MARKET RELEASE
For Immediate Release
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RESULTS OF METALLURGICAL TESTWORK
DFS UPDATE

Quantum Graphite Limited (**QGL**) is pleased to announce results from the comprehensive metallurgical test work undertaken as part of the **Definitive Feasibility Study** (**DFS**).

The quality of the results clearly demonstrates the ore body's historical high-purity production profile, free of deleterious substances and well suited to a number of natural flake industrial applications including thermal management (refractories, foundry, geothermal etc), engineered products (lubricants, foils, drilling fluids) and polymers (conductive coatings and flame retardants).

The test work program was designed to underpin an initial life of mine operation exceeding 12 years and included sampling across all geodomains within the Uley 2 pit shell.

Results Highlights

- Completion of metallurgical test work program **of the Uley 2 resource including all variations of carbon (C) at Uley 2 within the life of mine pit design (LOM) average of 12% graphitic carbon (gC)**

- Excellent results confirming:
    - **Medium to Extra-Large Flake material supporting 73% of overall production** of graphitic gC
    - **Large and Extra-Large Flake purities of 97.2%gC and 97.8%gC** respectively
    - **Recoveries of 89% gC**

Size Fraction (µm)	Size Fraction (Mesh)	Approx. Weight Dist. (%)	Graphitic C Purity (%)	LOI (%)
+300	+50	10.5	97.8	0.26
-300+150	-50+100	35.4	97.2	0.34
-150+75	-100+200	27.1	96.6	0.36
-75	-200	27.0	90.7	0.73

- Results achieved utilising **limited crushing and grinding to 0.6 millimetres** followed by conventional froth flotation concentration with multiple stage polishing process

- Reagent consumption in the froth flotation process is low to very low and did not materially impact results

- Loss on ignition (**LOI**) reflects the mass loss due to the release of volatiles by way of heating to 425°C in an induction furnace in O_2 with accelerant. Graphitic carbon is determined by further mass loss following raising the temperature to 1000°C to ignite the graphite in the sample

- Proprietary enhancements to the processing path expected to result in further improvements to these results, especially the proportion of Extra-Large Flake and the purity of the -75 micron production

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2019 Test-Work Methodology

The metallurgical test work program undertaken in 2014 and 2015 across certain geodomains within the Uley 2 pit shell delivered excellent results. The 2019 test work program has exceeded these results, whilst ensuring the necessary sample representivity designed to underpin the Uley 2 Project.

Details of the test work sample representivity procedures and the general process path are included in **Appendices I and II** respectively attached to this release.

For the purposes of the test-work a master composite sample was produced comprising the discrete samples of all Uley 2 geodomains (see table below and **Section 2, Appendix I**) in proportion to the volume distribution of the relevant geodomain.

Geodomain	Volume (%)	Head Assay (% Graphitic C)
Fresh	20	15
Saprock	59	10.9
Saprolite	2	9.45
Carbonate	16	18.1
Clay	3	7.92

All drilling at Uley 2 was completed utilising HQ3 diamond core (diameter of 61.1mm) at 25m centres and sampled for resource definition as half core. The expected mass (kg) for each metallurgical sample was calculated by applying an average density of 2.0t/m^3 to the expected retrievable volume of core.

The sampling and expected average grade for each geodomain and the C content in the form of graphitic C and C present in CO_3 is summarised in the table below (see also **Section 3, Appendix I**).

Geodomain	Total weight	Required weight	Expected average graphitic C %	Expected average C as CO_3 %	Proportion in pit
Fresh	98.9	93	16.6	1.17	20%
Saprock	235.1	223	12.6	0.31	59%
Saprolite	42.1	34	13.4	1.45	2%
Carbonate	114.1	79	19.3	3.26	16%
Clay	55.5	37	8.8	1.33	3%
TOTAL *(proportion in pit)*	545.7	466	14.4	1.01	100%

The next key DFS milestone is the preparation of the revised Mineral Resource Estimate. The company expects this will be released by the end of June 2019.

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Competent Persons

The information in this report that relates to interpretation of metallurgical test work and process plant design is based on information compiled or reviewed by Mr Mark Giddy an employee of Lycopodium Minerals Pty Ltd. Mr Giddy is a member of the Australasian Institute of Mining and Metallurgy. Mr Giddy has sufficient experience relevant to the style of mineralisation, type of deposit under consideration and activity being undertaken to quality as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Mineral Reserves". Mr Giddy consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

The information in this announcement that relates to the Company's exploration data is based on information compiled by Ms Karen Lloyd, an employee of Jorvik Resources Pty Ltd. Ms Lloyd is a Fellow of the Australian Institute of Mining and Metallurgy. Ms Lloyd has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activities being undertaken to qualify as Competent Persons as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Ms Lloyd consents to the inclusion in this release of the matters based on their information in the form and context as it appears.

The information in this report as it relates to geology and resource definition was compiled by Ms Vanessa O'Toole, an employee of Wicklow Resources Pty Ltd. Ms O'Toole is a Competent Person in the activities being reported on and has sufficient expertise which is relevant to the style of mineralisation, type of deposit under consideration and 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'. Ms O'Toole consents to the inclusion of this information in the form and context in which it appears in this report.

QGL confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters relating to Mineral Resources is based on, and fairly represent, the Mineral Resources and information and supporting documentation extracted from the reports prepared by a competent person in compliance with the JORC Code (2012 edition) and released to the ASX (including under the company's previous code, VXL) on 17 December 2014, 5 May 2015, 15 May 2015 and 30 November 2018 respectively.

JORC Code, 2012 Edition

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• Nature and quality of sampling (e.g. 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. • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • 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 (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.	Triple tube Diamond (HQ3) drilling was employed to generate core for logging and sampling. Mineralised samples were submitted for assay on typically one metre intervals. Duplicate and standard samples were inserted typically every 20th sample. Diamond core was cut in half using a diamond impregnated blade on a core saw and half-core samples were sent to ALS Global for assay.
Drilling techniques	• 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.).	Drill holes were drilled at -60-degree dip on a 090 azimuth. Diamond drilling was undertaken using triple tube HQ3 (61mm diameter) core from collar to End of Hole.
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to	Core recovery was recorded at the drill site and during core logging and measured for every core run. Sample recovery is deemed to be adequate for resource estimation purposes.

Criteria	JORC Code explanation	Commentary
	preferential loss/gain of fine/coarse material.	
Logging	• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. • The total length and percentage of the relevant intersections logged.	100% of the drill holes were geologically and geotechnically logged by qualified geologists, recording relevant data to a set database structure. All logging included lithological features, mineral assemblages, mineralisation percentage estimates and geotechnical information suitable for the development of geology models and pit slope design criteria.
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples. • Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. • Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample preparation is consistent with industry best practice. Field QC procedures involved the use of certified reference material assay standards, blanks and duplicates for Company QC measures, and laboratory standards, replicate sampling and barren washes for laboratory QC measures. The insertion rate of each of these QAQC measures averaged 1:20. Half-diamond core samples averaged 1m in length, and are deemed appropriate for the material and analysis method.
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • 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. • 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.	The samples were prepared at ALS Global (Adelaide), including crushing entire sample >70% -6mm, splitting and retention of 50% sample weight, and pulverising. The prepared samples were sent to ALS global (Brisbane) for analytical procedures C-IR18, C- CAL15, CIR17 and C-IR07 by LECO analyser to determine graphitic carbon, inorganic carbon by difference, organic carbon and total carbon. The detection limits and precision for graphitic carbon analysis are considered to be adequate for the purpose of future resource estimations. The laboratory procedures are considered to be appropriate for reporting purposes. Company QAQC samples inserted at 5% representivity demonstrate the accuracy and precision of the graphitic carbon to be satisfactory.

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	Significant mineralisation intersections were verified by two company personnel. No adjustments to the assay data have been made. All data was collected, sampled and assayed according to Company procedures and validated using a Microsoft Access relational database.
Location of data points	• 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. • Specification of the grid system used. • Quality and adequacy of topographic control.	Topographical control is sufficient for this exploration drilling. Collar location were set out using an independent surveyor. All down-hole surveying was undertaken using a Reflex multi-shot survey tool at nominal 25m intervals down hole.
Data spacing and distribution	• Data spacing for reporting of Exploration Results. • 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. • Whether sample compositing has been applied.	Drill collar spacing is generally 25m X 25m or 25m X 50m where existing drill holes provide sufficient geological confidence.
Orientation of data in relation to geological structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	The orientation of the drilling is not expected to introduce sampling bias. Drilling has generally intersected mineralisation perpendicular to strike continuity.
Sample security	• The measures taken to ensure sample security.	Samples were packaged and stored in secure storage from collection through the chain of custody to submission. Laboratory best practice methods were employed by the laboratory upon receipt.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	Company QAQC checks were undertaken during the drilling, logging and sampling program. No external audit of the data has been undertaken. No significant issues in drilling, sampling or analytic technique have been identified.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. • The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	The Company owns 100% interest in the EL4778 tenement. The tenement is in good standing and there are no known significant impediments to exploration in the area.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	No other parties were involved in this exploration program.
Geology	• Deposit type, geological setting and style of mineralisation.	The Uley graphite deposit is a high-grade coarse-flake mineralised envelope within the broader "Mikkira" graphite resource. Uley graphite mineralisation is hosted by the Cook Gap Schist, a partially migmatised medium grained biotite+/-garnet+/-muscovite+/-sillimanite-quartzofeldspathic schist/gneiss with leucocratic pegmatite sweats.
Drill hole Information	• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o hole length. • 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.	Refer to collar table within the text of this document.

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• 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. • 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. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	No top cuts have been applied to the results reported in this announcement. A nominal 10% graphitic carbon lower cut-off has been applied in the determination of significant intercepts. High grade intercepts within broader low-grade intervals have been separated as "including" results. No metal equivalent values are used in this report.
Relationship between mineralisation widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • 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').	Drill holes intersected mineralisation at near perpendicular to the strike orientation of the host lithologies. All drill holes were orientated at -60 degrees on a bearing of 090.
Diagrams	• Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	See figures in release
Balanced reporting	• 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.	Representative reporting of significant intercepts has been affected within this report.
Other substantive exploration data	• 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.	The Company has previously reported a Mineral Resource in accordance with JORC (2012) guidelines at the Uley 2 deposit.

Criteria	JORC Code explanation	Commentary
Further work	• The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Metallurgical test work to optimise a process flowsheet is underway. The results of this test work will be released to the market as they become available. No further drilling is planned at this time.

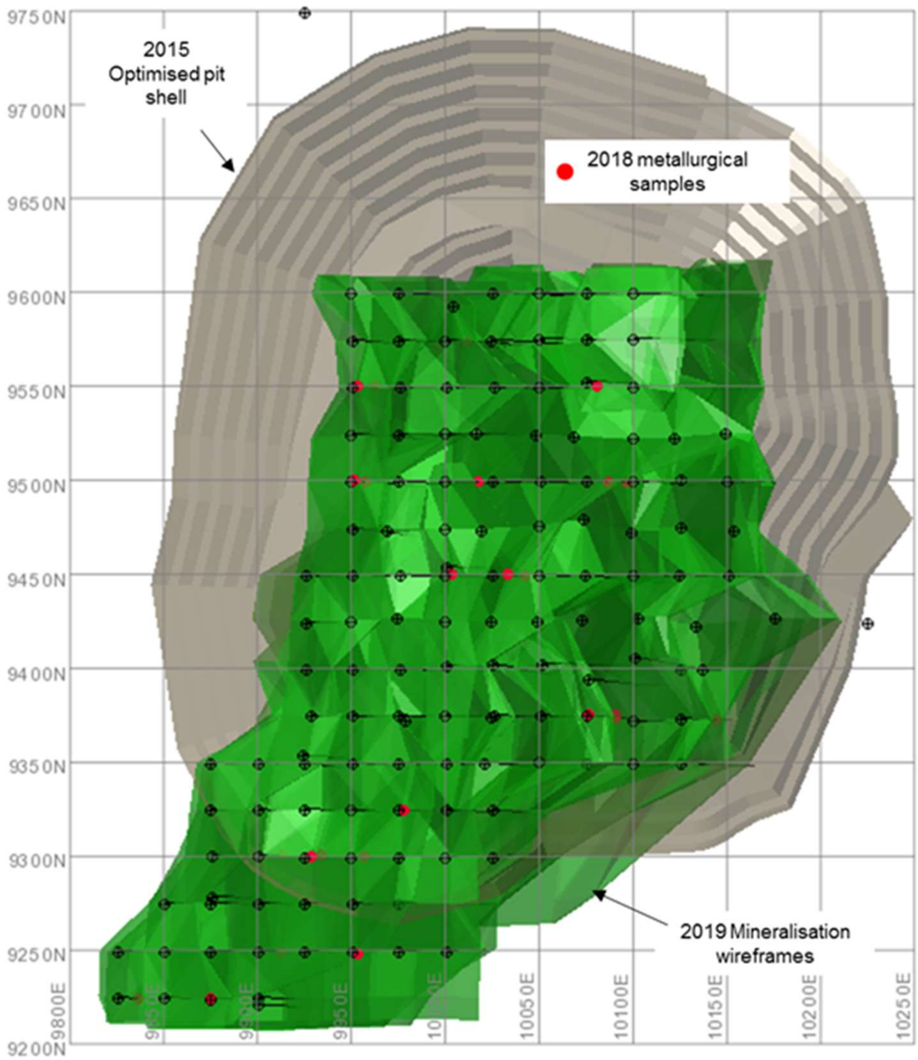
1 Introduction

The Uley 2 graphite metallurgical program is designed to encompass all variations in carbon (**C**) distribution globally and by geodomain based on the 2015 Uley 2 pit optimisation and including the 2019 mineralisation wireframes targeted life of mine (**LOM**) average of 12% graphitic C.

As part of the updated Mineral Resource Estimate to be released in Q2 2019 (**2019 MRE**), geodomains have been created based on the variations in C as graphitic C and C within carbonate (CO_3) as well as oxidation properties. The 2019 MRE will include the significant drilling in the southern area of Uley which was not included in the previous estimate (April 2015).

Whilst the program includes some overlap with the significant metallurgical test-work undertaken in 2014, the program is designed to provide a stand-alone comprehensive analysis of Uley 2 metallurgy over the LOM. Accordingly, drill hole intersections were chosen to ensure sufficient sample was recovered for both variability and master composite test-work based on the updated geodomains modelled in connection with the 2019 MRE and the pit optimisation completed for the 2015 MRE (Figure 1-1). Further, additional samples were collected to ensure spatial distribution was maximised for the highly weathered geodomain and the geodomain exhibiting elevated carbonate mineralisation.

Figure 1-1 2015 Pit optimisation and modelled mineralisation with 2018 sample locations and 2019 wireframes



2 Geodomains

Table 2-1 presents a summary of each of the defined geodomains.

Table 2-1 Summary of geodomains defined at Uley

Geodomain number	Geodomain code	Rock type	Rock code	Description
1	Fresh	Mineralised Garnet Gneiss	GA, GN	Unweathered mineralisation
2	Saprock	Mineralised Garnet Gneiss	GA, GN	Moderately weathered mineralisation
3	Saprolite	Mineralised Garnet Gneiss	GA, GN	Highly weathered mineralisation
4	Carbonate	Carbonate ore	CO	Elevated C as CO_3 (>1%) mineralisation
5	Clay	Clay	CL	Clay mineralisation

Figure 2-1 displays a typical cross-section and the relative location of each geodomain with graphic C assays displayed along the drill trace. Figure 2-2 displays the same section with modelled graphitic C.

Figure 2-1 Uley graphite cross-section 9,450 mN displaying geodomains and graphitic C assays

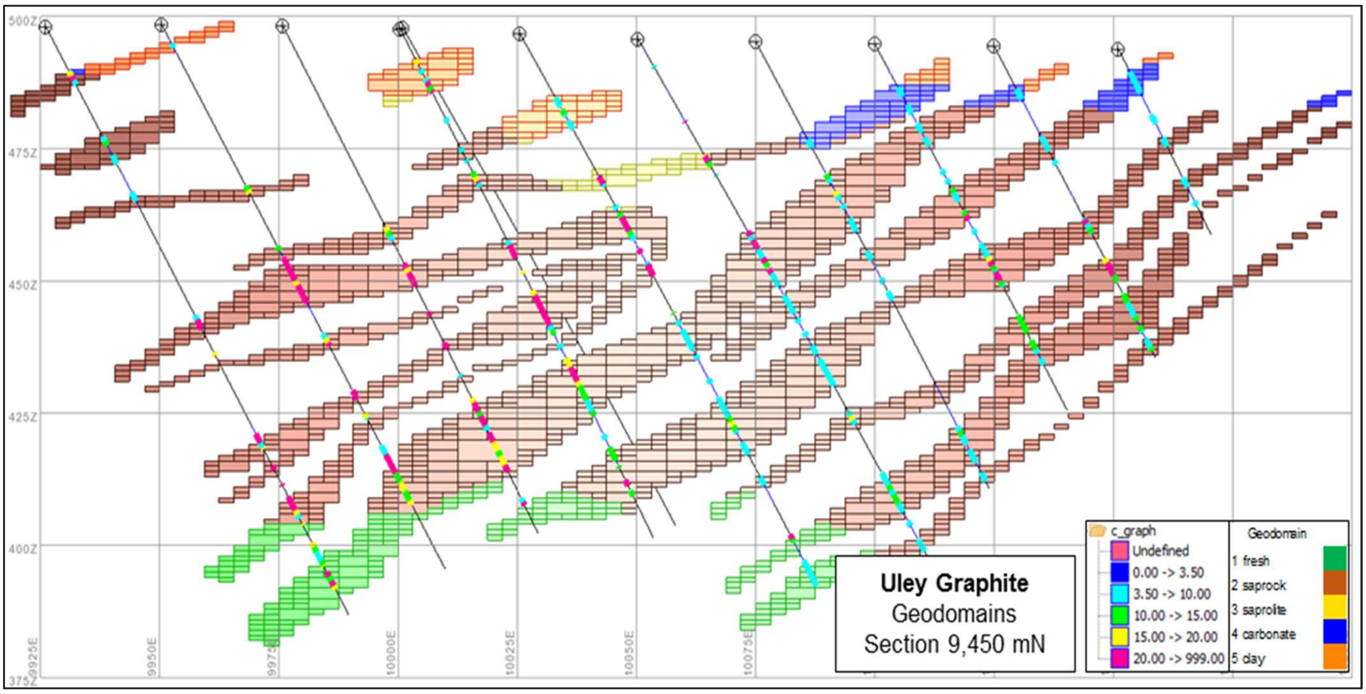
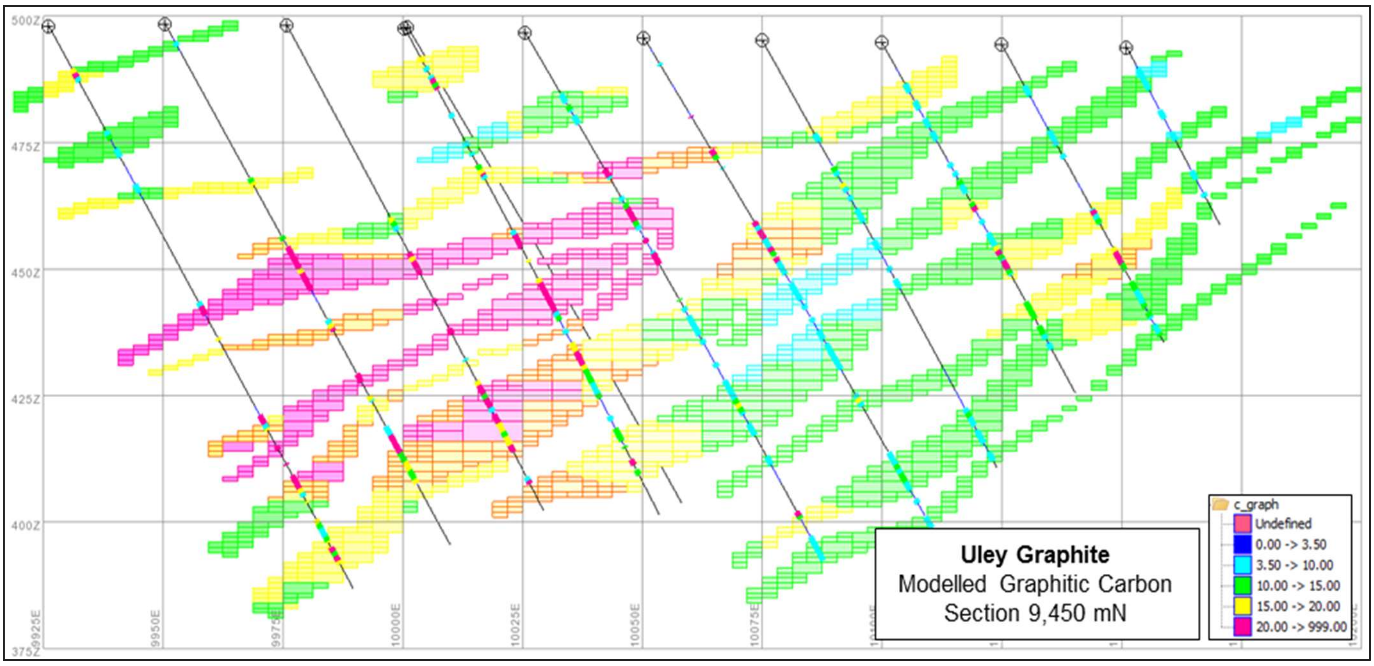


Figure 2-2 Uley graphite cross-section 9,450 mN displaying modelled graphitic C



3 Metallurgical sampling

3.1 Sample selection

Metallurgical sampling was designed to obtain mass requirements for variability and master composite test-work based on the defined geodomains and proportions of these geodomains within the 2015 optimised pit shell (*pitdes_apr15*).

Table 3-1 below presents the relative proportions of each geodomain within the 2015 pit shell.

Table 3-1 Relative proportions of each domain within the 2015 optimised pit shell

Geodomain number	Geodomain code	Rock type	Volume (m^3)	Volume (%)
1	Fresh	Mineralised Garnet Gneiss	321,478	20%
2	Saprock	Mineralised Garnet Gneiss	958,734	59%
3	Saprolite	Mineralised Garnet Gneiss	34,983	2%
4	Carbonate	Carbonate ore	255,260	16%
5	Clay	Clay	51,130	3%
		TOTAL	1,621,585	100%

All drilling completed at Uley is HQ3 diamond core (diameter of 61.1mm) and sampled for resource definition as half core. The expected mass (kg) for each metallurgical sample was calculated by applying an average density of 2.0t/m^3 to the expected retrievable volume of core.

Metallurgical sampling completed at Uley at the end of 2018 is summarised in Table 3-2.

Table 3-2 Summary of all metallurgical sampling completed at Uley

Drill hole	Depth from	Depth to	Total length	Mass (kg)	Geodomain	Expected graphitic C %	Expected C as CO_3 %
MD603	110.6	121.8	11.2	22.0	1	12.1	0.31
MD615	116.3	120.3	4.0	8.5	1	6.6	0.12
MD644	109.3	117.3	8.0	16.0	1	19.4	0.98
MD658	70.5	80.4	9.9	15.0	1	27.4	4.66
MD666	75.5	82.6	7.1	11.3	1	12.5	0.56
MD676	68.2	76.7	8.5	11.9	1	17.3	0.03
MD688	76.5	77.8	1.3	2.2	1	21.9	1.29
MD696	94.5	99.8	5.3	12.0	1	12.2	0.16
MD601	34.5	41.2	6.7	15.1	2	5.2	0.39
MD608	42.7	55.7	13.0	21.6	2	5.4	0.31
MD608	57.7	61.7	4.0	5.1	2	3.8	0.08
MD617	19.6	20.6	1.0	1.7	2	4.6	0.17
MD617	26.0	27.0	1.0	0.8	2	4.9	0.20
MD617	28.5	29.2	0.7	0.9	2	6.4	0.26
MD617	31.3	34.5	3.2	4.4	2	13.8	0.56
MD617	46.1	49.9	3.8	6.3	2	32.9	0.31
MD617	52.8	53.3	0.5	1.7	2	18.1	0.55
MD617	62.0	66.5	4.5	7.4	2	25.7	0.45
MD617	67.5	69.5	2.0	3.6	2	3.8	0.08
MD617	71.5	84.0	12.5	24.7	2	15.1	0.31
MD617	85.0	86.0	1.0	2.7	2	3.5	0.05
MD617M	11.7	14.2	2.5	2.7	2		
MD617M	19.6	20.6	1.0	1.9	2		
MD617M	26.0	27.0	1.0	3.6	2		
MD617M	58.0	66.5	8.5	20.2	2		
MD617M	76.5	84.0	7.5	7.8	2	*Not assayed*	
MD617M	85.0	86.0	1.0	6.7	2		
MD617M	88.0	89.0	1.0	4.7	2		
MD617M	90.7	93.7	3.0	15.8	2		
MD617M	94.7	98.7	4.0	6.0	2		
MD627	36.8	50.0	13.2	16.6	2	10.9	0.14
MD635	51.6	54.0	2.4	4.1	2	14.7	0.65
MD637	59.8	71.5	11.7	20.6	2	17.9	0.22
MD654	8.3	13.9	5.6	9.8	2	7.9	0.22
MD654	24.9	27.8	2.9	3.1	2	10.6	0.42
MD654	30.5	31.5	1.0	2.1	2	3.5	0.19
MD654	35.0	39.2	4.2	5.5	2	12.3	0.70
MD689	44.5	53.5	9.0	8.2	2	17.8	0.46
MD605	15.0	20.9	5.9	11.8	3	9.8	2.60
MD615	31.9	34.2	2.3	8.0	3	27.6	3.29
MD617	11.7	14.2	2.5	4.8	3	18.5	0.08
MD617M	28.5	29.2	0.7	3.6	3	*Not assayed*	
MD629	30.5	35.2	4.7	14.0	3	7.5	0.54
MD629	37.0	40.0	3.0		3	14.8	0.35

Drill hole	Depth from	Depth to	Total length	Mass (kg)	Geodomain	Expected graphitic C %	Expected C as CO_3 %
MD608	23.4	41.7	18.3	31.3	4	15.3	2.55
MD617	57.0	62.0	5.0	8.6	4	34.5	1.15
MD617M	31.3	34.5	3.2	8.0	4	*Not assayed*	
MD662	11.0	13.0	2.0	5.1	4	4.8	6.56
MD662	14.1	16.3	2.2	5.5	4	8.0	6.16
MD662	18.1	20.6	2.5	6.8	4	6.5	7.96
MD662	21.2	21.6	0.4	1.0	4	9.1	7.85
MD662	23.1	26.1	3.0	7.1	4	20.2	9.23
MD676	23.7	30.2	6.5	7.2	4	33.4	2.57
MD688	16.9	21.8	4.9	9.5	4	19.3	4.25
MD697	23.8	32.4	8.6	12.0	4	22.6	1.00
MD703	21.0	27.2	6.2	12.0	4	13.2	2.92
MD605	2.6	4.4	1.8	5.3	5	4.5	0.35
MD605	7.6	8.6	1.0	2.1	5	3.7	0.17
MD615	14.5	21.5	7.0	10.0	5	5.3	0.07
MD617	6.9	7.9	1.0	1.2	5	17.6	0.13
MD617	9.0	10.0	1.0	1.2	5	7.8	0.31
MD617	11.0	11.7	0.7	1.0	5	4.7	0.11
MD629	2.2	3.7	1.5	2.3	5	10.1	1.16
MD644	23.3	28.1	4.8	6.2	5	12.4	1.88
MD654	5.1	8.3	3.2	4.4	5	9.8	0.16
MD658	1.0	4.0	3.0	5.5	5	5.6	0.51
MD677	2.5	8.0	5.5	8.7	5	8.8	3.70
MD688	6.0	10.2	4.2	5.5	5	6.9	2.58
MD699	4.7	6.6	1.9	2.2	5	23.7	1.47

Table 3-3 below summarises the sampling and average expected grades for each geodomain. This also highlights the varying graphitic C and C as CO_3 grade characteristics.

Table 3-3 Summary of all metallurgical sampling by geodomain

Geodomain	Total weight	Required weight	Expected average graphitic C %	Expected average C as CO_3 %	Proportion in pit
1	98.9	93	16.6	1.17	20%
2	235.1	223	12.6	0.31	59%
3	42.1	34	13.4	1.45	2%
4	114.1	79	19.3	3.26	16%
5	55.5	37	8.8	1.33	3%
TOTAL *(proportion in pit)*	545.7	466	14.4	1.01	100%

Extra samples were collected to ensure spatial distribution was maximised for geodomain 2 (saprock mineralisation) and 4 (elevated carbonate mineralisation), as summarised in Table 3-4.

Table 3-4 Spatial distribution sampling

Drill hole	Geodomain	Depth from	Depth to	Mass kg (laboratory)	Expected graphitic C %	Expected C as CO_3 %
MD689	2	13.9	14.9	4.1	23.4	4.8
MD661	4	44.9	58	19.95	21.2	1.15

3.2 Spatial distribution of sampling

Figure 3-1 to Figure 3-5 display the spatial distribution of the metallurgical sampling for each geodomain.

Figure 3-1 Plan view of metallurgical sampling for geodomain 1 - fresh mineralisation

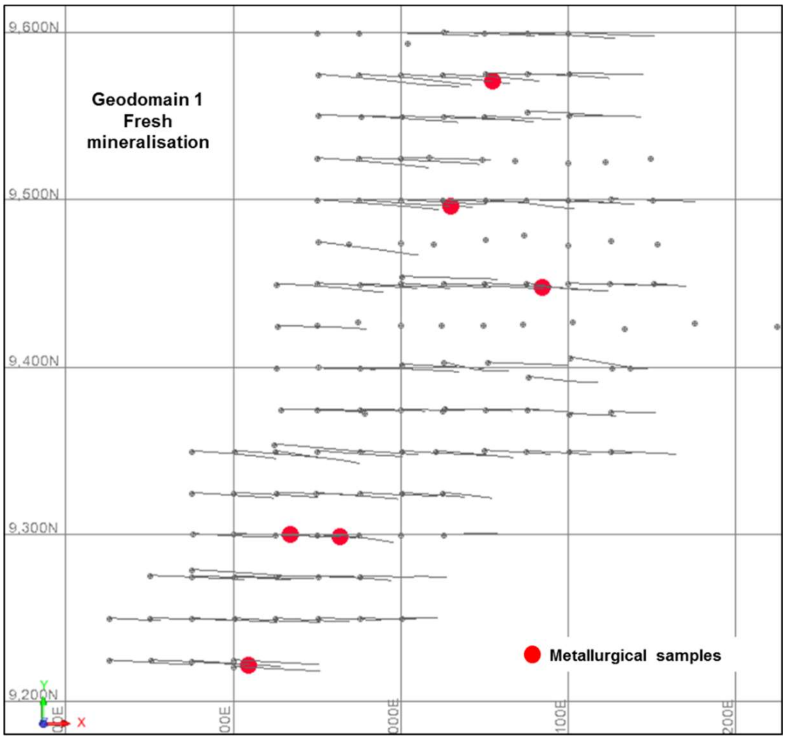


Figure 3-2 Plan view of metallurgical sampling for geodomain 2 - mineralised saprock

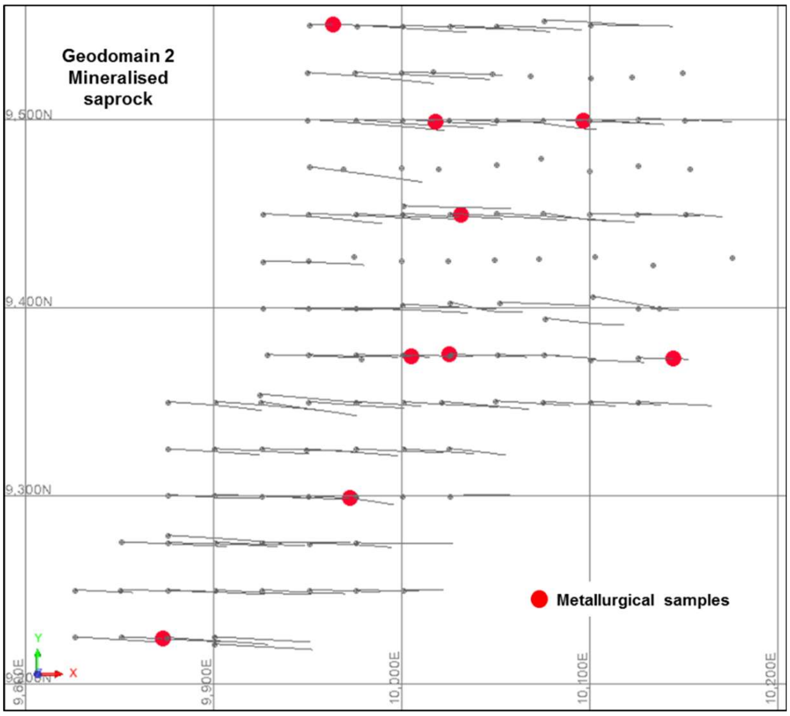


Figure 3-3 Plan view of metallurgical sampling for geodomain 3 - mineralised saprolite

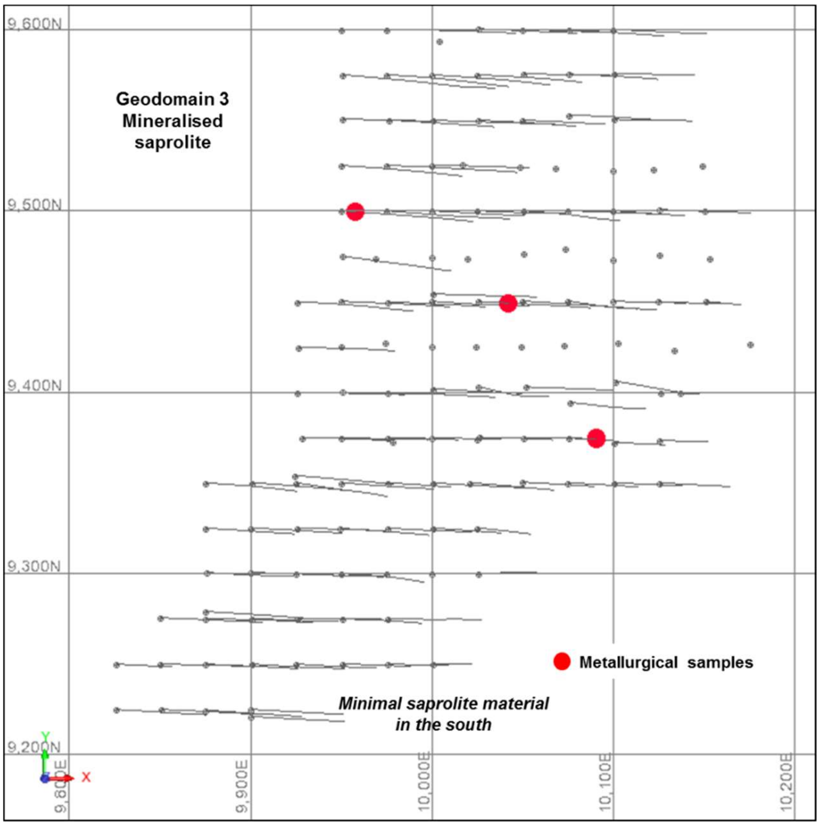


Figure 3-4 Plan view of metallurgical sampling for geodomain 4 – elevated carbonate mineralisation

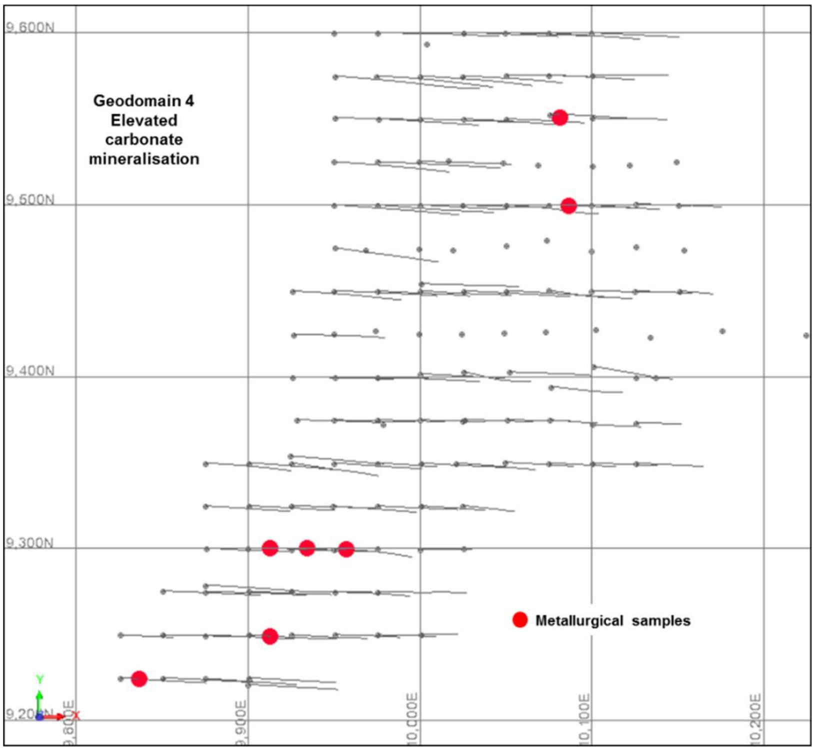
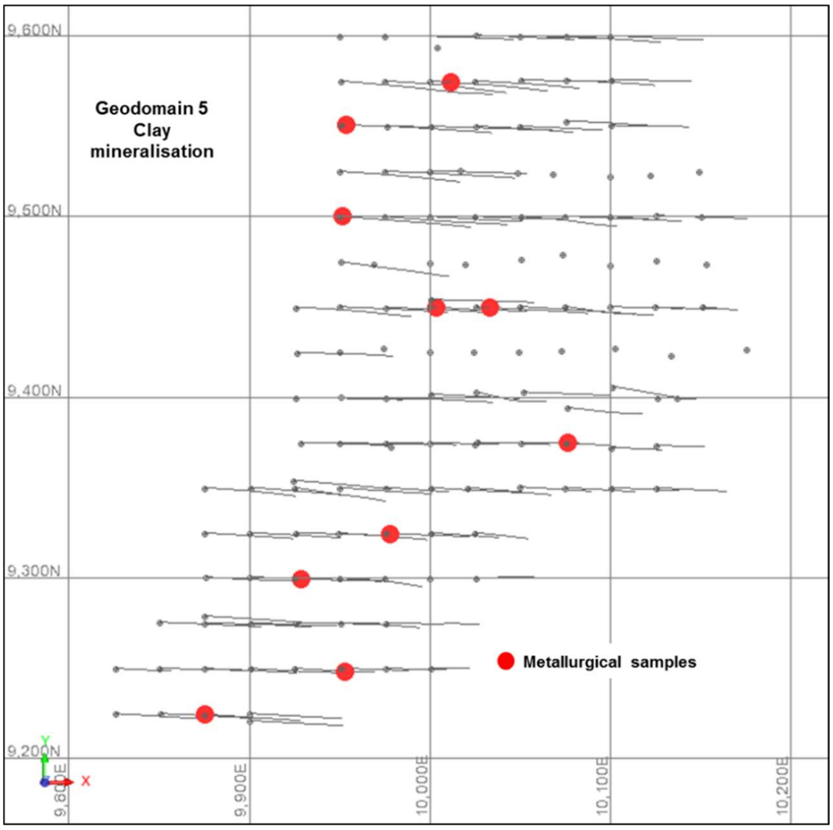
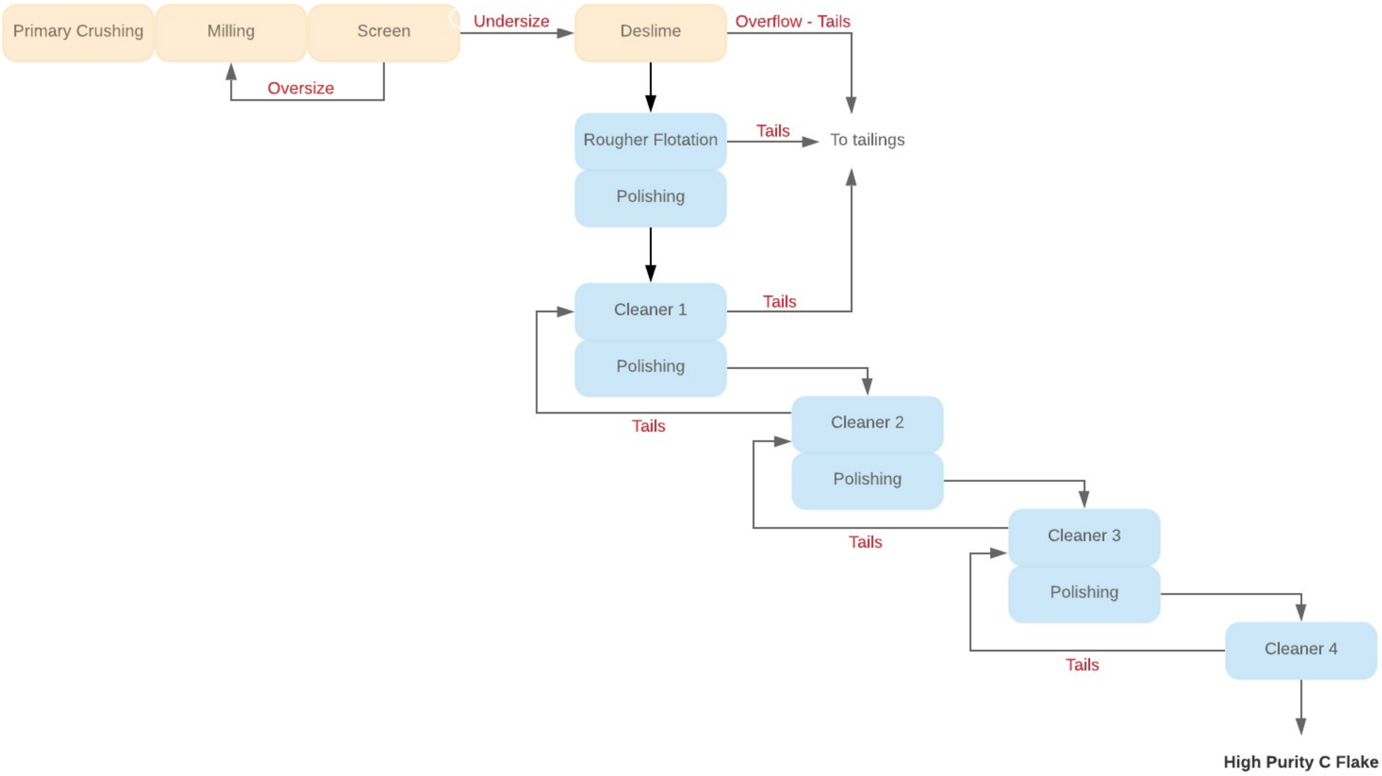


Figure 3-5 Plan view of metallurgical sampling for geodomain 5 – clay mineralisation



Process Description and Block Flowsheet



Feed Preparation

Run of mine (ROM) ore will be crushed using a mineral sizer with the crushed product being conveyed to a surge bin.

Milling

A single stage SAG mill will be used to scrub/grind the flotation feed to the required grind size. The SAG mill will discharge via a trommel screen. Trommel screen oversize will report to a scats bunker. Trommel screen undersize will feed the classifying screen feed hopper. The classification screen will be a multi deck vibrating screen. The screen oversize will report back to the SAG mill inlet while the screen underflow reports to the desliming cyclone feed hopper. Fine and clay particles will be removed into the deslime cyclone overflow. The deslime cyclone overflow will report to the final tails thickener. The deslime cyclone underflow will report to the rougher float feed surge tank.

Flotation

The underflow from the desliming cyclones will gravitate to the rougher float feed surge tank for conditioning and ensuring a controlled float feed rate. The rougher float circuit will consist of a series of conventional "U" cells. The tails from the rougher float cells will combine with the deslime cyclone overflow and report to the tailings thickener. The combined rougher float concentrate will report to the rougher regrind mill for further gangue liberation.

The flotation concentrate from the rougher flotation and each cleaner stage thereafter will be reground before the subsequent flotation stage to assist with delamination of the flakes / gangue liberation. Each cleaner tail is recycled to the previous stage with the cleaner 1 tail reporting to final tails. Provision to bypass each stage for maintenance will be provided as well as the facility to separately remove the cleaner 1 and 2 first stage concentrates to reduce flake attritioning if grades are satisfactory.

Concentrate Handling

Final flotation concentrate from the last cleaner flotation circuit will be pumped to the concentrate thickener. The concentrate will be dewatered before being filtered to achieve the target moisture content. Filter cake from the concentrate filter will be conveyed to a dryer. Dried graphite concentrate will be screened into several sizes as final products.

Tails Handling

Tailings from the circuit will be pumped to the tailings thickener. The final tailings will be thickened before being filtered to further reduce the moisture content. Filter cake from the tailings filter will be deposited into the lined storage facility.