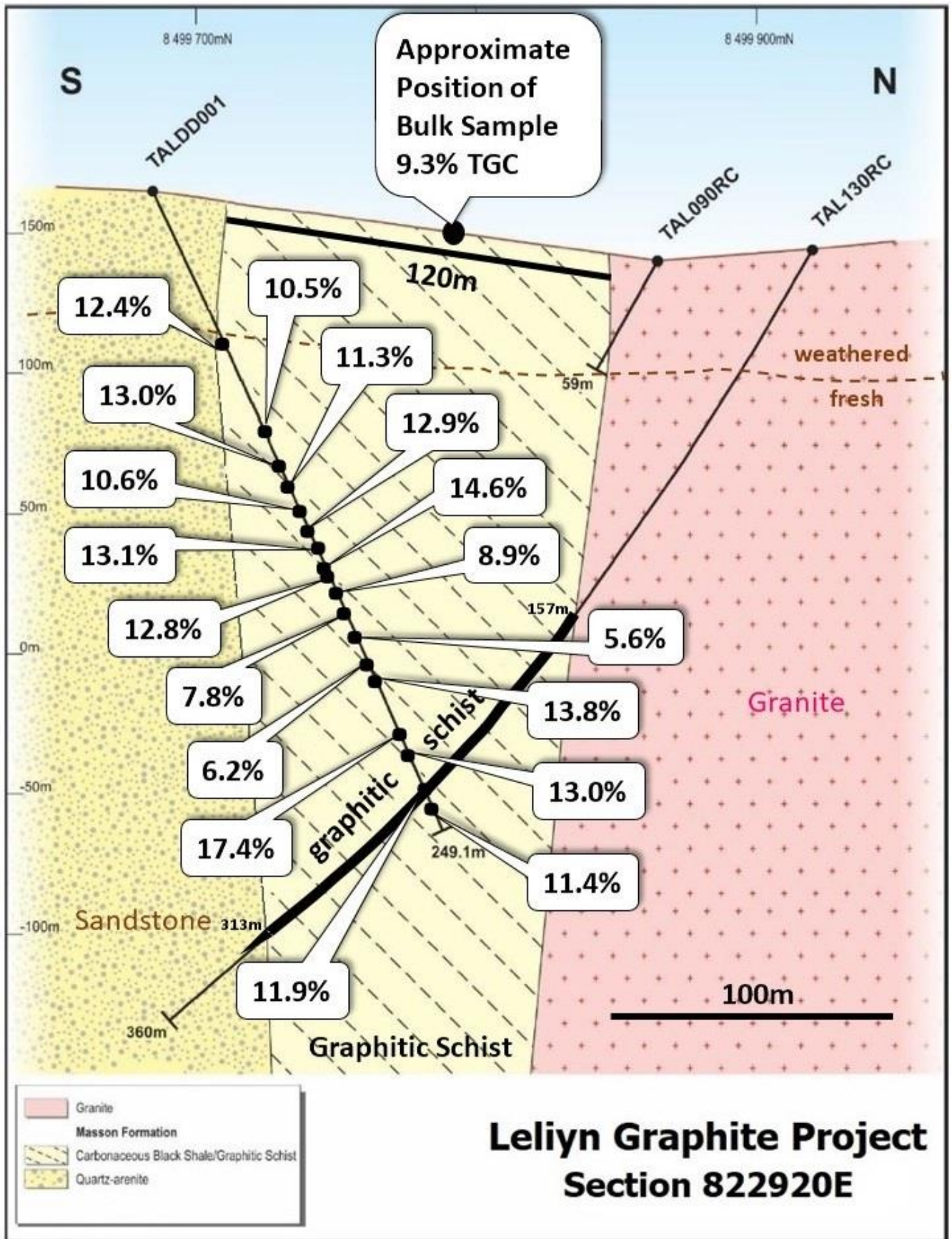


Figure 3: Cross-section A-B<sup>2</sup>

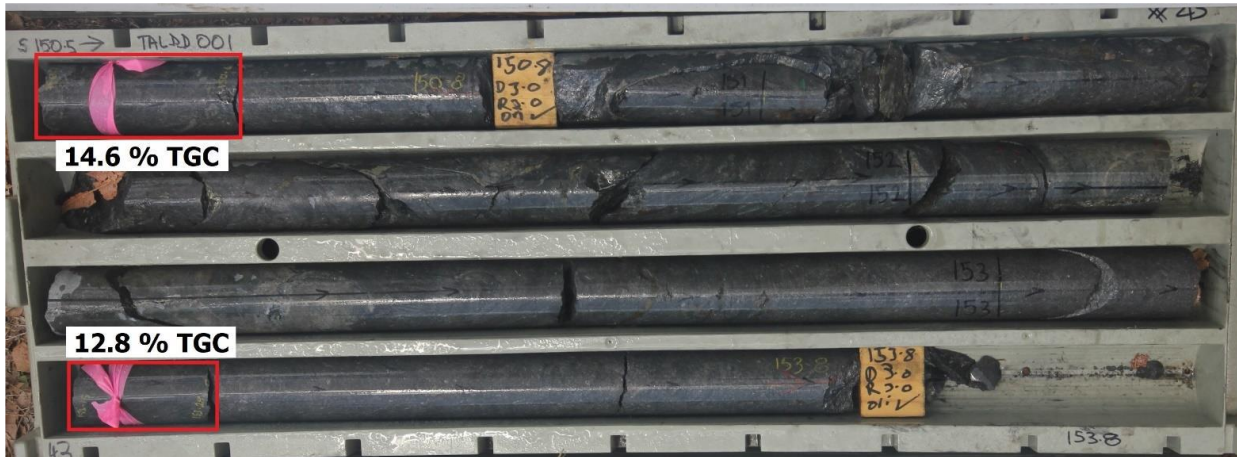


Table 3 shows the graphite TGC assays for the samples taken for diamond core drillhole TALD001. TALD001 was drilled in 2016 by previous tenement owners. Also included in this table are estimates of flake size ranges and averages based on petrographical analysis of thin sections taken from drill core. Samples were taken at intervals down the hole so cannot be used to estimate an average grade intersection down the hole. They do however indicate high grade graphite is present in the hole from 61.5m to the end of the hole at 249.05m. Core photographs indicate the presence of a series of generally narrow aplite dykes within the schists; these have not been included in the sampling or assaying. Details of the drilling including the geological log and core photographs are contained in Appendices 1 and 2. Appendix 3 contains the full petrographic report of all 18 samples in TALD001. **This analysis shows that graphite flake size varies from very fine (~2 microns) to medium/coarse (~160 microns).** Further metallurgical test-work is required to determine the quantities and proportions of different flake sizes within the deposit. Initial test-work has commenced and is progressing.

**Table 3: TALD001 Total Graphite Content Assay Results**

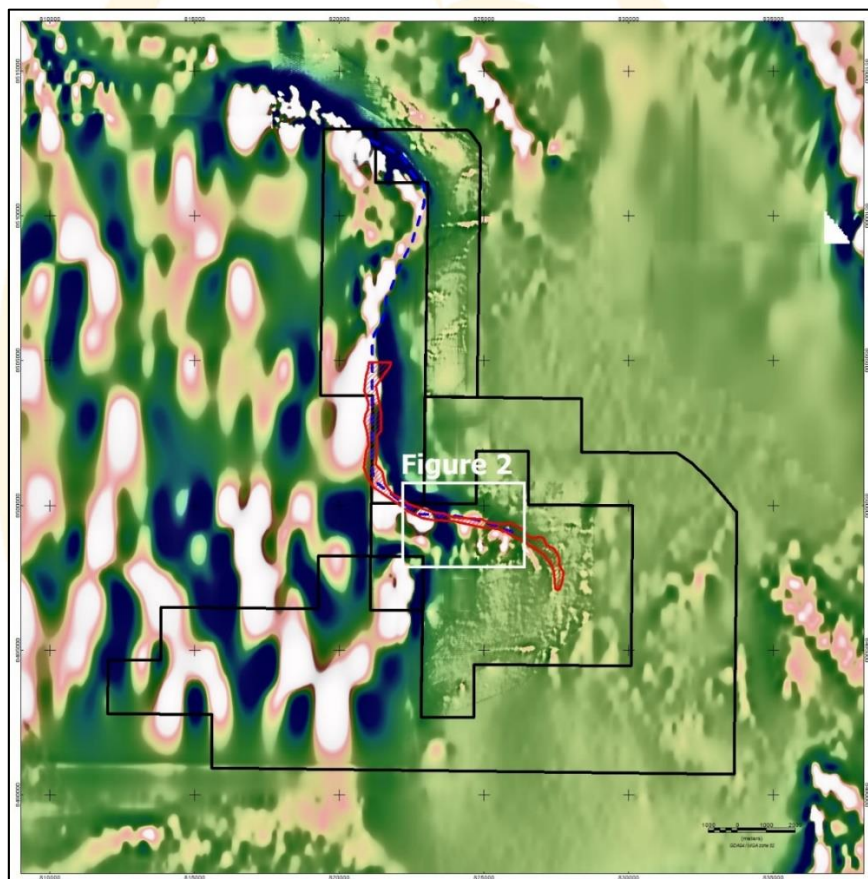
From (m)	To (m)	Length (m)	Sample no.	Total Graphite Content (TGC) %	Petrographic Analysis	
					Flake Size Range (microns)	Flake size average (microns)
61.50	61.60	0.10	TPOD2766	12.4	5 - 90	40
96.75	97.00	0.25	TPOD2767	<b>10.5</b>	<b>20 - 120</b>	<b>70</b>
110.15	110.35	0.20	TPOD2768	<b>13.0</b>	<b>20 - 140</b>	<b>70</b>
118.30	118.60	0.30	TPOD2769	<b>11.3</b>	<b>25 - 120</b>	<b>80</b>
127.80	127.95	0.15	TPOD2770	<b>10.6</b>	<b>20 - 110</b>	<b>60</b>
136.20	136.40	0.20	TPOD2771	<b>12.9</b>	<b>6 - 150</b>	<b>80</b>
145.50	145.70	0.20	TPOD2772	<b>13.1</b>	<b>10 - 120</b>	<b>60</b>
<b>150.45</b>	<b>150.60</b>	<b>0.15</b>	<b>TPOD2773</b>	<b>14.6</b>	<b>12 - 130</b>	<b>70</b>
<b>153.15</b>	<b>153.25</b>	<b>0.10</b>	<b>TPOD2774</b>	<b>12.8</b>	<b>12 - 160</b>	<b>90</b>
162.75	162.95	0.20	TPOD2775	8.9	10 - 80	50
168.80	168.95	0.15	TPOD2776	7.8	10 - 60	30
179.15	179.30	0.15	TPOD2777	<b>5.6</b>	<b>20 - 80</b>	<b>50</b>
189.20	189.40	0.20	TPOD2778	<b>6.2</b>	<b>10 - 120</b>	<b>60</b>
195.70	195.90	0.20	TPOD2779	<b>13.8</b>	<b>10 - 120</b>	<b>60</b>
216.60	216.80	0.20	TPOD2780	17.4	5 - 20	10
225.25	225.50	0.25	TPOD2781	13.0	3 - 20	10
240.35	240.55	0.20	TPOD2782	11.9	3 - 40	20
246.45	246.65	0.20	TPOD2783	11.4	2 - 80	30

Figure 5 shows a section of hole TALD001 illustrating high grade graphite with flake size up to 160 micron (details highlighted in Table 3).



**Figure 4 :TALD001 150.45m – 150.6m 14.6% TGC and 153.15m – 153.25m 12.8% TGC<sup>3</sup>**

Figure 5 shows the Kingsland Minerals tenements with an image of magnetics. The location of Figure 2 is also shown, indicating the position of the Exploration Target and proposed drilling. The position of the graphitic schist is clearly discernible in the magnetics. The presence of significant quantities of graphite in the schist along with sulphide mineralisation (pyrrhotite and pyrite) results in a magnetic high along the contact between the Cullen Granites and sedimentary Masson Formation. Figure 5 illustrates the strike extent (20 km ) of the graphitic schist and the considerable potential for future exploration outside the Exploration Target contained in this announcement.



**Figure 5: Location of outcropping graphitic schist (red) and strike extent (blue dashed) over residual 0.5VD RTP magnetics (colour) overlain on 1VD magnetics (greyscale).**

<sup>3</sup> Refer KNG announcement Feb 1 2023 'Significant Graphite Discovery'

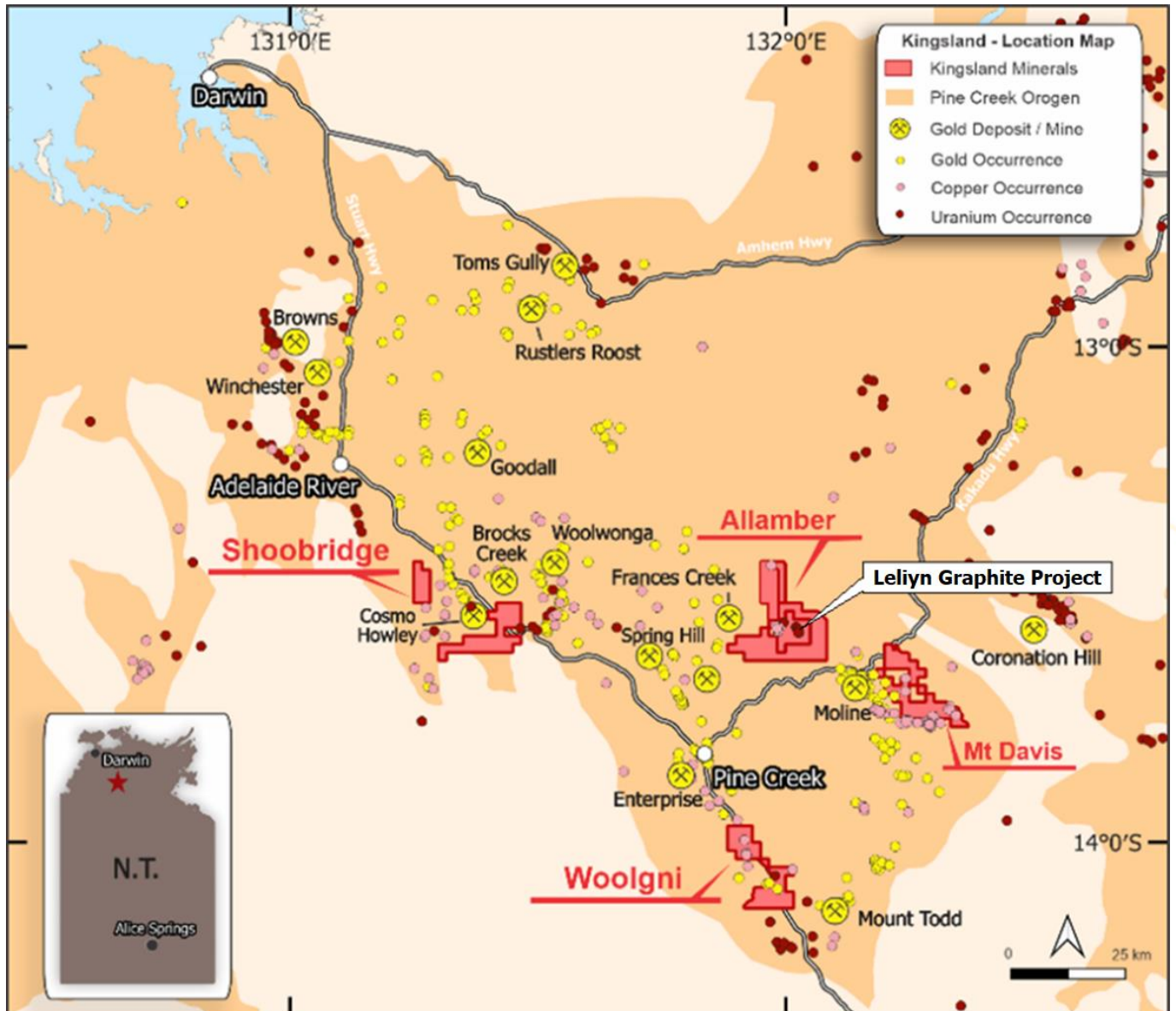


## Proposed Exploration Program

Initial exploration will consist of a ground electro-magnetic (EM) survey. The EM survey is designed to provide more accurate locations of the hanging wall and foot wall of the graphitic schist to aid in final drill hole planning. It may also provide information on areas of more intense graphite mineralisation and therefore areas of potential higher grade.

A program of up to 8,000m of RC and Diamond Core drilling is proposed to test the Exploration Target. It is planned to prioritise the drilling into three stages; stage 1 of about 600m of HQ size diamond drill core (64mm diameter) will provide an initial representative samples for metallurgical test-work. Stage 2 of about 3,000m of RC drilling will drill the Exploration Target on wide spacing to enable the estimation of an Inferred Mineral Resource. Stage 3 will be dependent on results from stages 1 and 2. This will focus on infill drilling of about 3,000m of RC and 1,000m of diamond core to enable the estimation of an Indicated Mineral Resource. Material for metallurgical test-work will also be collected in stage 3 if required.

Drilling is planned to commence in late April/ early May once government approvals have been received. RC and Diamond drill rigs have been secured and planning is well advanced. The final timing of the commencement of drilling is dependent on the on-set of the dry season.



**Figure 7: Kingsland Minerals Northern Territory Exploration Projects**

THIS ANNOUNCEMENT HAS BEEN AUTHORISED FOR RELEASE ON THE ASX BY THE COMPANY'S BOARD OF DIRECTORS

**About Kingsland Minerals Ltd**

Kingsland Minerals Ltd is an exploration company with assets in the Northern Territory and Western Australia. There are four project areas in the NT: Allamber, Woolgni, Shoobridge and Mt Davis. In addition Kingsland Minerals owns a nickel project at Lake Johnston in Western Australia. Kingsland's focus is on exploration and development of prospective graphite and uranium prospects at Allamber in the Northern Territory. Following a successful listing on the ASX in June 2022 company details are as follows:

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**CAPITAL STRUCTURE**

Shares on issue: 45,019,842

Listed options on issue (KNGO): 18,694,920



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## **BOARD OF DIRECTORS**

Mal Randall: Non-Executive Chairman

Richard Maddocks: Managing Director

Bruno Seneque: Director/Company Secretary

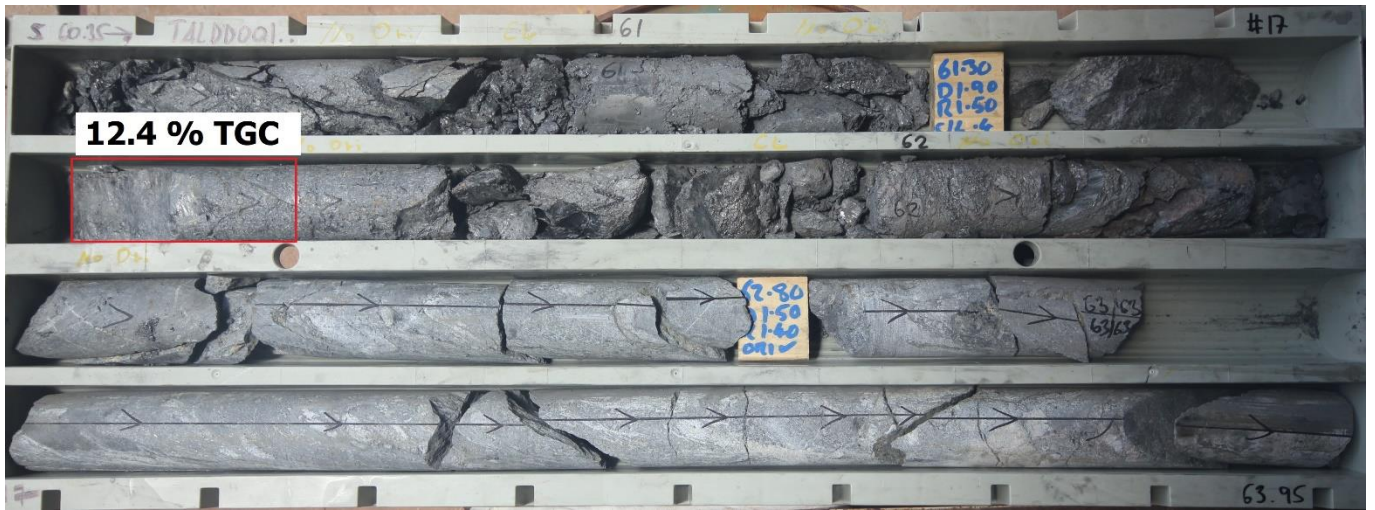
Nicholas Revell: Non-Executive Director

## **Competent Persons Statement**

*The information in this report that relates to Exploration Results and Exploration Target is based on information compiled by Mr Richard Maddocks, a Competent Person who is a Fellow of The Australasian Institute of Mining and Metallurgy. Mr Maddocks is an employee of Kingsland Minerals and holds securities in the company. Mr Maddocks has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Maddocks consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

*Exploration data regarding historic drilling and graphite assay results is sourced from report entitled, 'Significant Graphite Discovery', created on February 1 2023. This report is available to view on the ASX website, [www.asx.com.au](http://www.asx.com.au) under the ticker code KNG or the Kingsland Minerals website [www.kingslandminerals.com.au](http://www.kingslandminerals.com.au). The company confirms that it is not aware of any new information or data that materially affects the information included in this original market announcement and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.*

APPENDIX 1 - TALD001 Core Photographs 60.35m to 249.05m



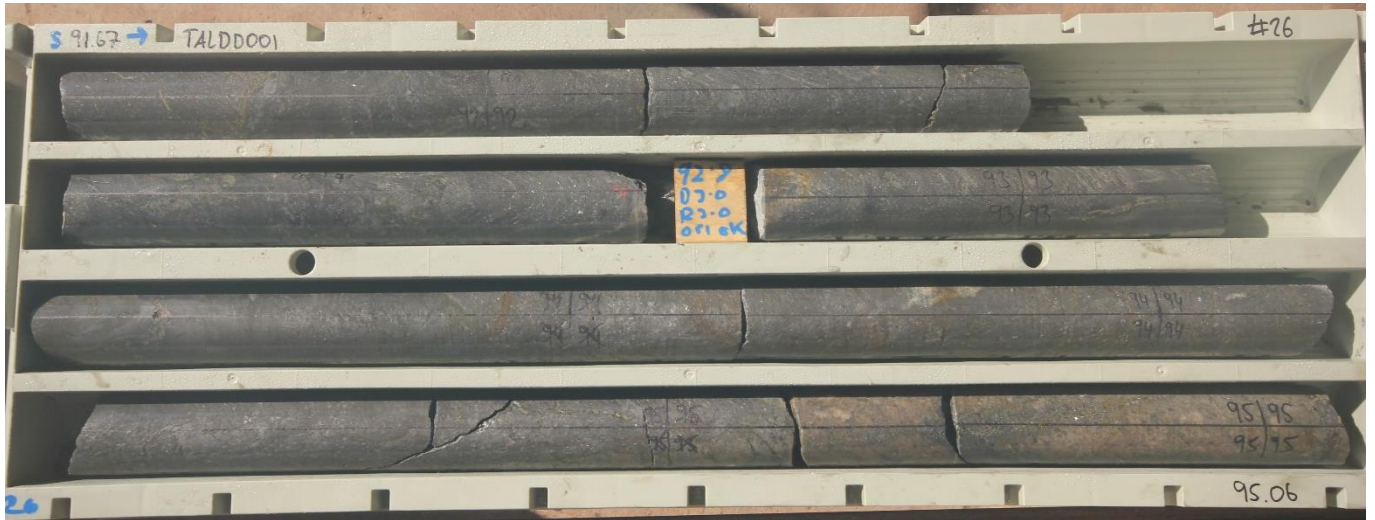








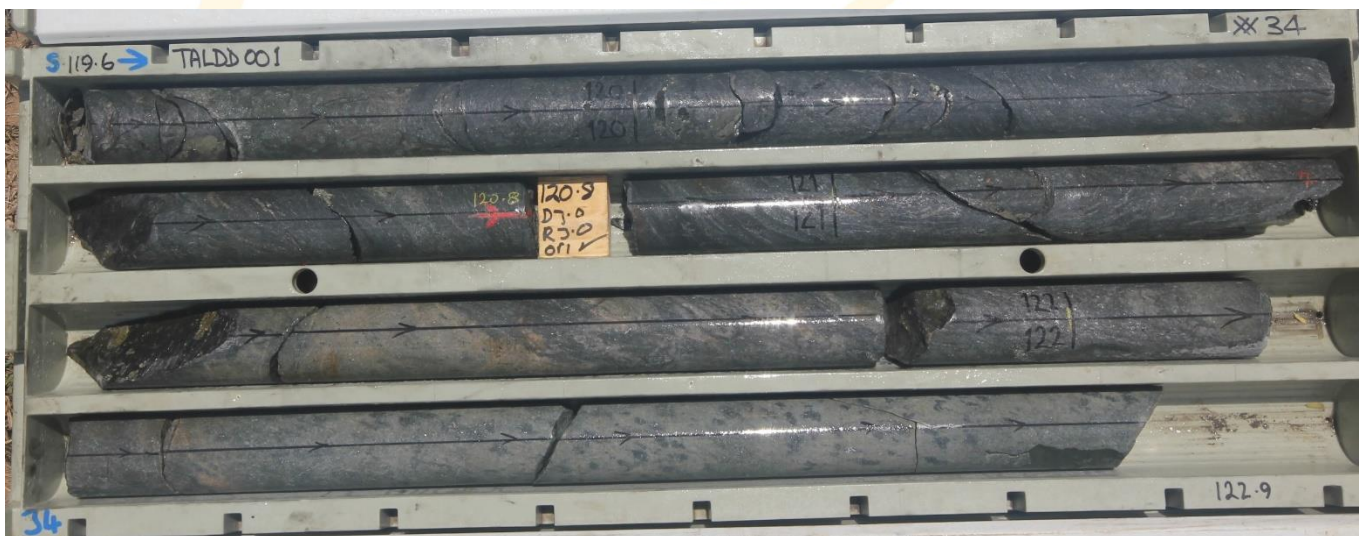
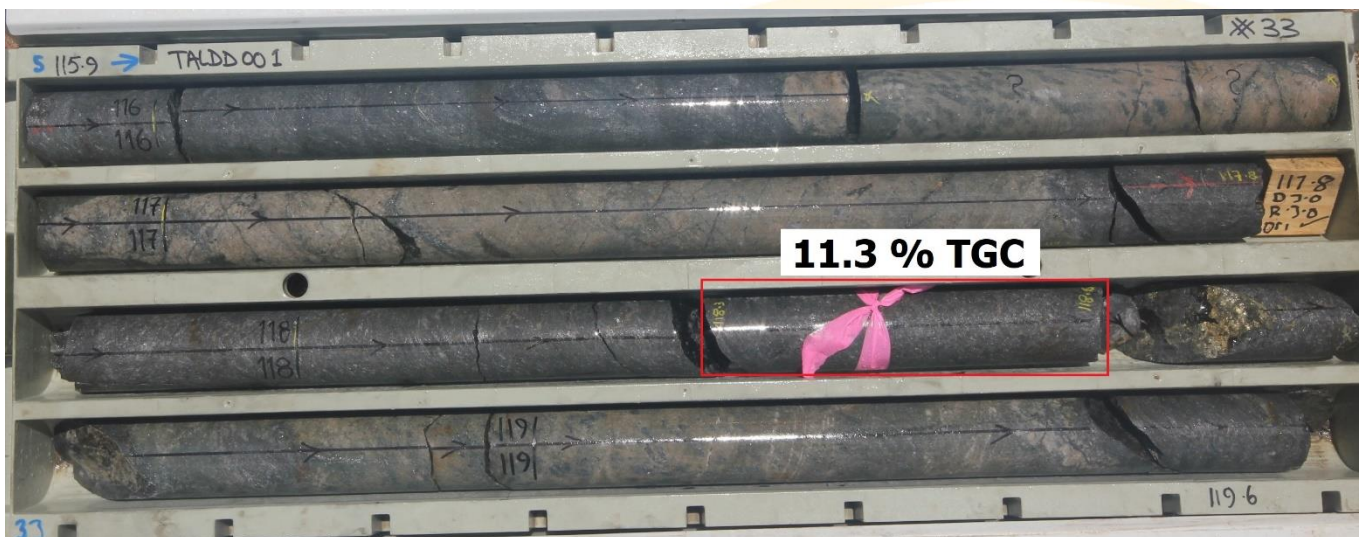
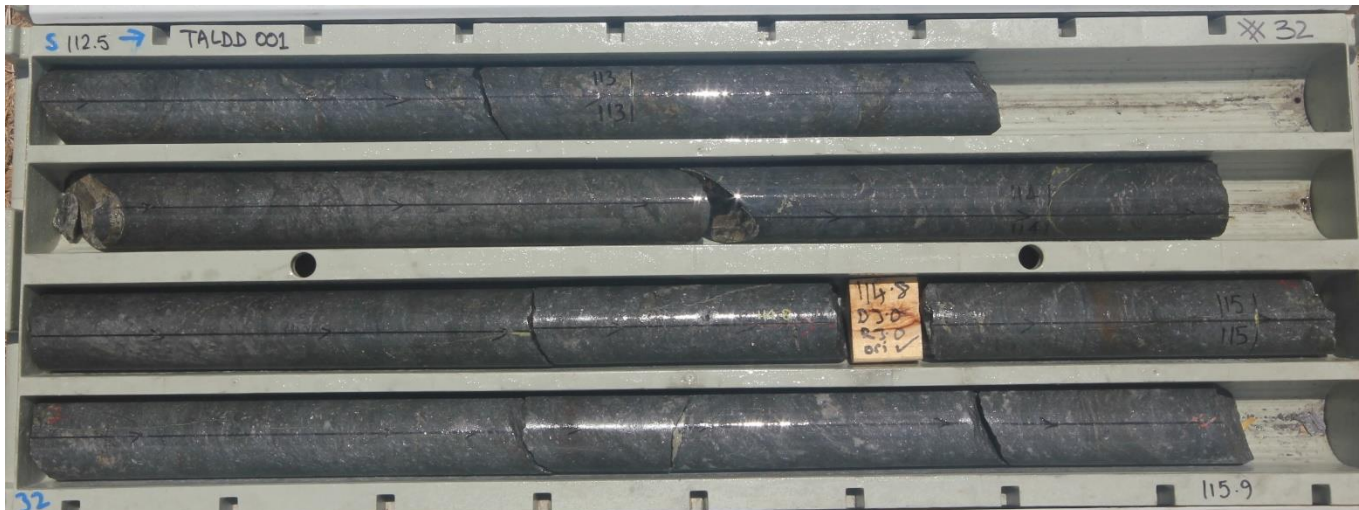




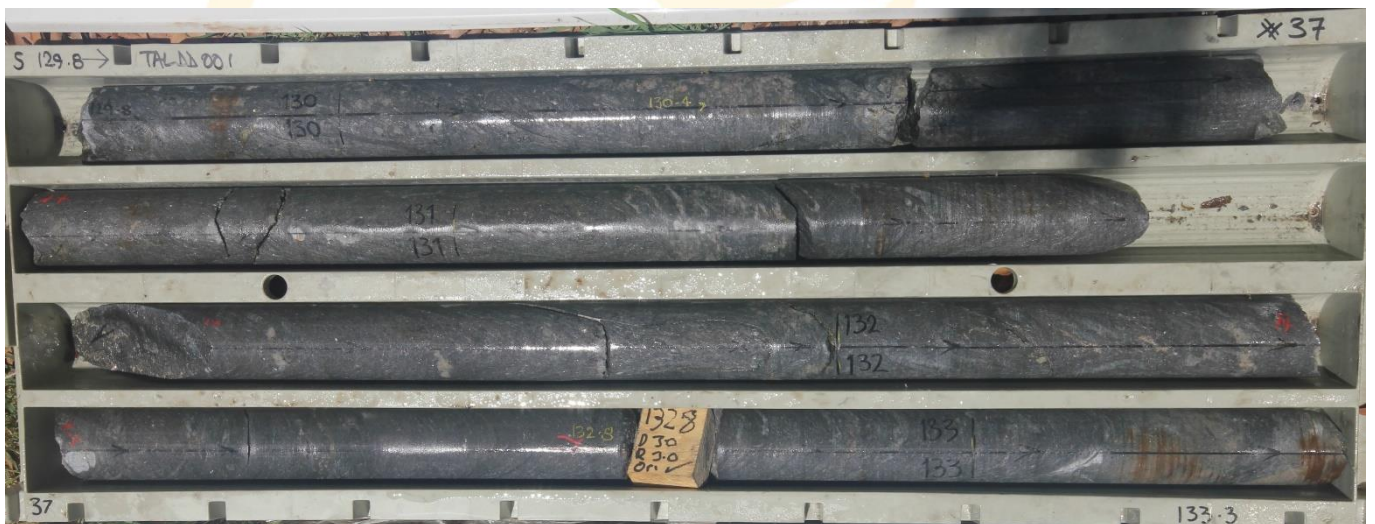
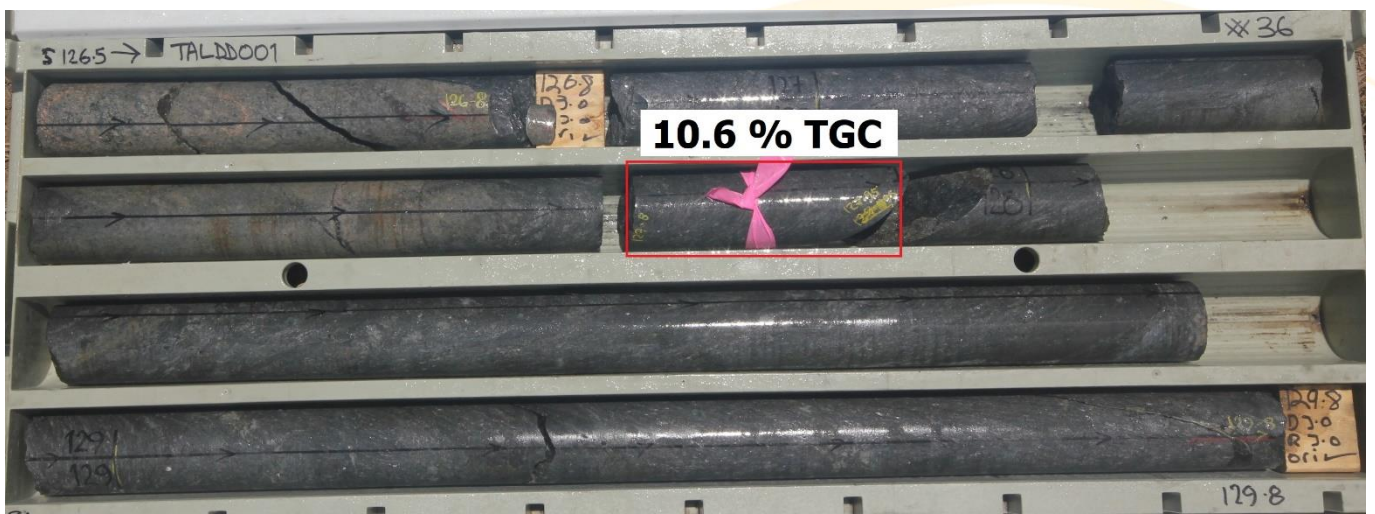
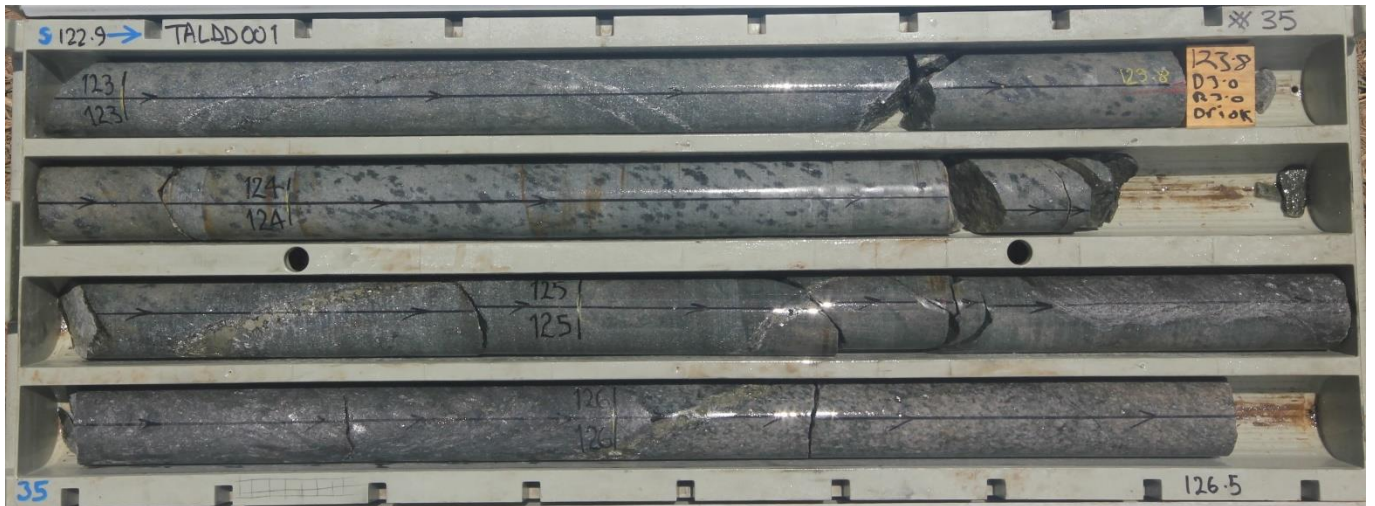




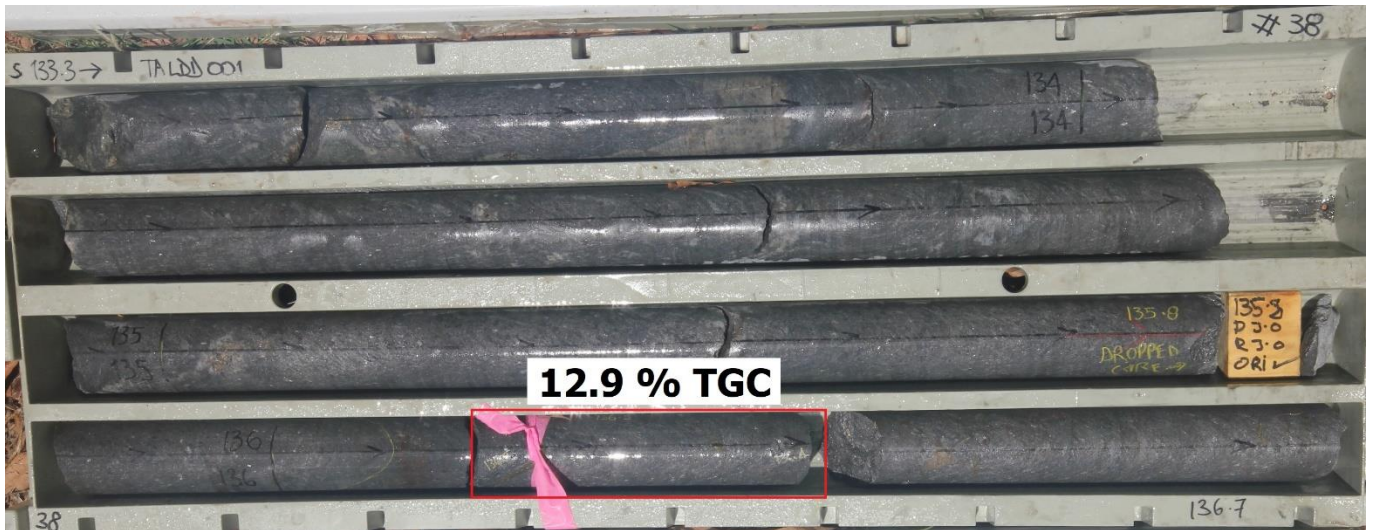




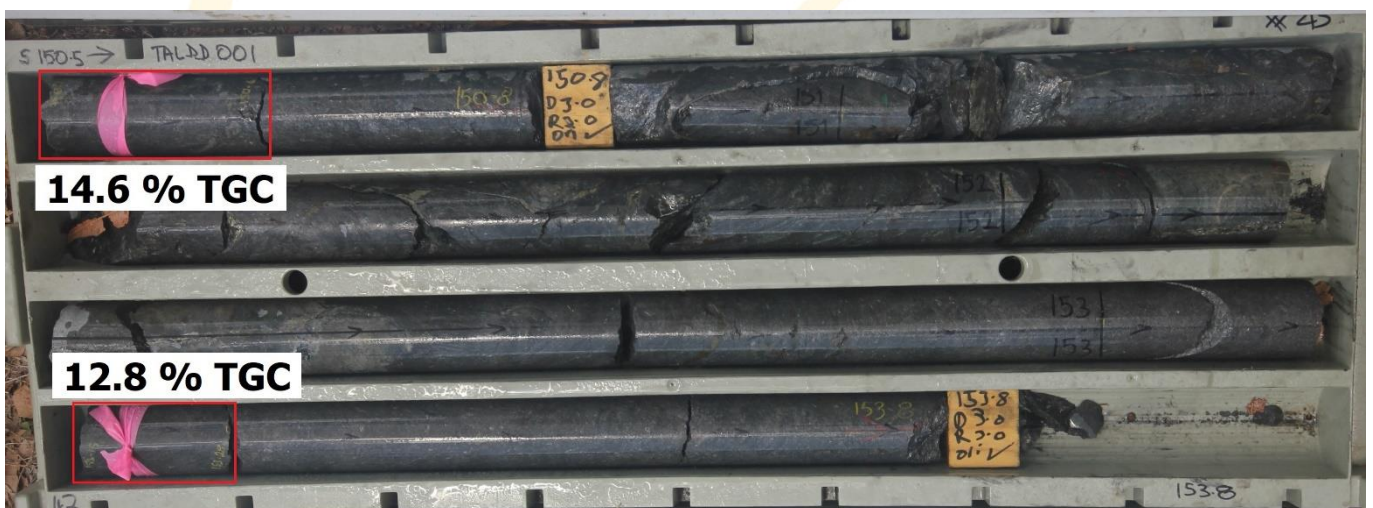
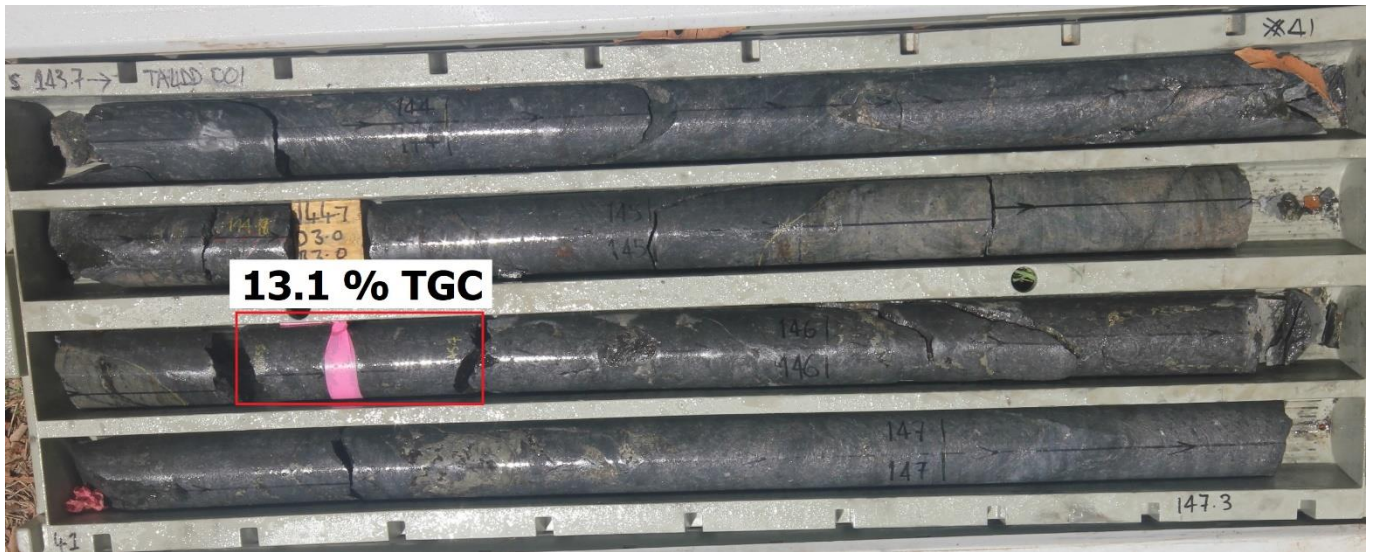












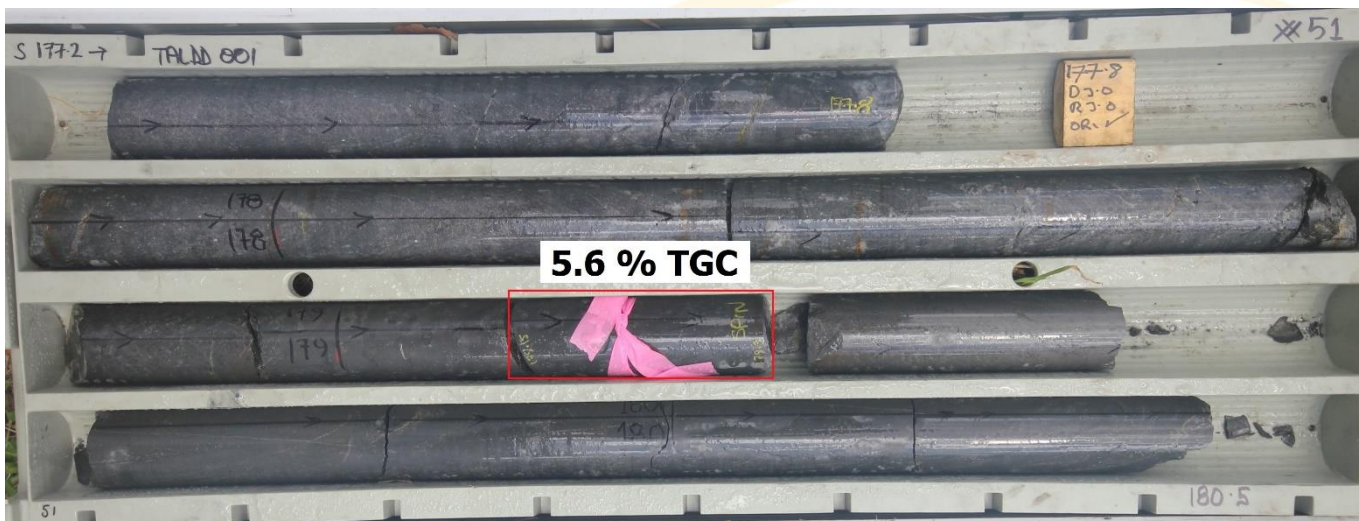
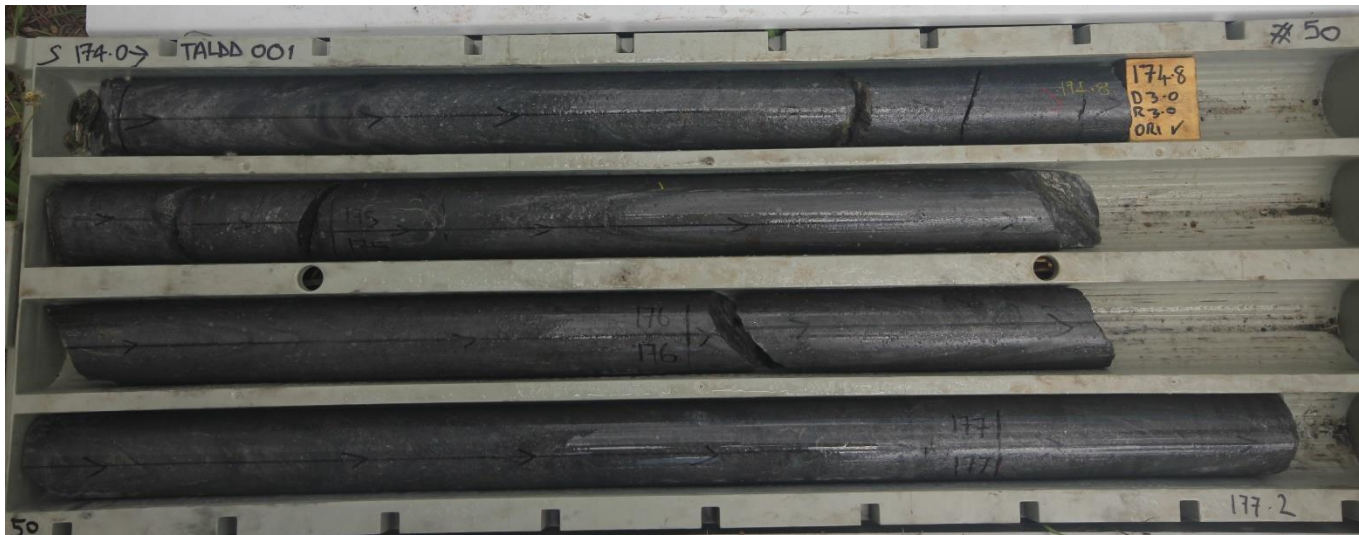




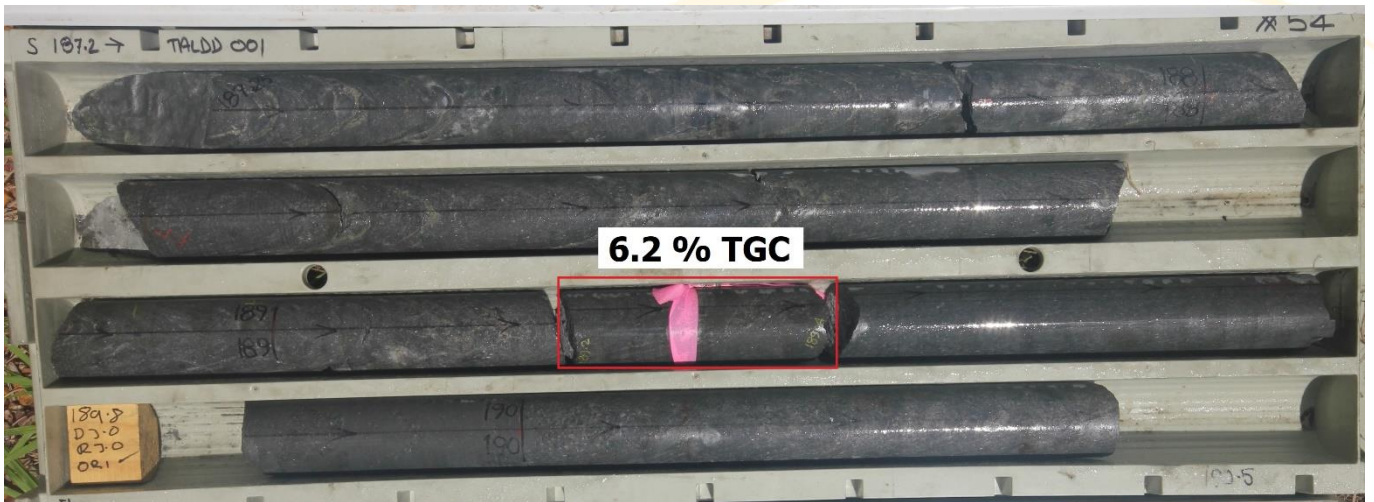
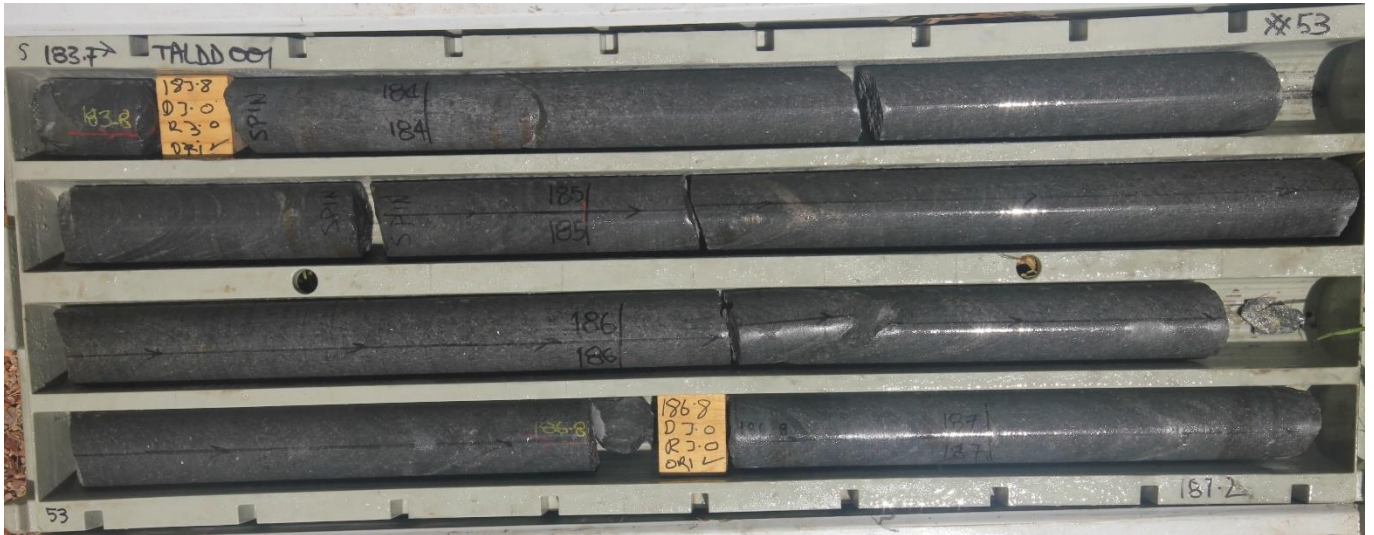




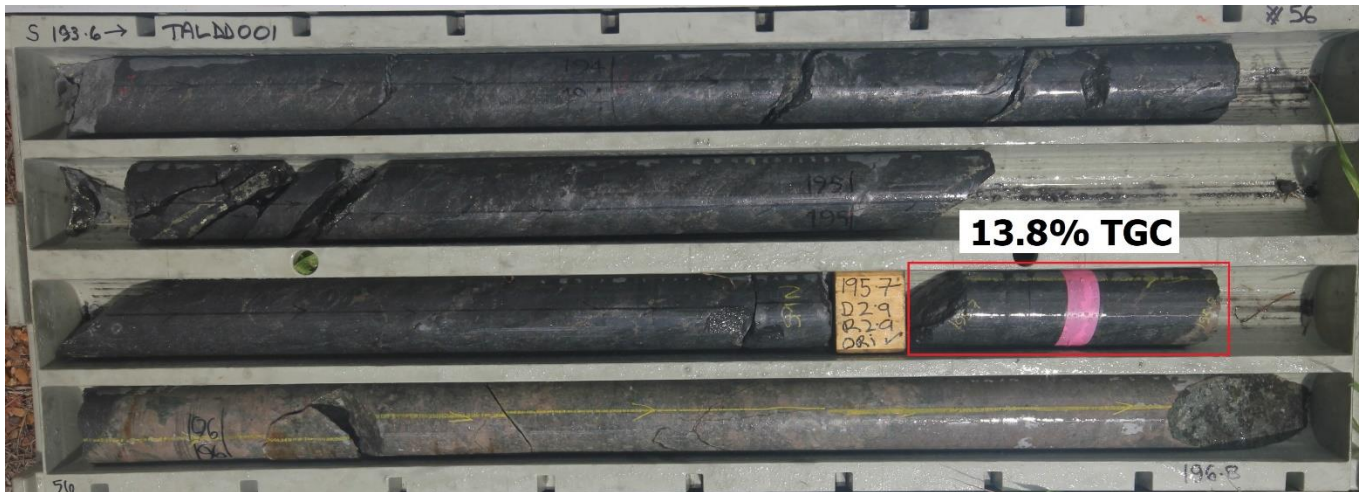




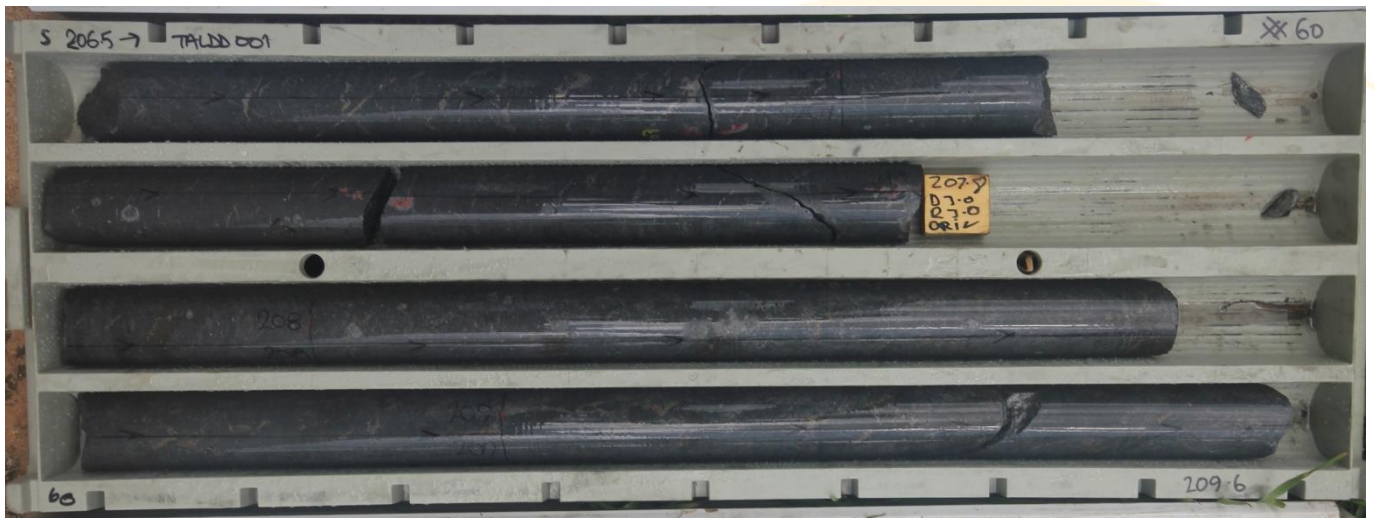




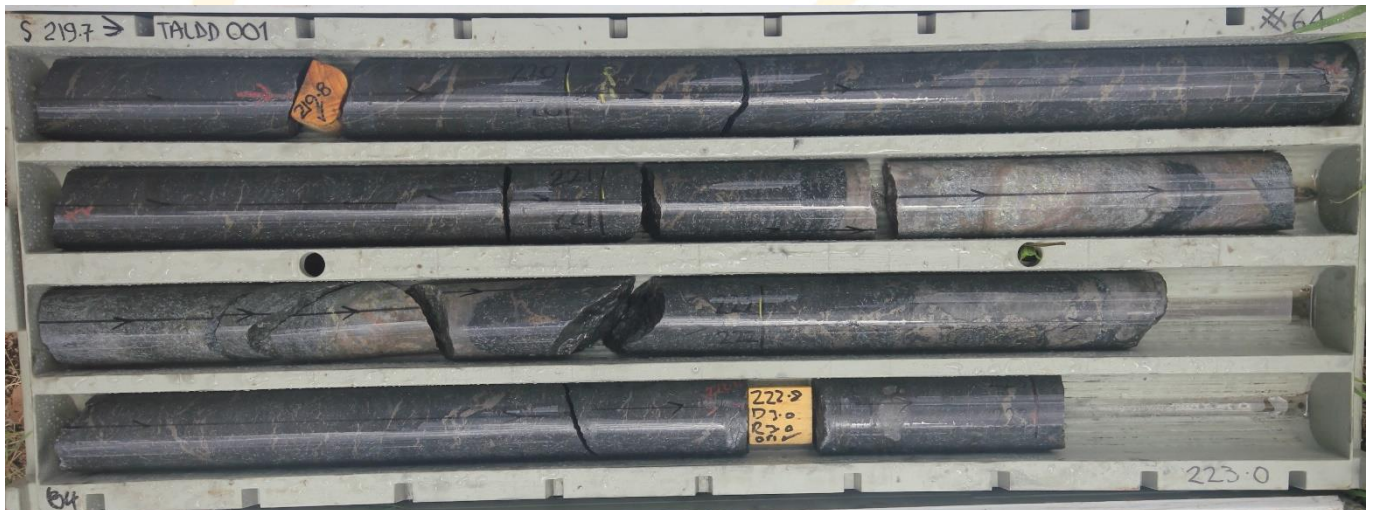
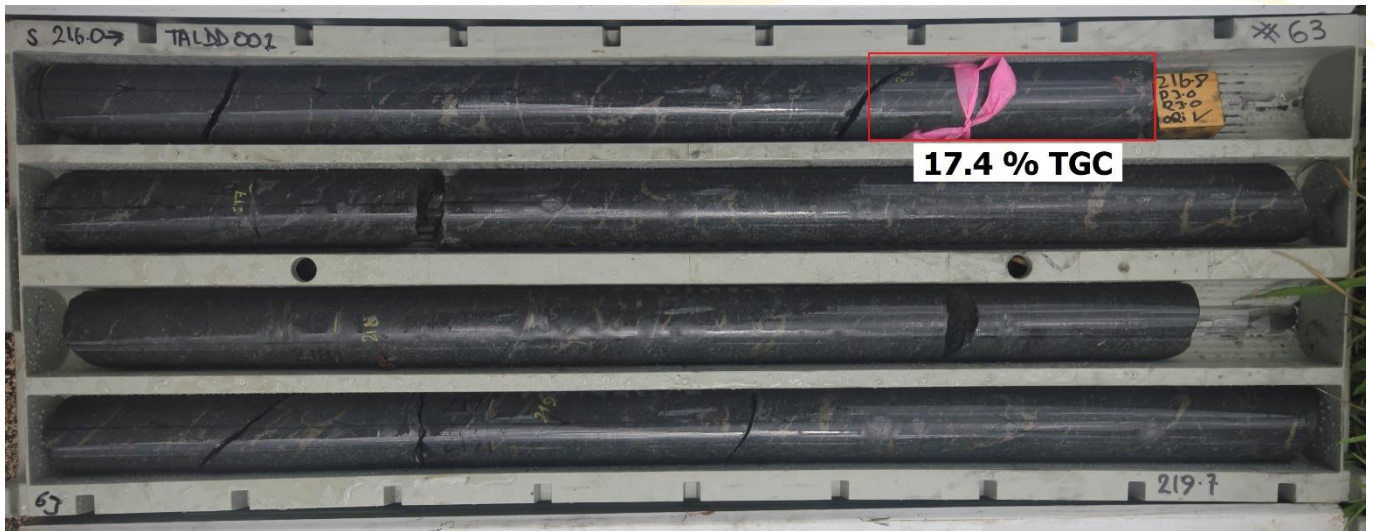
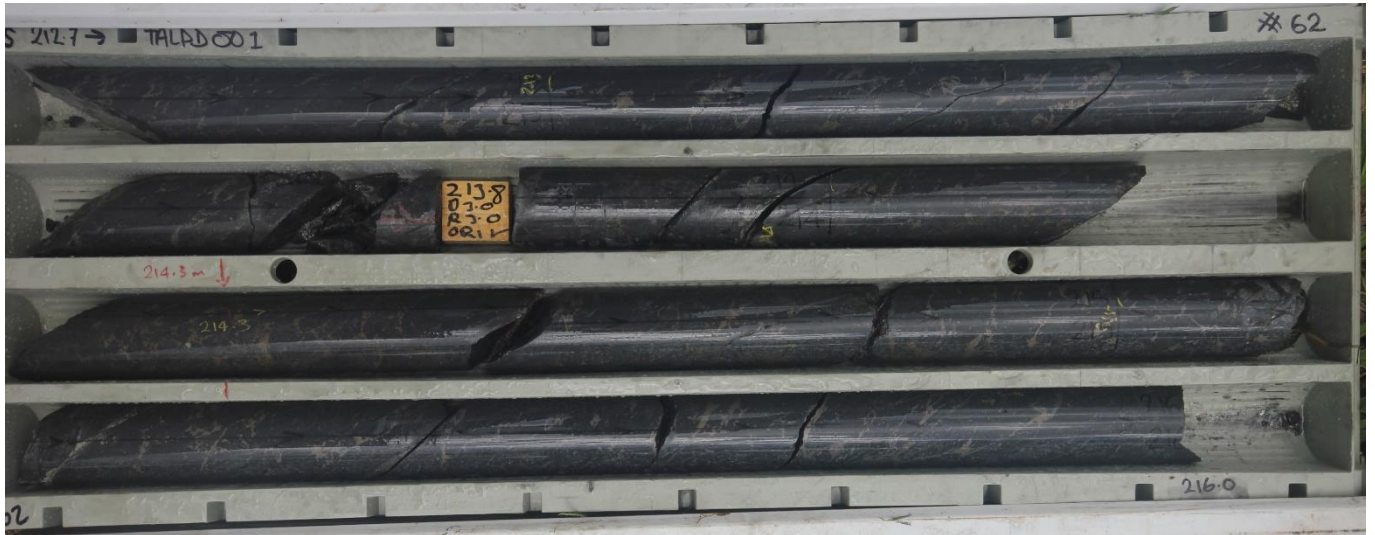




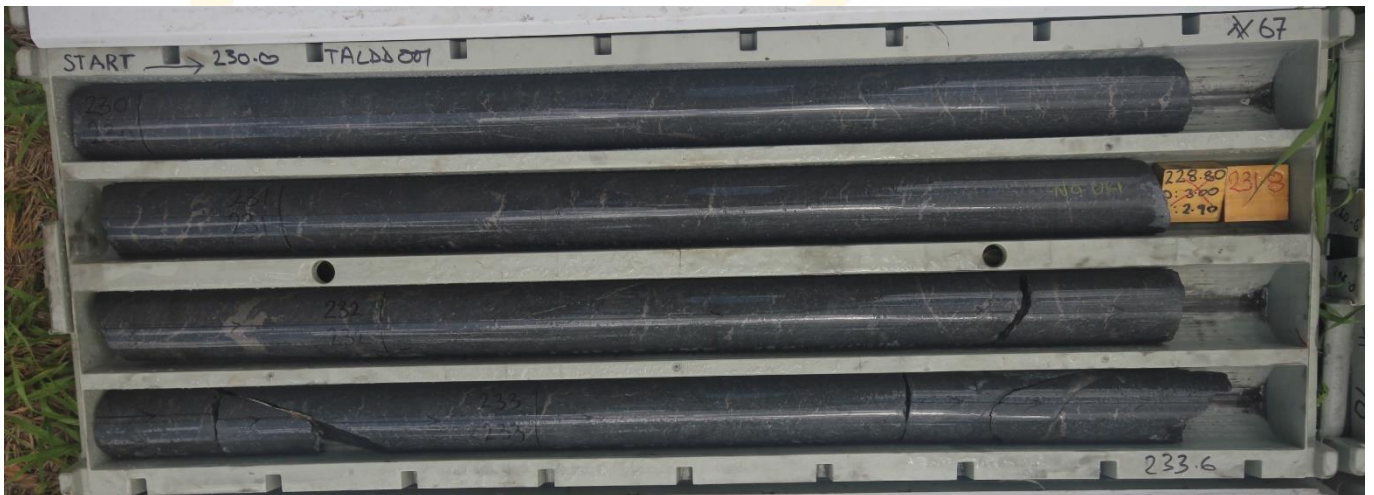
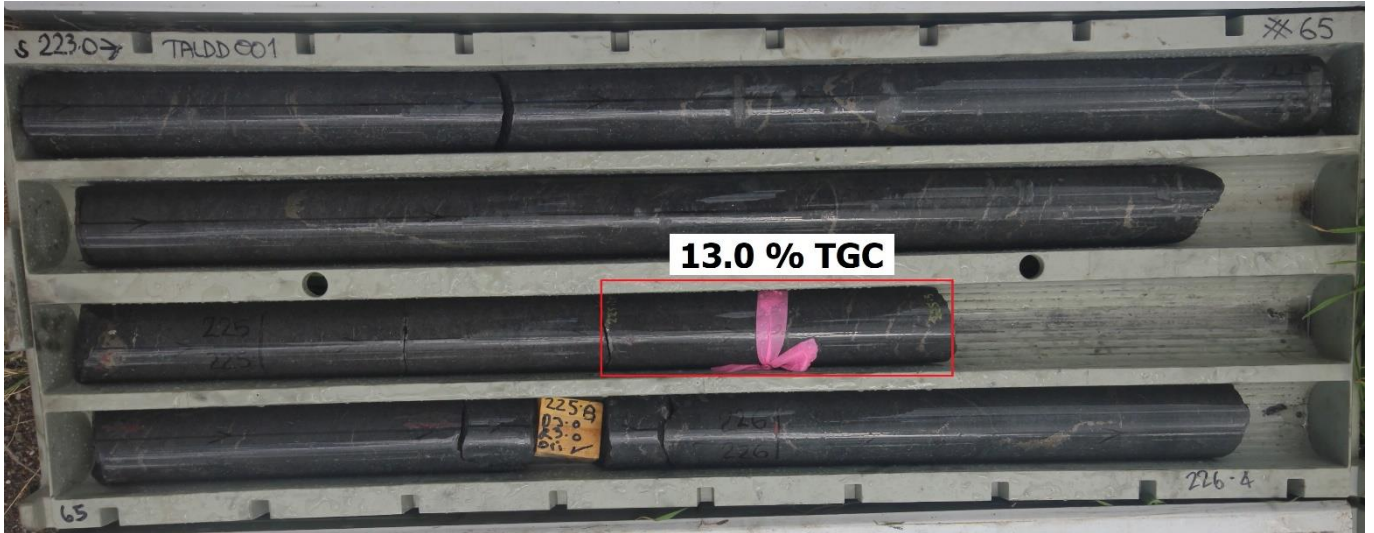




















**APPENDIX 2 – TALD001 Geology Log**

From	To	Width	Lithology	Weathering
0.0	2.0	2.0	Overburden	highly weathered
2.0	6.0	4.0	Gneiss	highly weathered
6.0	10.3	4.3	<b>Graphitic Schist</b>	moderately weathered
10.3	22.0	11.7	Gneiss	moderately weathered
22.0	28.0	6.0	Fault Zone	highly weathered
28.0	33.0	5.0	Gneiss	moderately weathered
33.0	35.8	2.8	Granite	highly weathered
35.8	46.2	10.4	Gneiss	moderately weathered
46.2	46.4	0.2	Granite	highly weathered
46.4	48.0	1.6	Gneiss	moderately weathered
48.0	50.0	2.0	<b>Graphitic Schist</b>	slightly weathered
50.0	51.1	1.1	Granite	highly weathered
51.1	55.4	4.3	<b>Graphitic Schist</b>	slightly weathered
55.4	58.2	2.8	Quartz Veining	slightly weathered
58.2	58.8	0.6	Fault Breccia	slightly weathered
58.8	63.8	5.0	<b>Graphitic Schist</b>	fresh
63.8	66.8	3.0	Aplite Dyke	fresh
66.8	74.7	7.9	<b>Graphitic Schist</b>	fresh
74.7	76.7	2.0	Granite	fresh
76.7	93.0	16.3	<b>Graphitic Gneiss</b>	fresh
93.0	94.5	1.5	<b>Graphitic Schist</b>	fresh
94.5	95.3	0.8	Granite	fresh
95.3	97.1	1.8	Gneiss	fresh
97.1	98.4	1.3	Granite	fresh
98.4	104.5	6.1	<b>Graphitic Schist</b>	fresh
104.5	104.7	0.2	Granite	fresh
104.7	116.5	11.8	<b>Graphitic Schist</b>	fresh
116.5	117.7	1.2	Aplite Dyke	fresh
117.7	118.7	1.0	<b>Graphitic Schist</b>	fresh
118.7	119.5	0.8	Aplite Dyke	fresh
119.5	121.5	2.0	<b>Graphitic Schist</b>	fresh
121.5	127.6	6.1	Granite	fresh
127.6	145.1	17.5	<b>Graphitic Schist</b>	fresh
145.1	145.4	0.3	Aplite Dyke	fresh
145.4	152.1	6.7	<b>Graphitic Schist</b>	fresh
152.1	152.4	0.3	Aplite Dyke	fresh
152.4	165.7	13.3	<b>Graphitic Schist</b>	fresh
165.7	165.9	0.2	Granite	fresh
165.9	175.0	9.1	<b>Graphitic Schist</b>	fresh
175.0	176.5	1.5	Hornfels	fresh
176.5	178.0	1.5	<b>Graphitic Schist</b>	fresh
178.0	182.2	4.2	Hornfels	fresh
182.2	183.8	1.6	Quartzite	fresh
183.8	195.9	12.1	<b>Graphitic Schist</b>	fresh
195.9	206.2	10.3	Granite	fresh
206.2	221.2	15.0	<b>Graphitic hornfels</b>	fresh

<b>From</b>	<b>To</b>	<b>Width</b>	<b>Lithology</b>	<b>Weathering</b>
221.2	221.9	0.7	Aplite Dyke	fresh
221.9	248.3	26.4	<b>Graphitic hornfels</b>	fresh
248.3	249.05	0.8	Aplite Dyke	fresh



### APPENDIX 3 - PETROGRAPHIC DESCRIPTIONS TALD001

**SAMPLE NO:** TPOD 2766

**LOCATION:** 61.5m – 61.6m

**ASSAY:** 12.4% TGC

**TYPE:** Core

**FIELD IDENTIFICATION:** Mineralised (pyrite) graphite schist.

**SECTION TYPE:** polished Thin Section

#### DESCRIPTION

:

Quartz	56%	<b>Opagues (10%):</b>
Sericite/muscovite	32%	Graphite - dominant(10%)
Opagues	12%	Pyrite- minor (1%)
		Melnikovite pyrite - minor (1%)

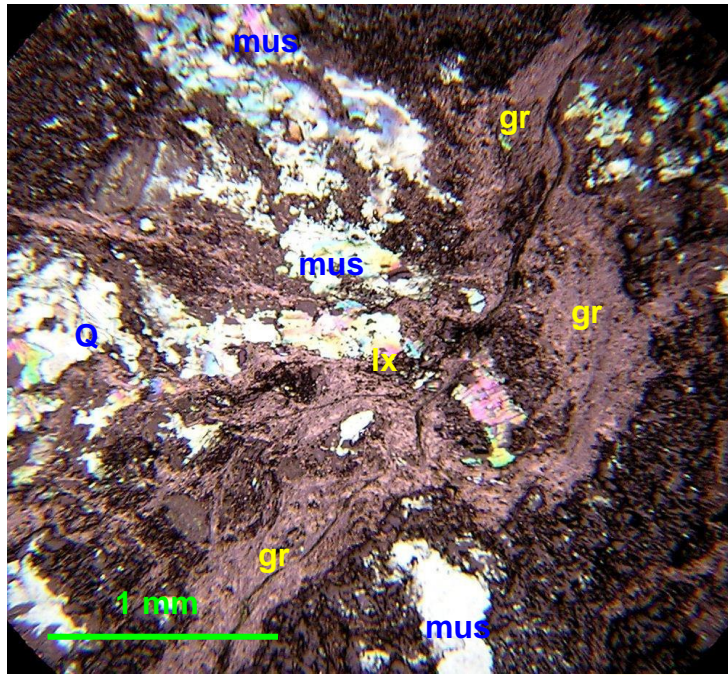
Fine platy graphite aggregates occur as anastomosing schlieren (opaque) in a prograde metamorphic matrix comprising granoblastic quartz and platy muscovite closely associated with fine scaly to platy graphite (opaque) inclusions. Original andalusite porphyroblasts have been replaced by scaly sericite aggregates containing graphite inclusions.

*In reflected light*, fine graphite flakes and flakey aggregates parallel an anastomosing schistosity. The individual graphite flakes range in size from 5 µm to 90 µm with an average size of approximately 40 µm. Graphite flakes also occur as massive aggregates or clusters up to 500 µm thick (typically 250 µm) within the anastomosing graphite schlieren.

Sulphides are dominated by blebby pyrite typically associated with porous secondary pyrite or melnikovite after original pyrrhotite. The presence of “birds-eye” textures in melnikovite pyrite confirms a pyrrhotite precursor.

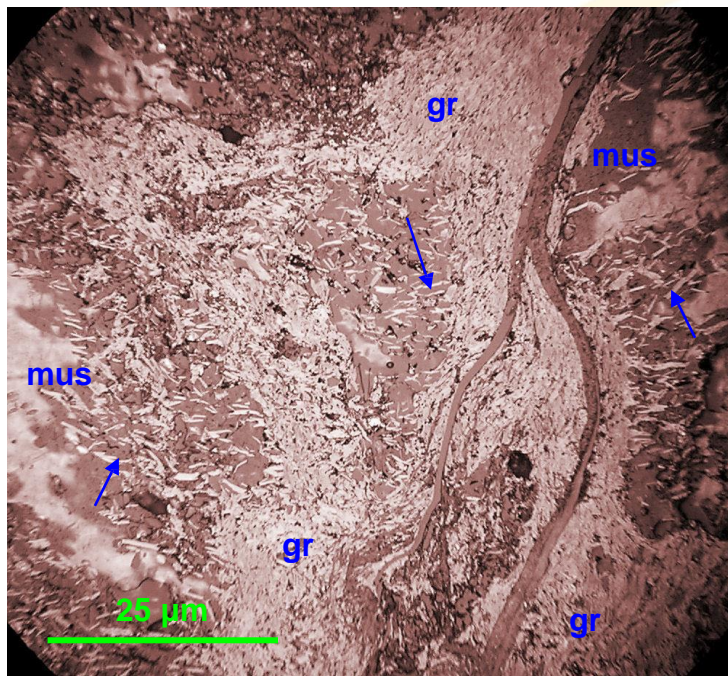
**Comments:** Flake graphite is ubiquitous in the sample although the flake size can be regarded as small (ie 5 to 90 µm, av – 40 µm). The massive flake clusters would probably separate relatively easily during the beneficiation process and comprise approximately 7 vol% of the sample, whereas most of the individual graphite flakes occur as inclusions in the quartz – muscovite – original andalusite(?) schistose host.

**CLASSIFICATION:** *Quartz - sericite/muscovite – graphite schist containing original andalusite porphyroblasts that have been pervasively sericitised.*



**Sample TPOD 2766**

Anastomosing aggregates of flake graphite (gr) cutting the quartz (Q) – muscovite (mus) schist host. Crossed polars under transmitted and reflected light. Field of view – 3 mm.



**Sample TPOD 2766**

A detailed view showing the presence of individual graphite (gr) flakes (arrowed) as well as massive graphite (gr) flake aggregates occurring in the muscovite (mus) host. Crossed polars under transmitted and reflected light. Field of view – 75 µm.



**SAMPLE NO:** TPOD 2767

**ASSAY:** 10.5% TGC

**LOCATION:** 96.75m – 97.00m

**TYPE:** Core

**FIELD IDENTIFICATION:** Mineralised (pyrite) graphite schist.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz	57%	<b>Opagues (11%):</b>
Potash feldspar	4%	Graphite - dominant (8%)
Sericite/muscovite	25%	Pyrite - subordinate (2%)
Biotite	1%	Melnikovite pyrite - minor
Fe/Mg chlorite	2%	Chalcopyrite - tr
Rutile	tr	
Opagues	11%	

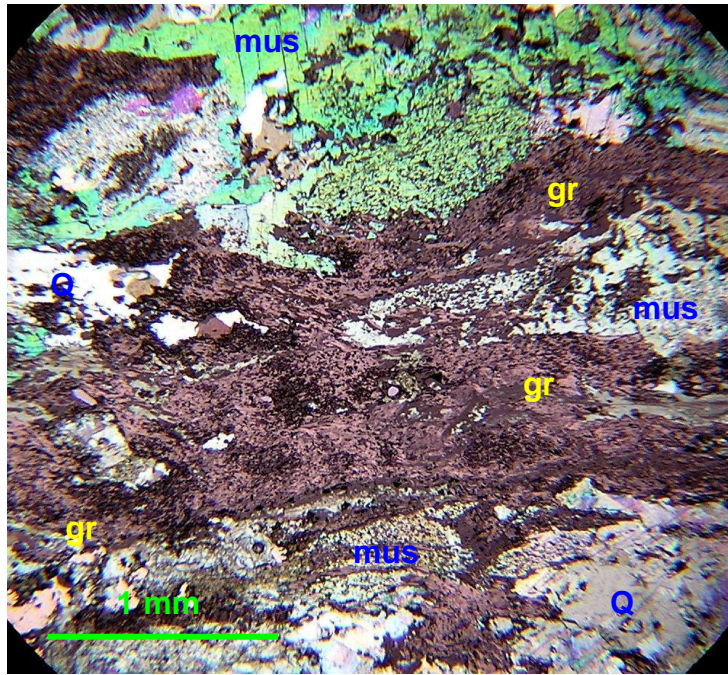
Flaky graphite aggregates occur as distinctive anastomosing schlieren (opaque) in a prograde metamorphic matrix comprising platy muscovite associated with granoblastic quartz and minor potash feldspar. Platy biotite occurs as a minor phase and has been locally replaced by Fe/Mg chlorite. Fine scaly to platy graphite (opaque) inclusions occur within the silicate gangue. Possible original andalusite porphyroblasts in the matrix have been replaced by scaly sericite aggregates as a retrograde phase.

*In reflected light*, the graphite schlieren comprise fine graphite flakes (up to 110 µm) in the metamorphic host. The fine graphite flakes and flakey aggregates parallel an anastomosing schistosity. The individual graphite flakes range in size from 20 µm to 120 µm with an average size of approximately 70 µm. Graphite flakes also occur as aggregates or clusters up to 400 µm thick within the anastomosing graphite schlieren. Fine, anhedral rutile occurs as an accessory in the matrix and is obvious under reflected light.

Sulphides are dominated by blebby pyrite typically associated with porous secondary pyrite or melnikovite after original pyrrhotite. Trace chalcopyrite inclusions in pyrite.

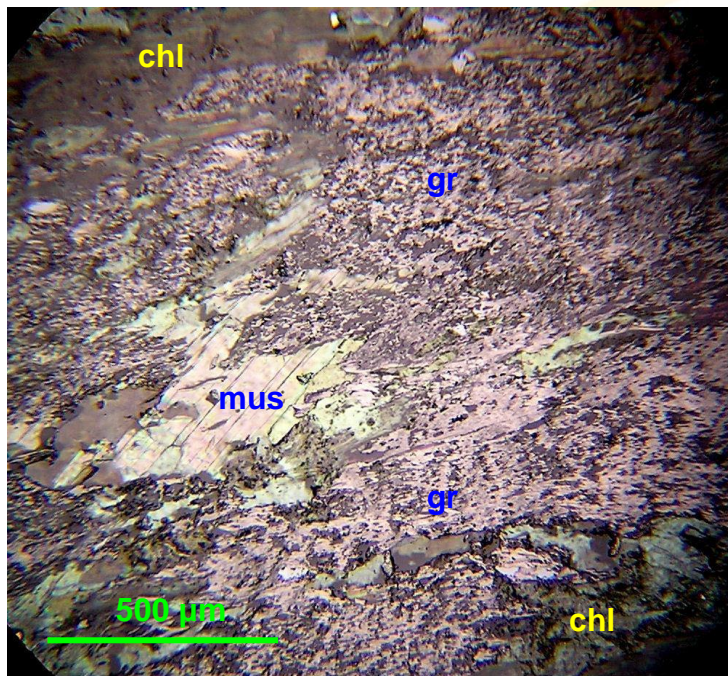
**Comments:** Flake graphite is typically concentrated in the flakey schlieren that parallels the anastomosing schistosity. The flake size can be regarded as small to medium (ie 20 to 120 µm, av– 70 µm). The prograde assemblage would be stable under lower amphibolite facies and has been retrogressed to sericite and Fe/Mg chlorite.

**CLASSIFICATION:** Quartz - potash feldspar - muscovite/sericite – minor biotite - graphite schist, possibly containing original andalusite.



**Sample TPOD 2767**

Flake graphite (gr) is concentrated in schlieren paralleling an anastomosing schistosity in a matrix comprising platy muscovite (mus) and quartz (Q). Crossed polars under transmitted and reflected light. Field of view – 3 mm.



**Sample TPOD 2767**

A detailed view showing concentration of graphite (gr) flakes in the matrix comprising platy muscovite (mus) and Fe/Mg chlorite after original biotite. Crossed polars under transmitted and reflected light. Field of view – 1.5 mm.



**SAMPLE NO:** TPOD 2768

**ASSAY:** 13.0% TGC

**LOCATION:** 110.15m – 110.35m

**TYPE:** Core

**FIELD IDENTIFICATION:** Mineralised (pyrite) graphite schist.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz	42%	<b>Opagues (15%):</b>
Potash feldspar	4%	Graphite - dominant (10%)
Sericite/muscovite	35%	Pyrrhotite-subordinate (5%)
Biotite	4%	Chalcopyrite - tr
Rutile	tr	
Opagues	15%	

Broadly similar to Sample TPOD 2767 with flaky graphite aggregates occurring as distinctive anastomosing schlieren (opaque) in a prograde metamorphic matrix. The host comprises platy muscovite associated with granoblastic quartz, minor potash feldspar and platy biotite. A series of pyrrhotite stringers (opaque) cut the foliation. Fine scaly to platy graphite (opaque) inclusions occur within the silicate gangue. Possible original andalusite porphyroblasts in the matrix have been replaced by scaly sericite aggregates as a retrograde phase.

*In reflected light*, the graphite schlieren comprise fine graphite flakes (up to 110 µm) in the metamorphic host. The fine graphite flakes and flakey aggregates parallel an anastomosing schistosity. The individual graphite flakes range in size from 20 µm to 140 µm with an average size of approximately 70 µm. Graphite flakes also occur as aggregates or clusters up to 350 µm thick within the anastomosing graphite schlieren. Fine, anhedral rutile occurs as an accessory in the matrix and is obvious under reflected light.

Sulphides are dominated by blebby pyrite typically associated with porous secondary pyrite or melnikovite after original pyrrhotite. Trace chalcopyrite inclusions in pyrite.

**Comments:** Flake graphite is typically concentrated in the flakey schlieren that parallels the anastomosing schistosity. The flake size can be regarded as small to medium (ie 20 to 140 µm, av– 70 µm). The prograde assemblage would be stable under lower amphibolite facies and has been retrogressed to sericite and Fe/Mg chlorite.

**CLASSIFICATION:** *Quartz - potash feldspar - muscovite/sericite – minor biotite - graphite schist, possibly containing original andalusite porphyroblasts.*

**SAMPLE NO:** TPOD 2769

**ASSAY:** 11.3% TGC

**LOCATION:** 118.30m – 118.60m

**TYPE:** Core

**FIELD IDENTIFICATION:** Mineralised (pyrrhotite) graphite schist.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz	53%	<b>Opagues (14%):</b>
Potash feldspar	4%	Graphite - (8%)
Sericite/muscovite	26%	Pyrrhotite - (6%)
Mg chlorite	3%	Chalcopyrite - tr
Rutile	tr	
Opagues	14%	

Flaky graphite (opaque) aggregates parallel an anastomosing schistosity in a prograde metamorphic matrix comprising coarse platy muscovite associated with granoblastic quartz and a subordinate feldspathic component. The feldspathic component includes minor potash feldspar and possibly plagioclase that has been pervasively altered to clay and scaly sericite as a retrograde phase. Platy Mg chlorite can be interlayered with muscovite and locally rims sulphides. Fine, scaly to platy graphite (opaque) inclusions occur within the silicate gangue. Possible original andalusite porphyroblasts in the matrix have been replaced by scaly sericite aggregates as a retrograde phase.

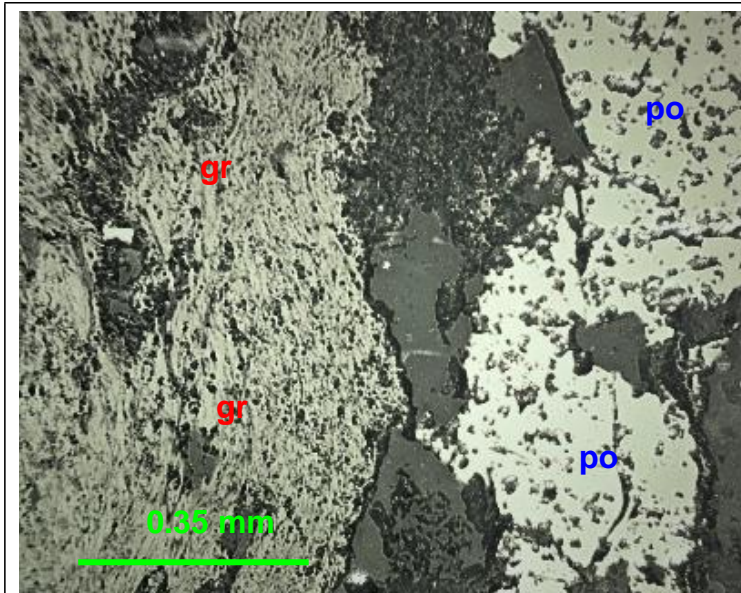
*In reflected light*, slightly increased graphite flake size is evident (up to 120 µm) in the metamorphic host. The fine graphite flakes and flakey aggregates parallel an anastomosing schistosity. The individual graphite flakes range in size from 25 µm to 120 µm with an average size of approximately 80 µm. Graphite flakes also occur as aggregates or clusters up to 420 µm thick within the anastomosing schistosity. Fine, anhedral rutile occurs as an accessory in the matrix and is obvious under reflected light.

Sulphides are dominated by pyrrhotite occurring as blebs and stringers cross-cutting the foliation. Pyrrhotite and flake graphite typically occur separately within the section and should not provide beneficiation challenges. Trace chalcopyrite is associated with pyrrhotite.

**Comments:** Flake graphite typically parallels the anastomosing schistosity. The flake size can be regarded as small to medium (ie 25 to 120 µm, av – 80 µm). The prograde assemblage would be stable under lower amphibolite facies and has been retrogressed to sericite, clay and Mg chlorite.

**CLASSIFICATION:** *Quartz - potash feldspar – original plagioclase - muscovite/sericite – graphite schist, possibly containing original andalusite. Blebby and stringer pyrrhotite mineralisation is present.*





**Sample TPOD 2769**

Flake graphite (gr) aggregate occurring separately to blebby pyrrhotite (po) in the high grade metamorphic host. Plane polarise reflected light. Field of view – 1 mm.

**SAMPLE NO:** TPOD 2770

**ASSAY:** 10.6% TGC

**LOCATION:** 127.80m – 127.95m

**TYPE:** Core

**FIELD IDENTIFICATION:** Mineralised (pyrrhotite) graphite schist.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz	55%	<b>Opagues - 13%</b>
Potash feldspar	9%	Graphite - 7%
Sericite/muscovite	20%	Pyrrhotite - 6%
Biotite	tr	
Mg chlorite	3%	
Rutile	tr	
Opagues	13%	

Flaky graphite (opaque) parallels the strong preferred schistosity in the prograde metamorphic matrix comprising coarse platy muscovite associated with anhedral to granoblastic quartz and subordinate potash feldspar. Potash feldspar has been progressively altered to scaly sericite and dusted clays as a retrograde phase. Platy Mg chlorite can be associated with flake graphite lenses or schlieren paralleling the foliation. Fine scaly to platy graphite (opaque) inclusions occur within the silicate gangue as a minor component.

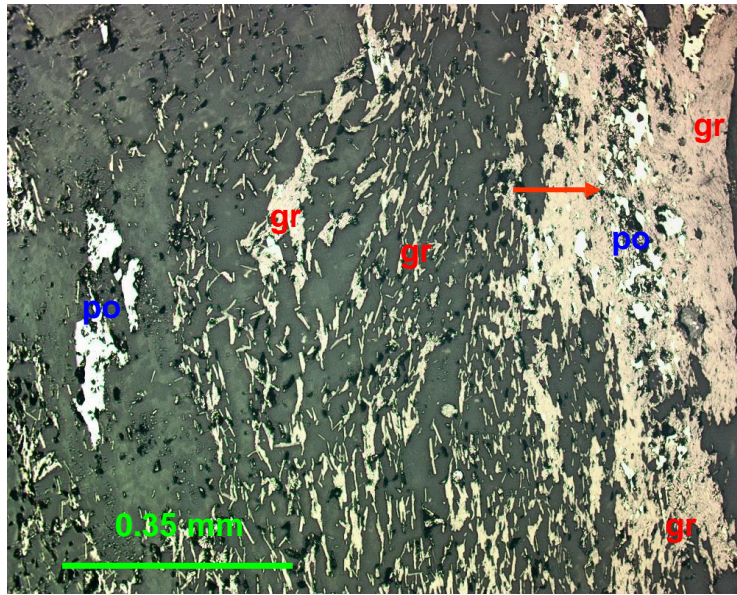
*In reflected light*, fine graphite flakes and clumps of flakes that parallel the foliation. The individual graphite flakes range in size from 20 µm to 110 µm with an average size of approximately 60 µm. Graphite flakes also occur as distinctive aggregates or clusters that parallel the foliation and can be up to 400 µm thick and are typically associated with the phyllosilicate component. Fine, anhedral rutile occurs as an accessory in the matrix and is obvious under reflected light.

Sulphides are dominated by pyrrhotite occurring as blebs in the matrix that can be moulded around flake graphite aggregates. Pyrrhotite and flake graphite can exhibit a closer relationship although it is not expected to afford beneficiation challenges.

*Comments:* Flake graphite typically parallels the strong preferred schistosity. The flake size can be regarded as small to medium (ie 20 to 110 µm, av – 60 µm) although the graphite clumps are significant. The prograde assemblage would be stable under lower amphibolite facies and has been retrogressed to sericite, clay and Mg chlorite.

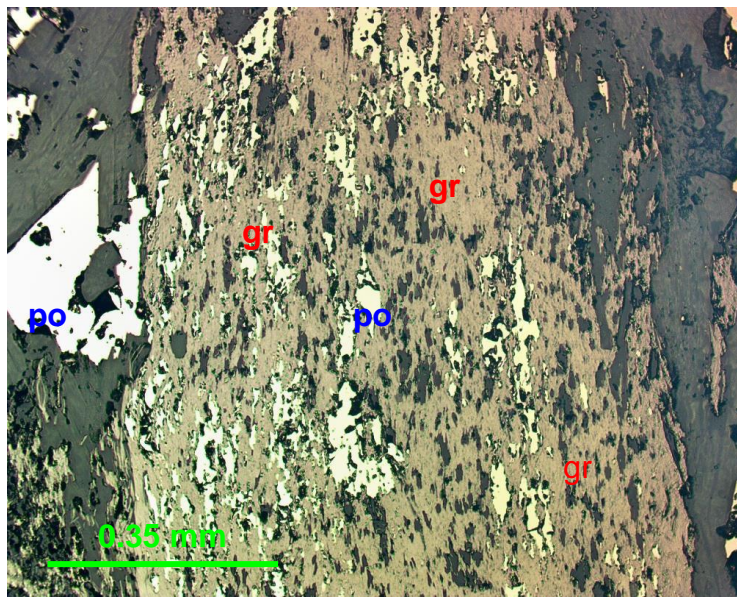
**CLASSIFICATION:** *Quartz - potash feldspar – muscovite/sericite – graphite schist. Blebby pyrrhotite mineralisation is present.*





**Sample TPOD 2770**

Graphite (gr) flakes and aggregates parallel a preferred schistosity in the metamorphic host. Note the presence of pyrrhotite (po) occurring within the flake graphite aggregate or schlieren (arrowed). Plane polarised reflected light. Field of view – 1 mm.



**Sample TPOD 2770**

Another view showing pyrrhotite (po) inclusions in the flake graphite (gr) aggregate or schlieren. Blebbly pyrrhotite (po) locally rims the graphite aggregate. Plane polarised reflected light. Field of view – 1 mm.

**SAMPLE NO:** TPOD 2771

**ASSAY:** 12.9% TGC

**LOCATION:** 136.20m – 136.40m

**TYPE:** Core

**FIELD IDENTIFICATION:** Mineralised (pyrrhotite as stringers and bands) graphite schist.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz	51%	<b>Opagues 17%:</b>
Potash feldspar	5%	Graphite - 8%
Sericite/muscovite	16%	Pyrrhotite -9%
Mg chlorite	1%	
Rutile	tr	
Opagues	17%	

Flaky graphite (opaque) aggregates parallel an anastomosing schistosity in a prograde metamorphic matrix comprising platy muscovite associated with granoblastic quartz and subordinate potash feldspar. Potash feldspar has been locally altered to clay and scaly sericite as a retrograde phase. Minor platy Mg chlorite parallels the foliation and can be associated with flake graphite. Fine scaly to platy graphite (opaque) inclusions occur within the silicate gangue (muscovite and to a lesser extent, quartz).

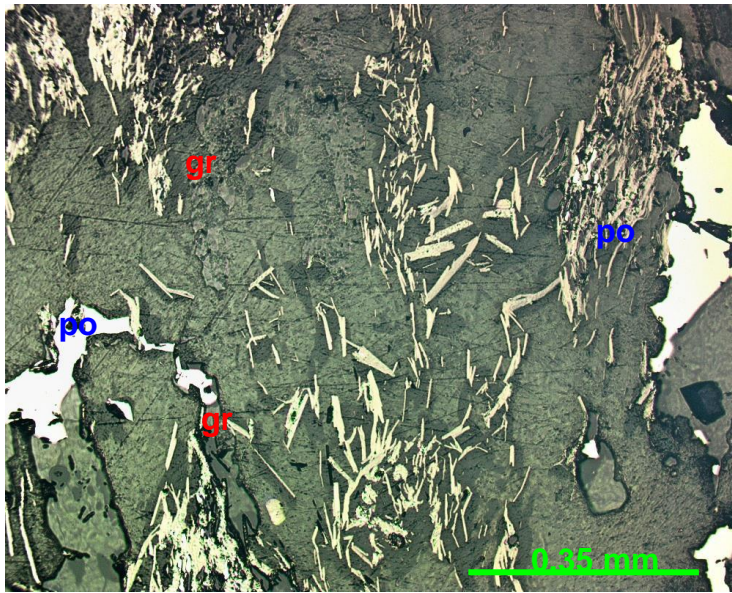
*In reflected light*, graphite as fine flakes and aggregates parallel the anastomosing schistosity. The individual graphite flakes range in size from 6 µm to 150 µm with an average size of approximately 80 µm. Graphite flakes also occur as aggregates or clusters up to 250 µm thick within the anastomosing schistosity. Fine, anhedral rutile occurs as an accessory in the matrix and is obvious under reflected light.

Sulphides are dominated by pyrrhotite occurring as blebs, stringers and bands locally paralleling the foliation. Pyrrhotite and flake graphite normally occur separately within the section although there is some evidence of graphite/sulphide layering. Overall, the association should not provide beneficiation challenges.

**Comments:** Flake graphite typically parallels the anastomosing schistosity. The flake size can be regarded as small to coarse (ie 6 to 150 µm, av – 80 µm). The prograde assemblage would be stable under lower amphibolite facies and has been retrogressed to sericite, clay and Mg chlorite.

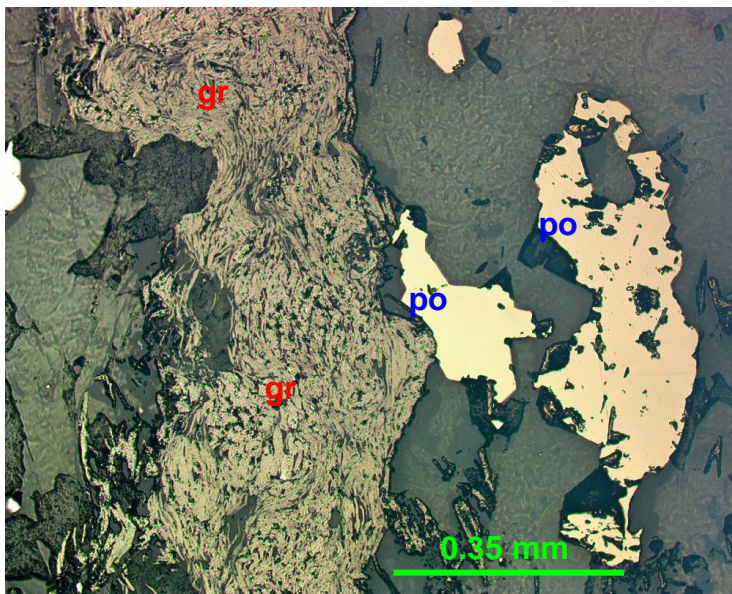
**CLASSIFICATION:** *Quartz - potash feldspar - muscovite/sericite – graphite schist. Blebby, stringer and banded pyrrhotite mineralisation is present.*





**Sample TPOD 2771**

Graphite (gr) flakes and blebby pyrrhotite (po) occur in the high grade metamorphic host. Plane polarised reflected light. Field of view – 1 mm.



**Sample TPOD 2771**

Another view showing a flake graphite (gr) aggregate occurring separately to blebby pyrrhotite (po) in the high grade metamorphic host. Plane polarised reflected light. Field of view – 1 mm.

**SAMPLE NO:** TPOD 2772

**ASSAY:** 13.1% TGC

**LOCATION:** 145.50m – 145.70m

**TYPE:** Core

**FIELD IDENTIFICATION:** Mineralised (pyrrhotite as stringers and bands) graphite schist.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz	49%	<b>Opagues (26%):</b>
Potash feldspar	4%	Graphite - (7%)
Sericite/muscovite	18%	Pyrrhotite -(14%)
Biotite to Fe chlorite	2%	Pyrite - (5%)
Mg chlorite	1%	
Rutile	tr	
Opagues	26%	

An increased flake graphite content is apparent with flaky graphite (opaque) and flake graphite aggregates or schlieren paralleling an anastomosing schistosity in a prograde metamorphic matrix. The matrix comprises platy muscovite associated with granoblastic quartz and subordinate potash feldspar. There is evidence of minor biotite that has been replaced by Fe chlorite. Scaly sericite aggregates containing fine graphite (opaque) inclusions may have replaced an original porphyroblastic phase – possibly andalusite. Fine, scaly to platy graphite (opaque) inclusions also occur within the silicate gangue.

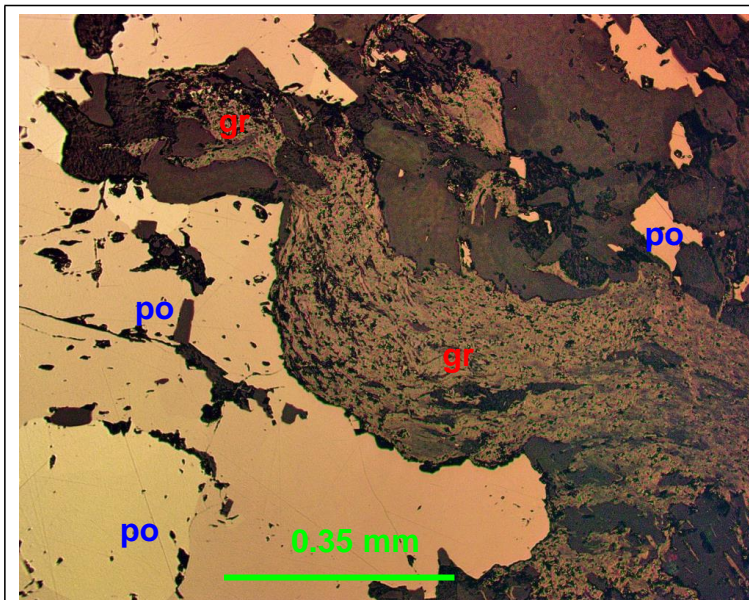
***In reflected light,*** graphite as fine flakes and aggregates parallel the anastomosing and locally crenulated schistosity. The individual graphite flakes range in size from 10 µm to 120 µm with an average size of approximately 60 µm. Significantly, most of the graphite flakes occur as aggregates or clusters up to 200 to 400 µm thick within the anastomosing schistosity. Platy muscovite is typically interlayered with graphite in the clusters. Fine, anhedral rutile occurs as an accessory in the matrix and is obvious under reflected light.

Sulphides are dominated by pyrrhotite occurring as blebs and stringers or lenses that cross-cut the schistosity. Dominant pyrrhotite can exhibit simple intergrowths with pyrite. Pyrrhotite/pyrite and flake graphite normally occur separately and should not provide beneficiation challenges.

***Comments:*** Flake graphite typically parallels the anastomosing and crenulated schistosity confirming superposed deformation phases. The flake size can be regarded as small to medium (ie 10 to 120 µm, av – 60 µm). The prograde assemblage would be stable under lower amphibolite facies.

**CLASSIFICATION:** *Quartz - potash feldspar - muscovite/sericite – original andalusite - graphite schist. Abundant blebby and stringer pyrrhotite and pyrite mineralisation is present.*





### Sample TPOD 2772

Pyrrhotite (po) is moulded around flake graphite (gr) aggregate or schlieren in the mineralised prograde metamorphic host. Crossed polars under reflected light. Field of view – 1 mm.

**SAMPLE NO:** TPOD 2773

**ASSAY:** 14.6% TGC

**LOCATION:** 150.45m – 150.60m

**TYPE:** Core

**FIELD IDENTIFICATION:** Mineralised (pyrrhotite as stringers and bands) graphite schist.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz	54%	<b>Opagues (18%):</b>
Potash feldspar	3%	Graphite - (11%)
Sericite/muscovite	23%	Pyrrhotite - (7%)
Mg chlorite	1%	Chalcopyrite - tr
Rutile	tr	
Staurolite	1%	
Opagues	18%	

Similar to Sample TPOD 2772, with an increased graphite (opaque) content as flakes and aggregates paralleling the strong schistosity. The prograde metamorphic matrix comprises coarse platy muscovite associated with granoblastic quartz and subordinate potash feldspar. Quartz – potash feldspar lenses or leucosomes parallel the schistosity and may reflect the original gneissosity. Occasional, medium grained, tabular to idioblastic staurolite porphyroblasts are apparent and represent part of the prograde assemblage. Minor platy Mg chlorite aggregates occur as late stage veins oblique to the foliation and rimming sulphide (opaque) plus quartz lenses. A significant proportion of the graphite occurs as fine scaly to platy (opaque) inclusions in muscovite and may indicate the presence of original andalusite (?).

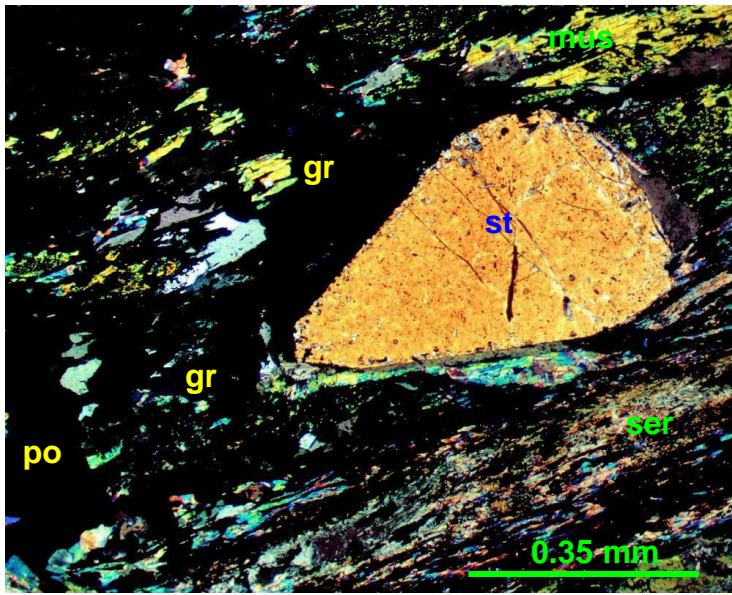
***In reflected light,*** graphite as fine flakes and aggregates parallel the penetrative schistosity. The individual graphite flakes range in size from 12 µm to 130 µm with an average size of approximately 70 µm. Graphite flakes also occur as aggregates or clusters up to 300 µm thick and typically interlayered with muscovite in the schistose matrix. Fine, anhedral rutile occurs as an accessory in the matrix and is obvious under reflected light.

Sulphides are dominated by pyrrhotite occurring as blebs and stringers that locally cross-cut the foliation and have locally developed ptymatic textures. Pyrrhotite can exhibit simple intergrowths with trace chalcopyrite. Pyrrhotite and flake graphite normally occur separately and should not provide beneficiation problems although the presence of interlayered muscovite may represent a challenge.

***Comments:*** Flake graphite typically parallels the strong penetrative schistosity. The flake size can be regarded as small to medium (ie 12 to 130 µm, av – 70 µm) with the presence of aggregates of flake graphite. The prograde assemblage would be stable under lower amphibolite facies confirmed by the presence of staurolite porphyroblasts.

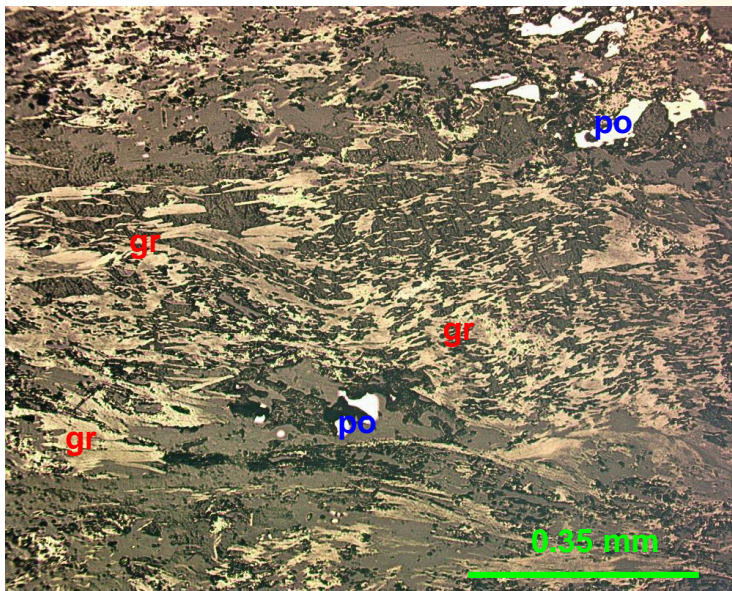
**CLASSIFICATION:** *Quartz - potash feldspar - muscovite/sericite – staurolite – original andalusite (?) graphite schist. Blebby and stringer pyrrhotite and trace chalcopyrite mineralisation is present.*





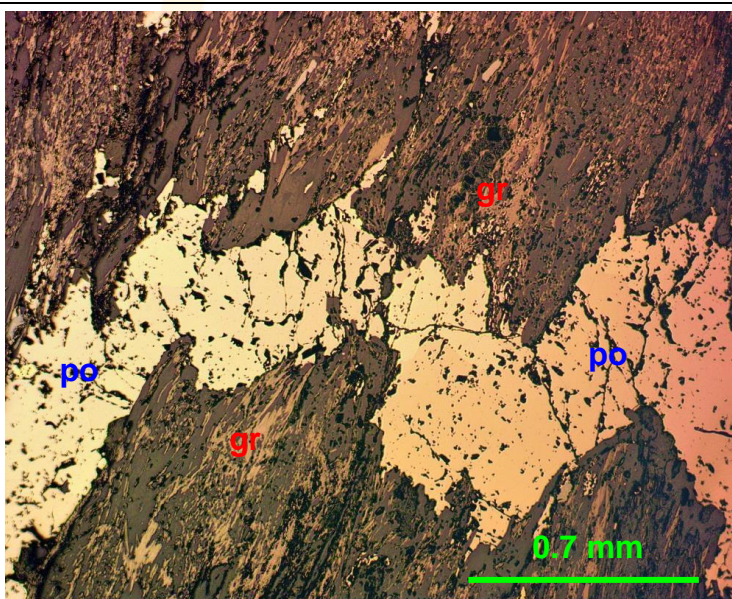
**Sample TPOD 2773**

A prismatic staurolite (st) porphyroblast occurs in the prograde metamorphic matrix comprising platy muscovite (mus) /scaly sericite closely associated with flake graphite (gr – opaque). A pyrrhotite (po) lens cross-cuts the foliation. Crossed polars under transmitted light. Field of view – 2.2 mm.



**Sample TPOD 2773**

A detailed view under reflected light showing flake graphite (gr) paralleling the anastomosing foliation. Minor blebby pyrrhotite (po). Field of view – 1 mm.



**Sample TPOD 2773**

Flake graphite (gr) parallels the penetrative schistosity that has been cut by a pyrrhotite (po) vein. Plane polarised reflected light. Field of view – 2.2 mm.

**SAMPLE NO:** TPOD 2774

**ASSAY:** 12.8% TGC

**LOCATION:** 153.15m – 153.25m

**TYPE:** Core

**FIELD IDENTIFICATION:** Mineralised (pyrrhotite as stringers and bands) graphite schist.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz	60%	<b>Opagues (16%):</b>
Potash feldspar	4%	Graphite - (8%)
Sericite/muscovite	18%	Pyrrhotite - (8%)
Mg chlorite	1%	Chalcopyrite - tr
Rutile	tr	
Staurolite	1%	
Opagues	16%	

Graphite (opaque) occurs as flakes and aggregates paralleling the anastomosing schistosity. The prograde metamorphic matrix comprises coarse platy muscovite associated with granoblastic quartz and subordinate potash feldspar. Occasional, fine, tabular to subidioblastic staurolite porphyroblasts are apparent and represent part of the prograde assemblage. Minor platy Mg chlorite aggregates can be associated with sulphides (opaque).

A significant proportion of the graphite occurs as fine scaly to platy (opaque) inclusions in muscovite and scaly sericite aggregates, and may indicate the presence of original andalusite (?).

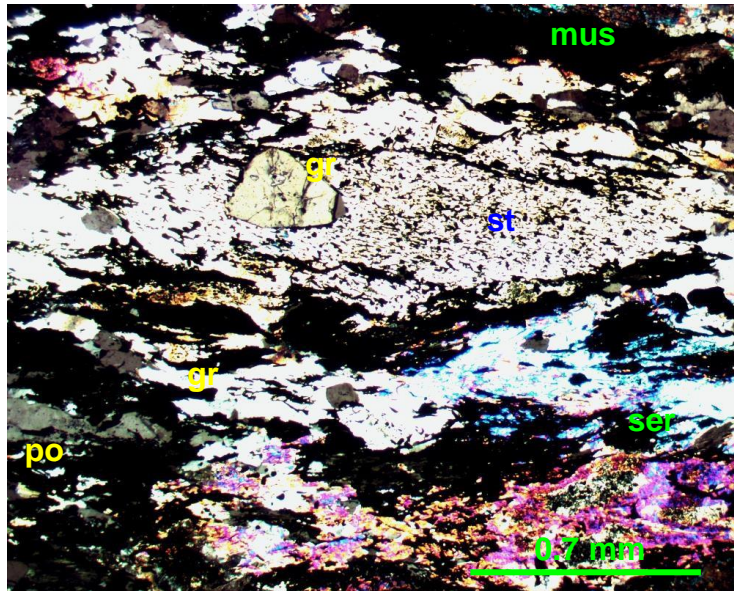
***In reflected light,*** graphite occurs as fine flakes and aggregates paralleling the anastomosing schistosity. The individual graphite flakes range in size from 12 µm to 160 µm with an average size of approximately 90 µm. Graphite flakes also occur as aggregates or clusters up to 300 µm thick, with thickening occurring in crenulation “nodes”. The flake graphite aggregates are typically interlayered with muscovite in the schistose matrix. Fine, anhedral rutile occurs as an accessory in the matrix and is obvious under reflected light.

Sulphides are dominated by pyrrhotite occurring as blebs and series of stringers or veins paralleling a later deformation phase oblique to the schistosity. Pyrrhotite can exhibit simple intergrowths with trace chalcopyrite. Pyrrhotite and flake graphite normally occur separately and should not provide beneficiation problems although the presence of interlayered muscovite may represent a challenge.

***Comments:*** Flake graphite typically parallels the strong penetrative schistosity. The flake size can be regarded as small to coarse (ie 12 to 160 µm, av – 90 µm) with the presence of aggregates of flake graphite. The prograde assemblage would be stable under lower amphibolite facies confirmed by the presence of staurolite porphyroblasts.

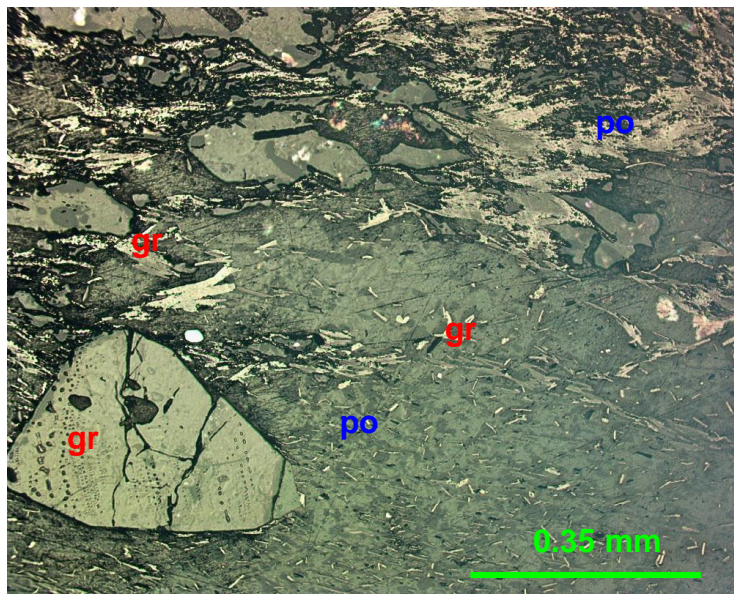
**CLASSIFICATION:** *Quartz - potash feldspar - muscovite/sericite – staurolite – original andalusite (?) graphite schist. Blebby and stringer pyrrhotite and trace chalcopyrite mineralisation is present.*





**Sample TPOD 2774**

A fine staurolite (st) idioblast occurs within platy muscovite containing graphite (gr) flakes and rimmed by flake graphite aggregates. Crossed polars under transmitted light. Field of view – 2.2 mm.



**Sample TPOD 2774**

A detailed view under reflected light showing fine flake graphite (gr) occurring within the platy muscovite host. Field of view – 1 mm.

**SAMPLE NO:** TPOD 2775

**ASSAY:** 8.9% TGC

**LOCATION:** 162.75m – 162.95m

**TYPE:** Core

**FIELD IDENTIFICATION:** Fine sulphides (pyrrhotite) are disseminated through graphite schist.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz	60%	<b>Opagues (14%):</b>
Potash feldspar	4%	Graphite - (9%)
Andalusite	3%	Pyrrhotite - (5%)
Sericite/muscovite	18%	Chalcopyrite - tr
Mg/Fe chlorite	1%	
Rutile	tr	
Opagues	14%	

Distinctive andalusite porphyroblasts are distributed through a foliated matrix comprising oriented flake graphite (opaque) associated with platy muscovite and interstitial granoblastic and minor potash feldspar quartz. Flake graphite follows a penetrative schistosity and locally wraps the andalusite porphyroblasts that have been progressively replaced by scaly sericite aggregates. Fine, anhedral sulphides (opaque) are distributed through the matrix. Minor Mg/Fe chlorite aggregates have replaced a primary phase in the matrix. Fine, flake to scaly graphite occurs as inclusions in the scaly sericite replacement of andalusite.

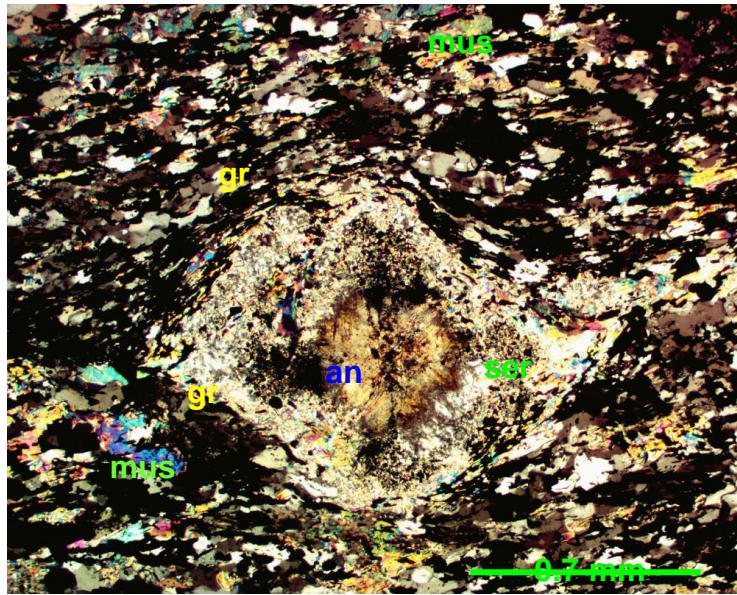
*In reflected light*, graphite occurs as fine flakes and flakey aggregates paralleling the schistosity. The individual graphite flakes range in size from 10 µm to 80 µm with an average size of approximately 50 µm. Flake graphite aggregates or clusters can be up to 140 µm thick, and are typically interlayered with quartz and muscovite. Very fine graphite flakes have been preserved in the andalusite porphyroblasts.

Sulphides are dominated by fine blebby pyrrhotite distributed through the metamorphic matrix. Pyrrhotite can exhibit simple intergrowths with trace chalcopyrite. Pyrrhotite and flake graphite normally occur separately and should not provide beneficiation problems although the flake graphite size is small.

**Comments:** Flake graphite typically parallels the strong penetrative schistosity. The flake size can be regarded as small (ie 10 to 80 µm, av – 50 µm). The presence of andalusite porphyroblasts indicate that the prograde assemblage would be stable under upper greenschist to lower amphibolite facies, and has a carbonaceous pelitic origin.

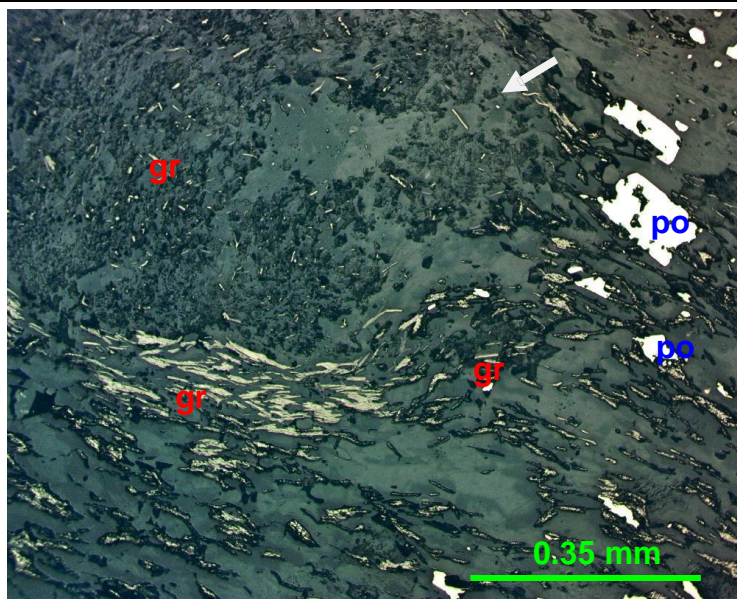
**CLASSIFICATION:** *Quartz - potash feldspar - muscovite/sericite – andalusite - graphite schist. Fine blebby pyrrhotite and trace chalcopyrite is distributed through the matrix.*





**Sample TPOD 2775**

An andalusite (an) porphyroblast occurs in the foliated metamorphic matrix comprising oriented flake graphite (gr – opaque) associated with platy muscovite (mu) and interstitial quartz (Q). The andalusite porphyroblast has been progressively replaced by sericite (ser). Crossed polars under transmitted light. Field of view – 2.2 mm.



**Sample TPOD 2775**

A detailed view under reflected light showing fine flake graphite (gr) rimming an andalusite porphyroblast (arrowed) that contains finer flake graphite (gr) inclusions. Minor blebby pyrrhotite (po). Field of view – 1 mm.

**SAMPLE NO:** TPOD 2776

**ASSAY:** 7.8% TGC

**LOCATION:** 168.80m – 168.95m

**TYPE:** Core

**FIELD IDENTIFICATION:** Mineralised (pyrrhotite as stringers and bands) graphite schist containing quartz lenses.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz(matrix)	42%	<b>Opagues (12%):</b> Graphite - (5%) Pyrrhotite - (6%) Pyrite -minor (1%)
(veins)	12%	
Sericite/muscovite	29%	
Mg chlorite	5%	
Rutile	tr	
Opagues	12%	

A series of quartz lenses parallel the schistose matrix that comprises fibrous to scaly sericite associated with interstitial quartz and fine, flake graphite. Schlieren of fibrous to platy muscovite, exhibiting ongoing deformation textures, broadly parallel the foliation and typically rim the concordant quartz lenses. A series of pyrite lenses and stringers (opaque) that obliquely cut the foliation can be associated with platy Mg chlorite aggregates.

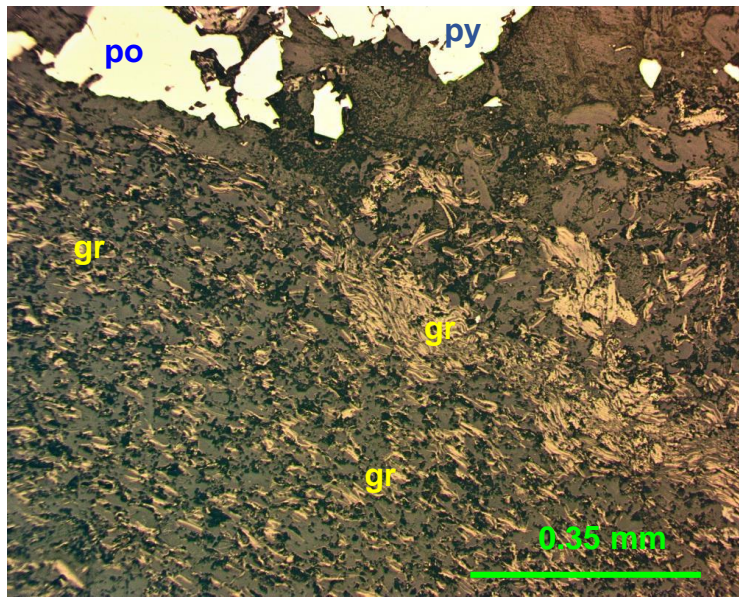
*In reflected light*, graphite occurs as very fine flakes and occasional flakey aggregates paralleling the schistosity. The individual graphite flakes range in size from 10 µm to 60 µm with an average size of approximately 30 µm. Occasional flakes aggregates or clusters are present and can be up to 80 µm thick, and are typically interlayered with with sericite/muscovite.

Sulphides - pyrrhotite occur as blebs and stringers both cross-cutting and occurring oblique to the foliation. Pyrite occurs as a minor subhedral phase within the quartz lenses.

**Comments:** Flake graphite typically parallels the strong penetrative schistosity that is interpreted as a shear zone associated with the introduction of the quartz lenses and the remobilisation of sulphides as veins and stringers. Shearing has not enhanced the flake size that can be regarded as small (ie 10 to 60 µm, av – 30 µm). The retrograde assemblage occurs within a shear zone and would be stable under greenschist facies.

**CLASSIFICATION:** *Quartz - muscovite/sericite – graphite schist. Pyrrhotite and minor pyrite mineralisation occurs as stringers cross-cutting the foliation.*





**Sample TPOD 2776**

Fine flake graphite (gr) and graphite aggregates occur in the schistose matrix. Blebby sulphides include pyrrhotite (po) and pyrite (py). Plane polarised reflected light. Field of view – 1 mm.

**SAMPLE NO:** TPOD2777

**ASSAY:** 5.6% TGC

**LOCATION:** 179.15m – 179.30m

**TYPE:** Core

**FIELD IDENTIFICATION:** Muscovite porphyroblasts occur in a carbonaceous schist host.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz	58%	<b>Opagues (14%):</b>
Sericite/muscovite	12%	Graphite - (7%)
Biotite	16%	Pyrrhotite - (5%)
Rutile	tr	Pyrite -minor (2%)
Opagues	14%	

Distinctive coarse grained phyllosilicate porphyroblasts comprising platy muscovite associated with minor biotite occur in a foliated matrix. The carbonaceous matrix comprises fine platy biotite and muscovite associated with fine flake graphite and interstitial microcrystalline quartz. Fine, blebby sulphides (opaque) are distributed through the matrix.

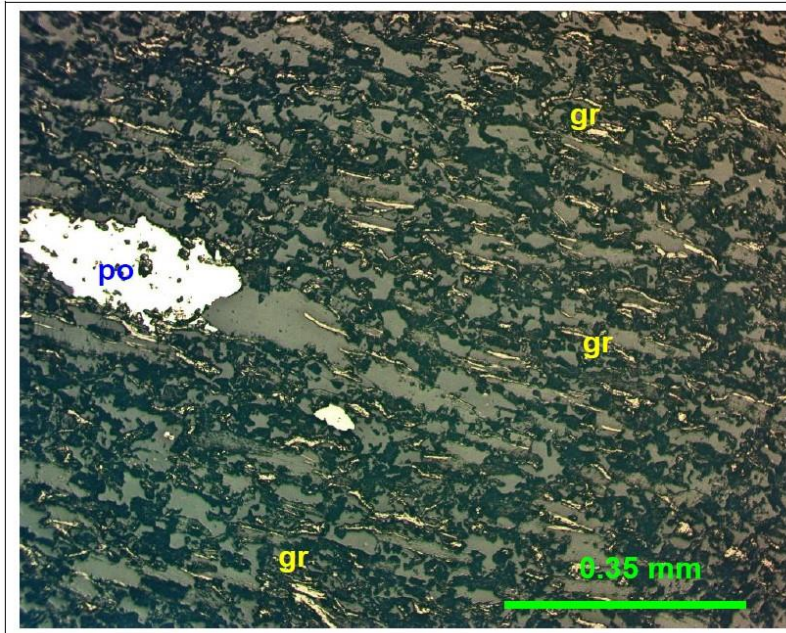
*In reflected light*, fine, flake graphite is oriented parallel to the penetrative schistosity with individual graphite flakes ranging in size from 20 µm to 80 µm, with an average size of approximately 50 µm.

Fine blebby sulphides - pyrrhotite are distributed through the matrix. Pyrite represents a minor phase.

**Comments:** Fine flake graphite parallels the strong penetrative schistosity and the flake size can be regarded as small (ie 20 to 80 µm, av – 50 µm). The fine grained metamorphic assemblage with muscovite/biotite porphyroblast is consistent with mid to upper greenschist facies.

**CLASSIFICATION:** *Quartz - muscovite/sericite – biotite - graphite schist. Minor disseminated pyrrhotite and pyrite mineralisation.*





**Sample TPOD 2777**

Fine flake graphite (gr) occurs in the schistose matrix. Blebby sulphides include pyrrhotite (po) and pyrite. Plane polarised reflected light. Field of view – 1 mm.

**SAMPLE NO:** TPOD2778

**ASSAY:** 6.2% TGC

**LOCATION:** 189.20m – 189.40m

**TYPE:** Core

**FIELD IDENTIFICATION:** Mineralised (pyrrhotite as stringers and bands) graphite schist. A quartz lens parallels the foliation.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz (matrix)	31%	<b>Opagues (14%):</b> Graphite - (5%) Pyrrhotite - (8%) Pyrite - minor (1%)
(veins)	25%	
Potash feldspar	2%	
Sericite/muscovite	22%	
Mg chlorite	6%	
Rutile	tr	
Opagues	14%	

Quartz lenses parallel the schistosity in the metamorphic host comprising coarse platy muscovite and scaly sericite porphyroblasts in the fine grained matrix. The matrix comprises fine granoblastic quartz and subordinate potash feldspar associated with oriented flake graphite. Fibrous to platy Mg chlorite aggregates parallel the schistosity and locally rim anhedral sulphide (opaque) aggregates. The sericitic porphyroblasts can contain finely dispersed flake graphite and have probably replaced original andalusite porphyroblasts as a retrograde phase.

*In reflected light*, graphite occurs as fine flakes paralleling the schistosity. The individual graphite flakes range in size from 10 µm to 120 µm with an average size of approximately 60 µm. Fine, anhedral rutile occurs as an accessory in the matrix and is obvious under reflected light. Sulphides are dominated by pyrrhotite occurring as blebs and lenses or veins paralleling the schistosity. Pyrrhotite can exhibit simple intergrowths with minor pyrite that also occurs as a porous secondary phase.

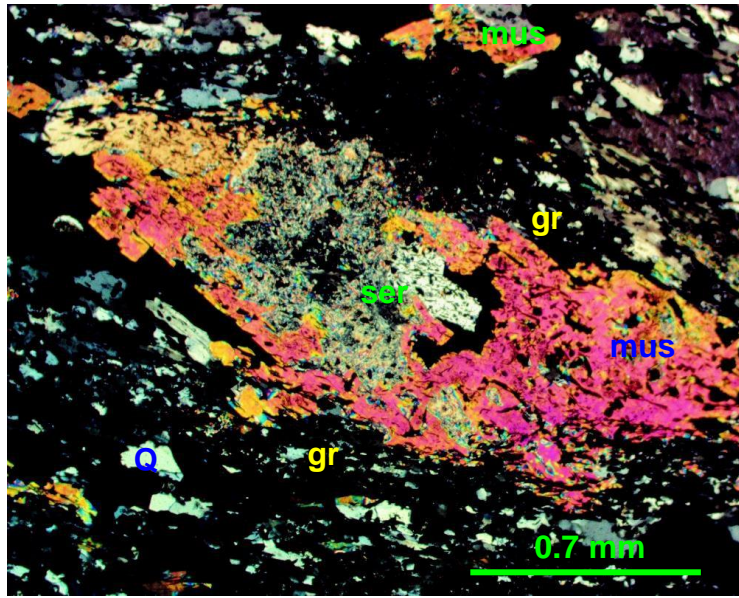
**Comments:** Flake graphite typically parallels the penetrative schistosity although the flake graphite component is low (ie 5 vol%) and the flake size can be regarded as small to medium (ie 10 to 120 µm, av – 60 µm). The prograde assemblage would have been stable under lower amphibolite facies and has been retrogressed to sericite and Mg chlorite as a syn-tectonic phase. Mg chlorite has accompanied remobilised sulphides (pyrrhotite) and quartz veining.

**CLASSIFICATION:** *Quartz- potash feldspar - muscovite/sericite–original andalusite - graphite schist that has been subject to syn-tectonic retrograde alteration (sericite, Mg*



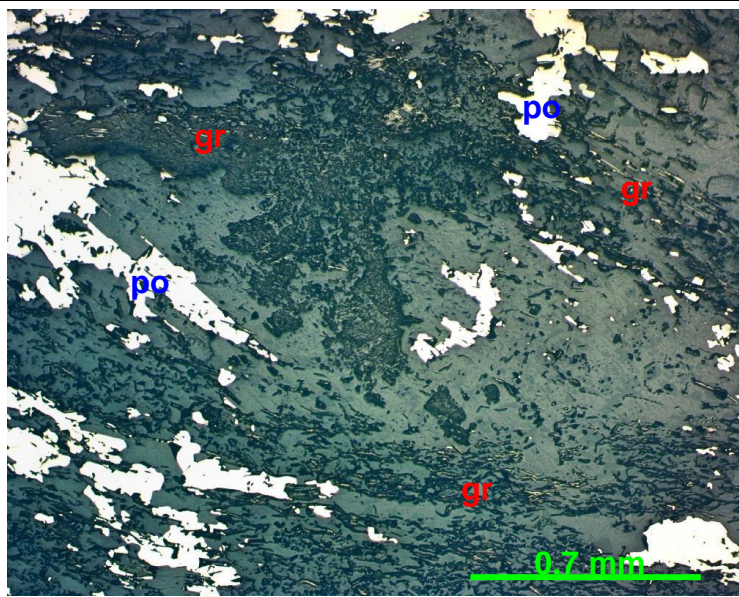
*chlorite). Remobilised sulphides include blebs and lenses of pyrrhoite that have probably accompanied retrograde alteration*





**Sample TPOD 2778**

A platy muscovite porphyroblast envelops scaly sericite (ser) as a probable replacement of original andalusite. The matrix comprises flake graphite (gr – opaque) and interstitial granoblastic quartz (Q). Crossed polars under transmitted light. Field of view – 2.2 mm.



**Sample TPOD 2778**

The same view under reflected light showing flake graphite (gr) rimming the platy muscovite porphyroblast. Pyrrhotite (po) has penetrated both the matrix and the porphyroblast. Field of view – 2.2 mm.



**SAMPLE NO:** TPOD 2779

**ASSAY:** 13.8% TGC

**LOCATION:** 195.70m – 195.90m

**TYPE:** Core

**FIELD IDENTIFICATION:** Mineralised (pyrrhotite) graphite schist. A leucogranite dyke cuts the assemblage.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Metamorphic matrix		Granophyre		Opagues (3 to 16%)	
Quartz	47%	Quartz	27%	Graphite -	(11%)
Potash feldspar	2%	Potash feldspar	65%	Pyrrhotite -	(5%)
Sericite/muscovite	32%	Sericite/muscovite	5%		
Mg chlorite	3%	Opagues	3%		
Rutile	tr				
Opagues	16%				

Flake graphite dominates in the foliated metamorphic host and is associated with platy muscovite, scaly sericite porphyroblasts, after original andalusite, and interstitial microcrystalline to fine granoblastic quartz. Potash feldspar and oriented platy Mg occur as minor phases in the matrix that has been penetrated by sulphide (opaque) veins and stringers associated with anhedral secondary quartz and platy muscovite.

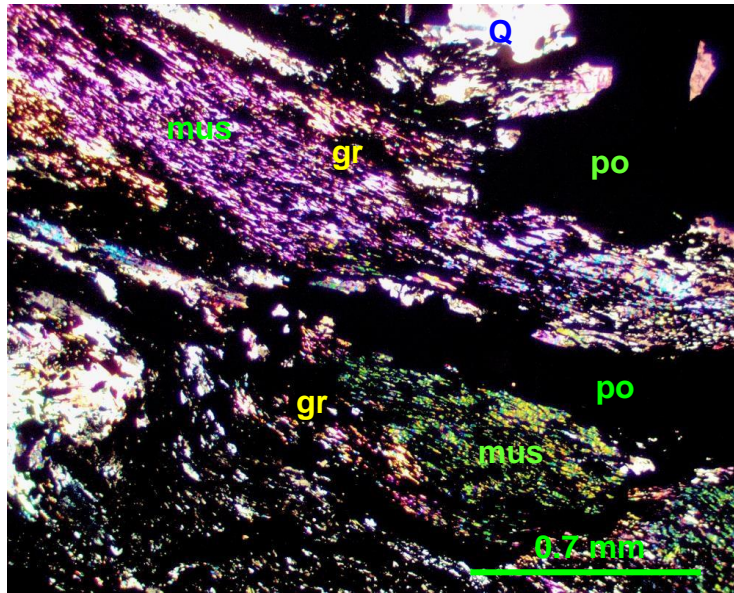
The schistose assemblage has been cut by a leucocratic intrusive comprising distinctive intergrowths of quartz and potash feldspar to produce a granophyric assemblage. Fibrous to scaly sericite has penetrated along grain boundaries as a retrograde phase.

*In reflected light*, concentrations of flake graphite parallel the anastomosing schistosity, with individual graphite flakes ranging in size from 10 µm to 120 µm, with an average size of approximately 60 µm. Flake graphite aggregates or clusters can be up to 400 µm thick, and are typically interlayered with quartz and muscovite. Very fine graphite flakes have been preserved in the sericite porphyroblasts. Fine, anhedral rutile occurs as an accessory in the matrix and is obvious under reflected light.

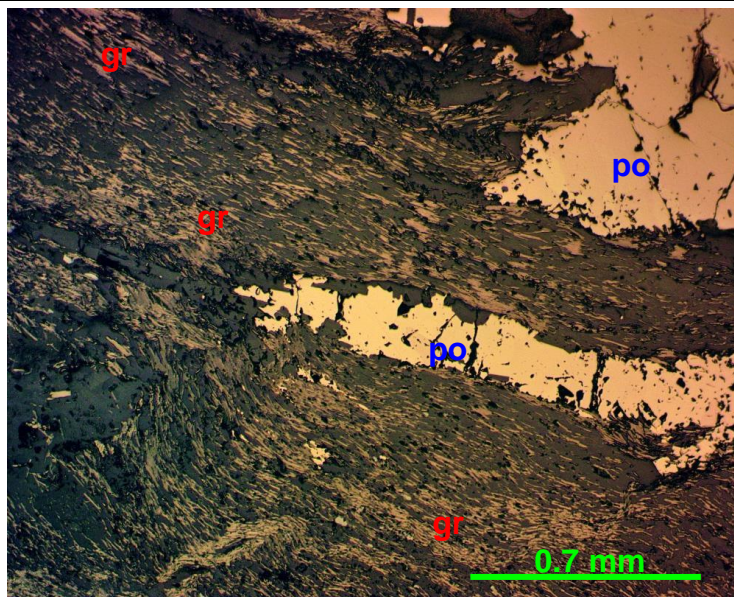
Sulphides are dominated by pyrrhotite occurring as blebs and stringers that cross-cut and clearly disrupt the foliation, and can be associated with a quartz - muscovite gangue. Minor blebby pyrrhotite also occurs as inclusions within the intrusive granophyre.

**Comments:** The schistose host comprises concentrations of fine flake graphite with small to medium flake sizes (ie 10 to 120 µm, av – 60 µm). The prograde assemblage would have been stable under lower amphibolite facies and has been clearly intruded by a later leucocratic granophyre. Sulphides (pyrrhotite) have been remobilised and are associated with anhedral secondary quartz.

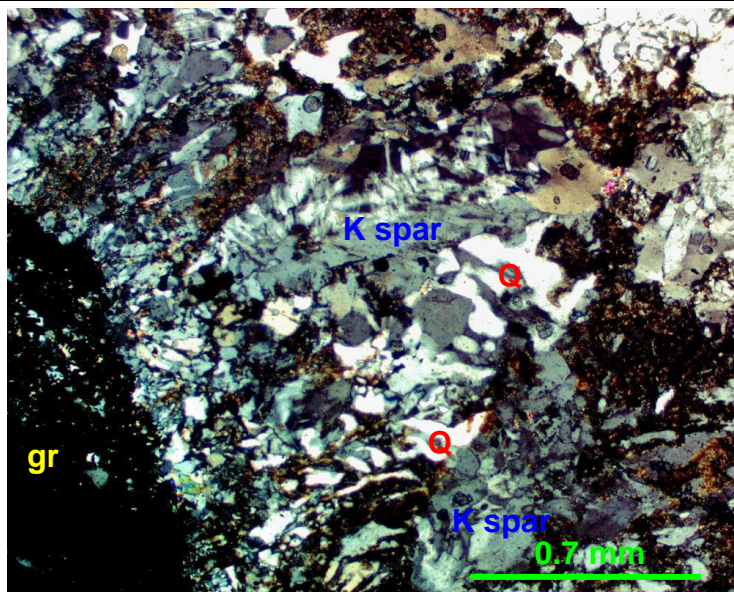
**CLASSIFICATION:** *Quartz - potash feldspar - muscovite/sericite – original andalusite - graphite schist that has been intruded by a quartz – potash feldspar granophyre. Remobilised sulphides include blebs and stringers of pyrrhotite.*



**Sample TPOD 2779**  
 Platy muscovite contains flake graphite (gr) paralleling a penetrative schistosity. Pyrrhotite (po – opaque) lenses have cut the foliation as a product of later remobilisation. Crossed polars under transmitted light. Field of view – 2.2 mm.



**Sample TPOD 2779**  
 The same view under reflected light clearly showing remobilised pyrrhotite (po) veins penetrating oriented flake graphite (gr) in the metamorphic matrix.. Field of view – 2.2 mm.



**Sample TPOD 2779**  
 Intergrowths of quartz (Q) and potash feldspar (K spar) are apparent in the granophyre that has intruded the graphite (gr) schist host. Field of view – 2.2 mm.



**SAMPLE NO:** TPOD 2780

**ASSAY:** 17.4% TGC

**LOCATION:** 216.60m – 216.80m

**TYPE:** Core

**FIELD IDENTIFICATION:** Pyrrhotite stringers cut a strongly carbonaceous/graphite schist host containing distinctive phyllosilicate porphyroblasts.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz (matrix)	5%	<b>Opagues (62%):</b> Carbonaceous material-(38%)
(veins)	5%	
Potash feldspar	tr	Graphite - (15%)
Sericite/muscovite	27%	Pyrrhotite - (9%)
Mg chlorite	1%	
Rutile	tr	
Opagues/carbonaceous material	62%	

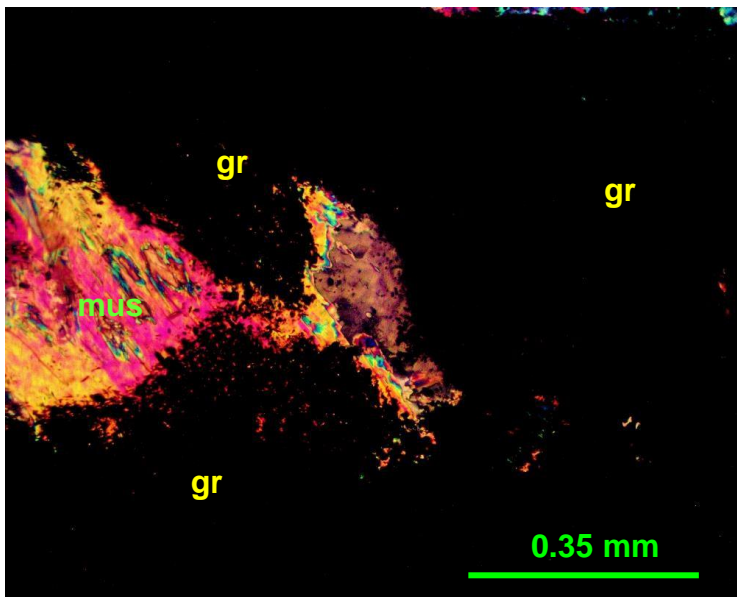
Distinctive prismatic and tabular porphyroblasts occur in a dark carbonaceous schist host. The porphyroblasts have been replaced by scaly sericite to platy muscovite and probably represent original andalusite porphyroblasts. A series of cross-cutting sulphide (opaque) stringers can be associated with anhedral secondary quartz and platy to stellate Mg chlorite aggregates.

*In reflected light*, very fine flake graphite occurs in the carbonaceous schist host. The individual graphite flakes range in size from 5 µm to 20 µm with an average size of approximately 10 µm, and can be regarded as amorphous. There are local concentrations of fine flake graphite occurring in 300 µm thick schlieren paralleling the anastomosing schistosity.

Pyrrhotite lenses and stringers cut the foliated carbonaceous schist host. Accessory subhedral rutile is apparent under reflected light.

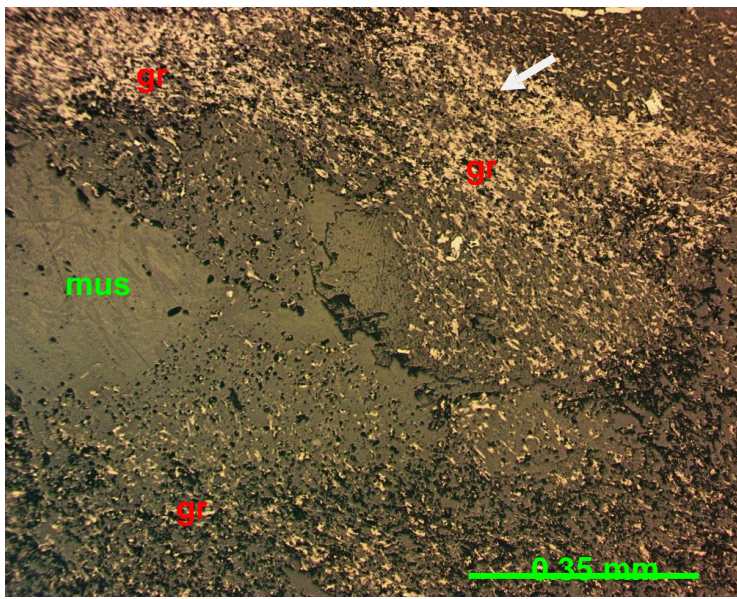
**Comments:** The flake graphite size is very small and can be regarded as amorphous (ie 5 to 20 µm, av – 10 µm) and may be due to a lower metamorphic grade of the carbonaceous pelite – ie greenschist facies. Original andalusite porphyroblasts have been retrogressed to sericite/muscovite.

**CLASSIFICATION:** *Carbonaceous/graphite schist originally containing andalusite porphyroblasts that have been altered to sericite/muscovite. Pyrrhotite lenses and stringers cut the matrix.*



**Sample TPOD 2780**

An andalusite (an) porphyroblast has been replaced by platy muscovite/sericite (mus) in a dark carbonaceous/graphite (gr) schist host. Crossed polars under transmitted light. Field of view – 1 mm.



**Sample TPOD 2780**

The same view under reflected light showing very fine flake graphite aggregates (arrowed) (gr) rimming the relict porphyroblast in the carbonaceous/fine flake graphite schist host. Field of view – 1 mm



**SAMPLE NO:** TPOD 2781

**ASSAY:** 13.0% TGC

**LOCATION:** 225.25m – 225.50m

**TYPE:** Core

**FIELD IDENTIFICATION:** Pyrrhotite stringers cut a strongly carbonaceous/graphite schist host containing distinctive phyllosilicate porphyroblasts.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz	5%	<b>Opagues 80%:</b>
Potash feldspar	tr	Carbonaceous material-55%
Sericite/muscovite	13%	Graphite - 10%
Mg chlorite	2%	Pyrrhotite - 15%
Opagues/carbonaceous material	80%	

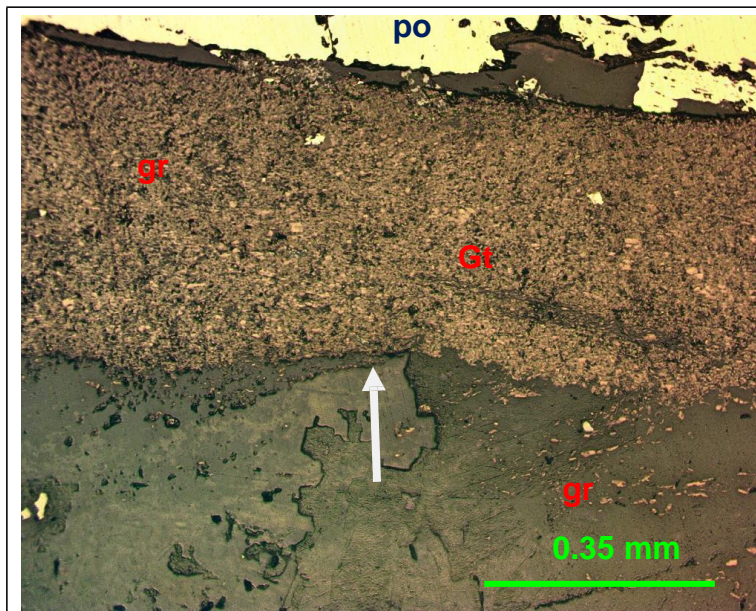
Similar to Sample TPOD 2780, with distinctive prismatic and tabular porphyroblasts occurring in a dark carbonaceous schist host. The porphyroblasts have been replaced by scaly sericite to platy muscovite and probably represent original andalusite porphyroblasts. A series of cross-cutting sulphide (opaque) stringers and finely disseminated sulphides occur in the matrix and can be associated with anhedral secondary quartz and platy Mg chlorite aggregates.

*In reflected light*, very fine flake graphite occur in the carbonaceous schist host. The individual graphite flakes range in size from 3 µm to 20 µm with an average size of approximately 10 µm, and can be regarded as amorphous. There are local concentrations of fine flake graphite occurring in 140 µm thick schlieren and veins paralleling the anastomosing schistosity.

Pyrrhotite lenses and stringers cut the foliated carbonaceous schist host. Finely dispersed pyrrhotite has flooded the matrix.

**Comments:** The flake graphite size is very small and can be regarded as amorphous (ie 3 to 20 µm, av – 10 µm) and may be due to a lower metamorphic grade of the carbonaceous pelite – ie greenschist facies. Original andalusite porphyroblasts have been retrogressed to sericite/muscovite.

**CLASSIFICATION:** *Carbonaceous/graphite schist originally containing andalusite porphyroblasts that have been altered to sericite/muscovite. Pyrrhotite lenses and stringers cut the matrix.*



**Sample TPOD 2781**  
A vein of concentrated very fine flake graphite (arrowed) (gr) bordering a remobilised pyrrhotite vein in the carbonaceous/graphite schist host. Field of view – 1 mm.



**SAMPLE NO:** TPOD 2782

**ASSAY:** 11.9% TGC

**LOCATION:** 240.35m – 235.55m

**TYPE:** Core

**FIELD IDENTIFICATION:** Thin pyrrhotite stringers and disseminations occur in a strongly carbonaceous/graphite schist host containing distinctive porphyroblasts.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz	5%	<b>Opagues 75%:</b>
Sericite/muscovite	18%	Carbonaceous material-65%
Mg chlorite	2%	Graphite - 6%
Opagues/carbonaceous material	75%	Pyrrhotite - 4%
		Chalcopyrite - tr

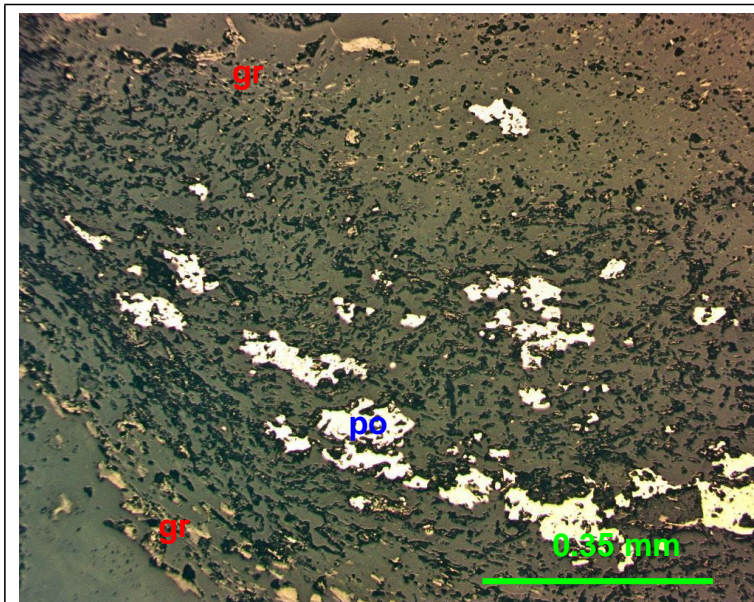
Similar to Samples TPOD 2780 & 2781, with distinctive prismatic, tabular and bladed porphyroblasts occurring in a dark carbonaceous schist host. The porphyroblasts have been replaced by scaly sericite to platy muscovite and probably represent original andalusite porphyroblasts. Minor quartz can be associated with the porphyroblasts and occurs in the carbonaceous matrix. A series of cross-cutting sulphide (opaque) stringers are apparent. Minor platy Mg chlorite aggregates can be associated with sulphides.

*In reflected light*, very fine flake graphite parallels the schistosity in the carbonaceous schist host and has been typically concentrated around relict porphyroblasts. The individual graphite flakes range in size from 3 µm to 40 µm with an average size of approximately 20 µm, and can be regarded as fine grained to amorphous.

Thin pyrrhotite stringers cut the foliated carbonaceous schist host that also contains finely dispersed anhedral pyrrhotite plus trace chalcopyrite.

**Comments:** The flake graphite size is very small and can be regarded as very fine grained to amorphous (ie 3 to 40 µm, av – 20 µm) and may be due to a lower metamorphic grade of the carbonaceous pelite – ie greenschist facies. Original andalusite porphyroblasts have been retrogressed to sericite/muscovite.

**CLASSIFICATION:** *Carbonaceous/graphite schist originally containing andalusite porphyroblasts that have been altered to sericite/muscovite. Pyrrhotite and trace chalcopyrite occur as thin stringers and disseminations.*



**Sample TPOD 2782**

Anhedronal pyrrhotite rims fine flake graphite (gr) peripherally to a relict porphyroblast in the carbonaceous/graphite schist host. Field of view – 1 mm.



**SAMPLE NO:** TPOD 2783

**ASSAY:** 11.4% TGC

**LOCATION:** 246.45m – 246.65m

**TYPE:** Core

**FIELD IDENTIFICATION:** Pyrrhotite disseminations occur in a strongly carbonaceous/graphite schist host containing distinctive porphyroblasts.

**SECTION TYPE:** Polished Thin Section

**DESCRIPTION:**

Quartz	3%	<b>Opagues 76%:</b>
Sericite/muscovite	20%	Carbonaceous material-64%
Mg chlorite	1%	Graphite - 7%
Rutile	tr	Pyrrhotite - 5%
Opagues/carbonaceous material	76%	

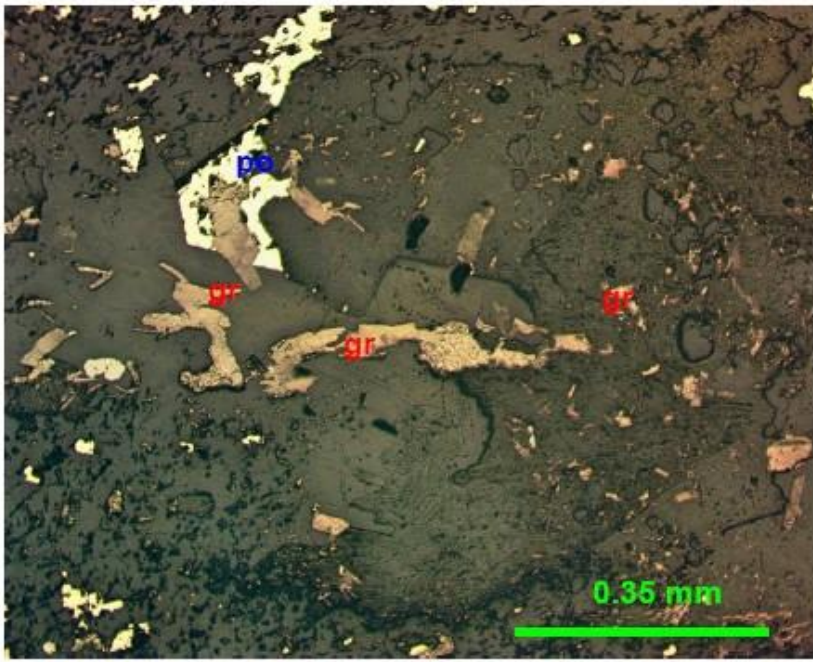
Similar to Samples TPOD 2780, 2781 & 2782, with distinctive prismatic, tabular and bladed porphyroblasts occurring in a dark carbonaceous schist host. The porphyroblasts have been replaced by scaly sericite to platy muscovite and probably represent original andalusite porphyroblasts. Minor platy Mg chlorite and quartz occur in the matrix. Finely disseminated sulphides.

*In reflected light*, very fine flake graphite parallels the schistosity in the carbonaceous schist host and has been typically concentrated around relict porphyroblasts. Coarser graphite flakes occur in recrystallized platy muscovite. The individual graphite flakes range in size from 2 µm to 80 µm with an average size of approximately 30 µm. Most of the flakes can be regarded as fine grained.

Anhedral pyrrhotite is finely dispersed through the matrix. Accessory rutile is apparent in reflected light.

**Comments:** The flake graphite size is very small and can be regarded as fine grained (ie 2 to 80 µm, av – 30 µm) and may be due to a lower metamorphic grade of the carbonaceous pelite – ie greenschist facies. Original andalusite porphyroblasts have been retrogressed to sericite/muscovite.

**CLASSIFICATION:** *Carbonaceous/graphite schist originally contained andalusite porphyroblasts that have been altered to sericite/muscovite. Pyrrhotite occurs as disseminations.*



**Sample TPOD 2783**  
Anhedronal pyrrhotite rims coarser  
flake graphite (gr) occurring  
within platy muscovite in the  
carbonaceous/graphite schist  
host. Field of view – 1 mm.



## JORC Tables

### Section 1: Sampling Techniques and Data Leliyn Graphite Project

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning 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> <li>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>RC drilling samples were collected as 1m intervals via a riffle splitter off the drill rig.</li> <li>Graphitic schist samples were taken from bagged drill cuttings. Composite samples from 3m to 13m were taken.</li> <li>Diamond hole TALD001 was sampled at random intervals downhole at lengths from 0.1m to 0.3m. Core was cut in half with a core saw with one half taken for assay. A slab of core was also taken for petrographical analysis.</li> <li>The bulk metallurgical sample was collected from the surface using a shovel and put into several calico bags of about 5kg each. The sampling was not selective.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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>	<ul style="list-style-type: none"> <li>Diamond drilling in TALD001 was HQ (63.5mm) diameter core.</li> <li>The Graphitic schist samples were taken from RC drill samples stored in green plastic bags on 1m intervals.</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>	<ul style="list-style-type: none"> <li>RC drilling sample recoveries are not known</li> <li>Diamond core recoveries are recorded as being between 95% and 100%. Core photographs conform this.</li> </ul>
<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,</li> </ul>	<ul style="list-style-type: none"> <li>All drilling was qualitatively geologically logged recording lithology, mineralisation colour, weathering and grain size.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p>channel, etc) photography.</p> <ul style="list-style-type: none"> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <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>	<ul style="list-style-type: none"> <li>Diamond core in TALD001 was cut in half with one half taken for assay.</li> <li>The metallurgical sample was submitted as three, approximate 5kg samples. These were then combined for test-work purposes.</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>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>Core and RC composite samples were sent to Nagram in Perth for total graphitic carbon (TGC) analysis.</li> <li>The head assay for the metallurgical sample was assayed by IMO (Independent Metallurgical Operations Pty Ltd) in Perth.</li> </ul>
<b>Verification of sampling and assaying</b>	<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>QAQC protocols associated with the RC and diamond core assays are not known.</li> </ul>
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (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>RC and Diamond holes were surveyed with a hand held GPS with +/- 5m accuracy.</li> <li>Metallurgical bulk sample was located with a hand held GPS +/- 5m.</li> </ul>
<b>Data spacing and distribution</b>	<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</li> </ul>	<ul style="list-style-type: none"> <li>The sampling spacing a very irregular and is not sufficient to establish mineral resources.</li> <li>The data at this stage is only being used to establish the presence of graphite in graphitic schists.</li> </ul>



Criteria	JORC Code explanation	Commentary
	<i>applied.</i>	
<b>Orientation of data in relation to geological structure</b>	<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>• Drilling is generally perpendicular to the strike direction of mineralisation.</li> </ul>
<b>Sample security</b>	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>• RC and Diamond assay data is historical so sample security is not known.</li> <li>• Kingsland personnel collected the metallurgical sample and submitted it for assay.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>• No audits or reviews of sampling techniques have been undertaken.</li> </ul>

## Section 2: Reporting of Leliyn Graphite Project Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>• The Leliyn Graphite Project is located on tenements EL 31960 and EL 32152. These tenements are 100% owned by Kingsland Minerals Ltd. There are no known encumbrances to conducting exploration on these tenements.</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>• Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>• There has been an extensive history of exploration for uranium and copper over the past 40 years. There has however been only limited work done focussed on graphite. Thundelarra Exploration (now Ora Gold Ltd) sampled some holes in 2012 for graphite at their Hatrick copper prospect and Cleo uranium prospect. These samples indicated the presence of significant grade and thickness of graphite mineralisation measured as total graphitic carbon (TGC). In 2017 one diamond drill hole TALD001 was drilled into the graphitic schist and sampled for TGC. Significant grades and widths of graphite mineralisation were encountered. Samples from TALD001 were submitted to Pathfinder Exploration Pty Ltd for thin section petrographical analysis.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>• Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>• Carbonaceous sediments of the Masson Formation have been contact metamorphosed by the Cullen Granites. This has metamorphosed carbon to graphite and converted shales to schists.</li> <li>• This contact extends for about 20 km within Kingsland's tenement package.</li> </ul>
<b>Drill hole information</b>	<ul style="list-style-type: none"> <li>• A summary of all information material to</li> </ul>	<ul style="list-style-type: none"> <li>• Drilling information is included in the</li> </ul>

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	<p><i>the under-standing of the exploration results including a tabulation of the following information for all Material drill holes:</i></p> <ul style="list-style-type: none"> <li>• <i>easting and northing of the drill hole collar</i></li> <li>• <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole 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> <li>• <i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i></li> </ul>	<p>referenced announcement released on February 1, 2023 by Kingsland Minerals</p>
<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> <li>• <i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Intervals for RC samples have been reported as length weighted averages..</li> <li>• No compositing or aggregation has been used when reporting the diamond core assays from TALD001, they are reported as single assays.</li> </ul>
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> <li>• <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>• Drilling has been perpendicular to the strike direction. The true width of mineralisation will vary but is generally expected to be from 70% to 80% of the reported down-hole widths.</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 drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Relevant diagrams have been included within the main body of text.</li> </ul>
<b>Balanced Reporting</b>	<ul style="list-style-type: none"> <li>• <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></li> <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 avoiding misleading</i></li> </ul>	<ul style="list-style-type: none"> <li>• All received results to date have been reported.</li> <li>• The competent person deems the reporting of these drill results to be balanced.</li> </ul>



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<p><b>Other substantive exploration data</b></p>	<p><i>reporting of Exploration Results.</i></p> <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>• A series of 18 thin sections were prepared on core samples from TALD001. A petrographic report on these samples indicates the quality and size of graphite flake.</li> <li>• The aerial magnetics data presented in figure 5 is sourced from public data contained in report CR2011_0405 available to view on <a href="http://www.geoscience.nt.gov.au/gemis">www.geoscience.nt.gov.au/gemis</a>, the NT Geological Survey geoscience, exploration and mining information system.</li> <li>• There is no other substantive data to report. Exploration at Leliyn is at an early stage with only limited historical exploration data relevant to graphite mineralisation.</li> </ul>
<p><b>Further work</b></p>	<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> <li>• <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Kingsland Minerals is currently progressing drilling approvals at Leliyn. The aim of this drilling is to enable the estimation of a Mineral Resource Estimate for the Leliyn Graphite Project.</li> <li>• The planned drilling will also provide material for further metallurgical test-work.</li> </ul>