

Massive Sulphides at Rosie

HIGHLIGHTS

Diamond Drilling – Duketon Nickel Project (100% DKM)

- Third diamond drill hole at Rosie completed (544 metres)
- Massive, matrix and heavily disseminated sulphides intersected over 6.20 meters from within a 19.10 metre envelope of sulphide mineralisation
- Assays expected late January 2023
- Drill rig currently drilling MLEM target at the Albany Prospect
- DHEM to commence later this week on all holes



Figure 1: Massive sulphides in DKDD0033 at Rosie



Duketon Mining Limited (**ASX: DKM**) (“**Duketon**” or “**the Company**”) is pleased to announce the third diamond drill hole at Rosie has been completed to a final depth of 544m. The hole intersected significant mineralisation over a 19.10 metre interval including 1.05 metre of massive sulphide.

The drill rig is currently at the Albany Prospect drilling the moving loop electromagnetic (MLEM) conductor identified earlier in the year. This MLEM anomaly is a strong, clear, late-time anomaly with a conductivity of 1400 Siemens.

Downhole electromagnetic (DHEM) surveying will be completed on all drill holes in the next couple of weeks. Assays are expected in late January 2023 for all drill holes.

Modelling of surface MLEM data to the west and down plunge of Rosie is continuing (see ASX announcement 2 November 2022). This area is further to the west of Rosie than the current drilling. Once the modelling of this data is complete, any targets associated with it will be announced.

Table 1: Lithology and Mineralisation in DKDD0033

From (m)	To (m)	Interval (m)	Description
502.55	507.2	4.65	Ultramafic with 10% blebby sulphides (po-cp-pn)
507.2	512.9	5.7	Ultramafic with 8% blebby sulphides (po-pn-cp)
512.9	515.45	2.55	Dolerite dyke
515.45	518.7	3.25	Ultramafic with 15% blebby sulphides (po-pn-cp)
518.7	519.3	0.6	Ultramafic with 20% blebby sulphides (po-pn-cp)
519.3	519.55	0.25	Ultramafic with semi massive sulphides (40%) (po-pn-cp)
519.55	520.6	1.05	Massive sulphides (85%) with minor ultramafic (po-pn-cp)
520.6	521.65	1.05	Basalt footwall with 40% matrix sulphides (po-pn-cp)

Note – po – pyrrhotite, pn – pentlandite, cp – chalcopyrite

Also, it is important to note in relation to the reporting of visual mineralisation, the Company cautions that visual estimates of sulphide abundance cannot be considered a substitute for laboratory analysis. Laboratory assay results are required to determine the widths and grades of the nickel sulphide mineralisation identified in the geological logs. When these results are available, the Company will provide an update to the market.



Figure 2: Ultramafic with 20% blebby sulphides

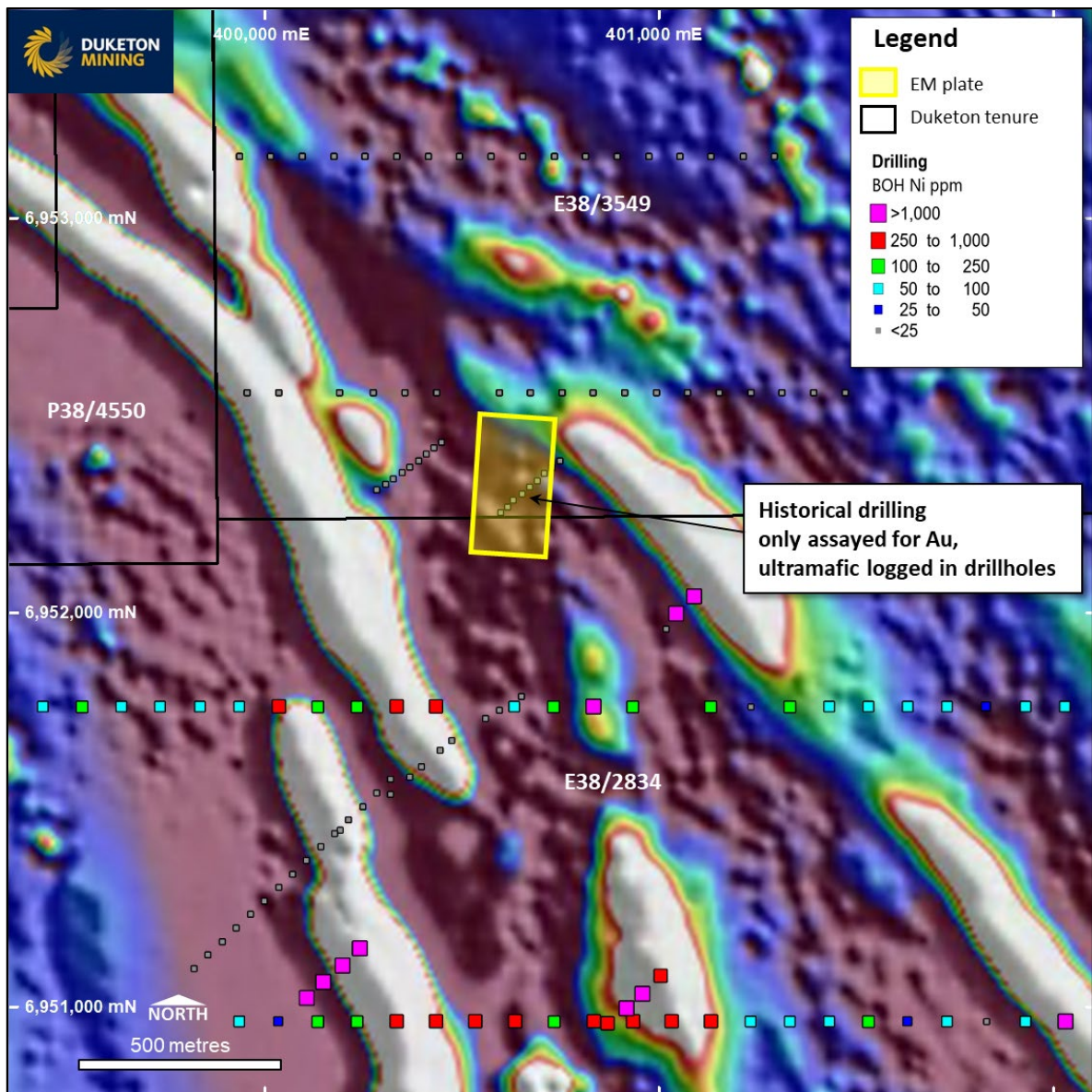


Figure 3: Albany Prospect MLEM Anomaly and historical drilling over magnetics

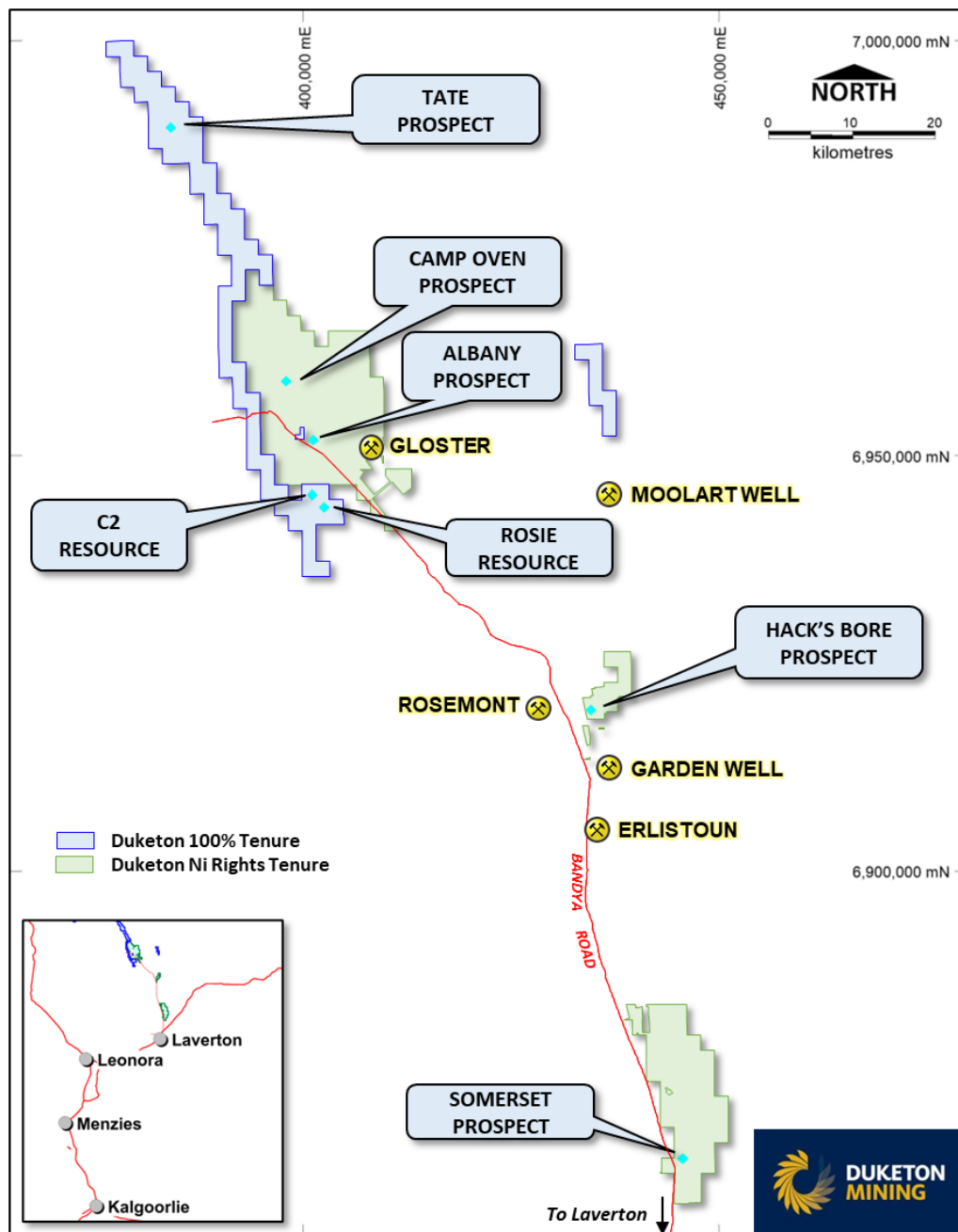


Figure 4: Location map of the Duketon tenement holdings and location of the DKM prospects

Authorised for release by:

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Competent Person Statement:

The information in this release that relates to exploration results is based on information compiled by Ms Kirsty Culver, Member of the Australian Institute of Geoscientists (AIG) and an employee of Duketon Mining Limited. Ms Culver has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being undertaken to qualify as a competent person as defined in the JORC Code 2012. Ms Culver consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

This release includes information that relates to exploration results which were prepared and first disclosed under the JORC Code 2012. The information was extracted from the Company's previous ASX announcements as follows:

- 2 November 2022

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement. The Company confirms that the form and context in which any Competent Person's findings are presented have not been materially modified from the original market announcement.

JORC Table 1

JORC Code, 2012 Edition – Table 1 report – Duketon Project

Section 1 Sampling Techniques and Data – Rosie Diamond Drilling

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <i>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.</i> <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> <i>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.</i> 	<ul style="list-style-type: none"> Diamond core was drilled HQ to competent rock and then NQ2 to end of hole. The sample interval is cut in half using a diamond core saw and half core sampled for assay. Each sample provides between 2.0-3.0kg of material. The core is cut to the left of the orientation line, with the same half sampled to ensure sample is representative. Diamond core is sampled to geological boundaries, no more than 1m and no less than 20cm per sample. Certified samples and blanks are inserted every 25th sample for diamond drilling. Mineralisation is determined qualitatively by geological logging and quantitatively through assaying.
Drilling techniques	<ul style="list-style-type: none"> <i>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).</i> 	<ul style="list-style-type: none"> Diamond drilling using HQ2 (61.1mm) sized core to competent rock and then NQ2 (50.6mm) to end of hole. Core was oriented using a Reflex ACT III orientation tool.

Criteria	JORC Code explanation	Commentary
Drill sample recovery	<ul style="list-style-type: none"> 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 preferential loss/gain of fine/coarse material. 	<ul style="list-style-type: none"> Recoveries qualitatively noted at the time of drilling and recorded. Core is metre marked and orientated. Run recoveries are recorded.
Logging	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> All core is logged to a level of detail to support future use in a mineral resource calculation. Qualitative: Lithology, alteration, mineralisation. Quantitative: Vein percentage, sulphide percentage. All holes for their entire length are logged. All core is photographed.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The core is cut using an automatic core saw, half core is sampled.
Quality of assay data and	<ul style="list-style-type: none"> 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, 	<ul style="list-style-type: none"> Certified Reference Material (Standards) and blanks are submitted with batches (1 in every 25 samples).

Criteria	JORC Code explanation	Commentary
laboratory tests	<p><i>the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></p> <ul style="list-style-type: none"> • <i>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.</i> 	
Verification of sampling and assaying	<ul style="list-style-type: none"> • <i>The verification of significant intersections by either independent or alternative company personnel.</i> • <i>The use of twinned holes.</i> • <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> • <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> • All data is checked internally for correctness by senior DKM geological and corporate staff. • All data is collected via Ocris software and uploaded into the DKM Datashed Database following validation. • No twinned holes have been drilled to date.
Location of data points	<ul style="list-style-type: none"> • <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> • <i>Specification of the grid system used.</i> • <i>Quality and adequacy of topographic control.</i> 	<ul style="list-style-type: none"> • All location points are collected using a handheld GPS in MGA 94 – Zone 51 • Downhole surveying (azimuth and dip of the drillhole) of diamond drillholes was measured by the drilling contractors using an Axis Champ Gyro. • A topographic surface has been created from airborne geophysical data. Drillholes are corrected to this surface.
Data spacing and distribution	<ul style="list-style-type: none"> • <i>Data spacing for reporting of Exploration Results.</i> • <i>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.</i> • <i>Whether sample compositing has been applied.</i> 	<ul style="list-style-type: none"> • Holes are drilled at various spacing depending upon the holes drilled previously in the area of interest. • Hole spacing is appropriate for drilling at this stage.
Orientation of data in relation to	<ul style="list-style-type: none"> • <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> • <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a</i> 	<ul style="list-style-type: none"> • The orientation of the geology and mineralization at Rosie is steeply dipping to the south and striking NNW to W.

Criteria	JORC Code explanation	Commentary
geological structure	<i>sampling bias, this should be assessed and reported if material.</i>	
Sample security	<ul style="list-style-type: none"> <i>The measures taken to ensure sample security.</i> 	<ul style="list-style-type: none"> Chain of custody is managed by company representatives and is considered appropriate. All samples are bagged in a tied numbered calico bag, grouped into larger polyweave bags and cable tied. Polyweave bags are placed into larger bulky bags with a sample submission sheet and tied shut. Consignment note and delivery address details are written on the side of the bag and delivered to Toll in Laverton. The bags are delivered directly to Intertek in Maddington, WA who are NATA accredited for compliance with ISO/IEC17025:2005.
Audits or reviews	<ul style="list-style-type: none"> <i>The results of any audits or reviews of sampling techniques and data.</i> 	<ul style="list-style-type: none"> No external audits or reviews have been conducted apart from internal company review.

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	<ul style="list-style-type: none"> <i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i> <i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the</i> 	<ul style="list-style-type: none"> The tenement (M38/1252) is 100% owned by Duketon Mining Limited and is in good standing and there are no known impediments to obtaining a licence to operate in the area.

Criteria	JORC Code explanation	Commentary
	area.	
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> Previous drilling at The Bulge Complex was completed by Independence Group (IGO) and South Boulder Mines Ltd. This work has been checked for quality as far as possible and formed the basis of the follow-up conducted as part of the drilling programme presented.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> The Rosie Nickel Deposit is a komatiite-hosted nickel sulphide deposit. The mineralisation is characterised by accumulations of massive, matrix, breccia and disseminated sulphides at the basal contact overlying a basalt footwall.
Drill hole Information	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. 	<ul style="list-style-type: none"> A table is provided within the text of this announcement.
Data aggregation methods	<ul style="list-style-type: none"> In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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. 	<ul style="list-style-type: none"> N/A.

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i> 	<ul style="list-style-type: none"> N/A.
Diagrams	<ul style="list-style-type: none"> <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> 	<ul style="list-style-type: none"> Refer to figures in document.
Balanced reporting	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> All drillhole locations are reported.
Other substantive exploration data	<ul style="list-style-type: none"> <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> 	<ul style="list-style-type: none"> Refer to document.
Further work	<ul style="list-style-type: none"> <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> <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> 	<ul style="list-style-type: none"> A discussion of further work underway is contained within the body to this ASX release.