



**ASX: MRC** 12 March 2020

# MAIDEN JORC RESOURCE ESTIMATION FOR THE SKALAND **GRAPHITE PROJECT**

- Indicated and Inferred 1.78 Million tonnes at 22% Total Graphitic Carbon ("TGC") for 397Kt of contained graphite.
- Highest grade resource for any operating graphite mine in the world.
- Initial estimate based on previous data with mineralisation open up and down dip with potential to mine from existing development.
- Drilling to commence next quarter to target new mineralised zones, delineate a JORC Code (2012) compliant Measured Resource and subsequent Ore Reserve estimate after the drilling campaign.

Mineral Commodities Ltd ("MRC" or "the Company") is pleased to announce the maiden JORC resource at the Skaland Graphite Project for the underground Trælen Graphite Mine located on the island of Senja, Norway.

The Mineral Resource has been prepared in accordance with the Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, ("JORC Code (2012)") and is estimated at 1.78 Million tonnes at 22% TGC in the category of indicated and inferred for 397Kt of contained graphite using a 10% cut-off.

Table1-Total Mineral Resources for the Trælen Graphite Deposit (10% cut-off grade)

Classification	Tonnes Kt	Total Graphitic Carbon (TGC)	Tonnes Contained Graphite Kt
Indicated	409	26%	106
Inferred	1,376	21%	291
Total <sup>1</sup>	1,785	22%	397

Mineral Resource estimated at a 10% TGC cut-off

Executive Chairman Mark Caruso said, "After completing the acquisition of Skaland in October, 2019 we've moved quickly to implement the requisite mine planning and scheduling necessary to deliver on our near term goals of optimising concentrate production before increasing output. We're very pleased to release this maiden JORC resource at Skaland, the highest grade resource for any operating graphite mine in the world, which not only becomes the foundation of our plans to build on our existing graphite concentrate business but also underwrites our strategy to become Europe's first vertically integrated producer of natural graphite anode material."

The mineral resource quoted at various cut-off grades (COG) as presented below (Table 2) demonstrates the high grade nature of the deposit, with nearly 75% of the total contained tonnes reporting at 25% TGC at a 20% cut off.

Table 2 <sup>1</sup> : Resource Table at Various Cut off Grades								
Classification	Cut Off	Tonnes	TGC (%)	Contained Total Graphitic Carbon (Tonnes)				
	20	1,172,627	25%	296,338				
	17.5	1,486,175	24%	355,781				
بِ	15	1,587,387	23%	372,300				
TOTAL	12.5	1,693,059	23%	386,851				
Ĕ	10	1,784,796	22%	397,175				
	7.5	1,895,965	21%	406,839				
	5	1,943,603	21%	409,812				

<sup>1-</sup>Refer to JORC table 1 for full table

## **Background**

The Skaland Graphite Operation is located in northern Norway on the island of Senja, with Tromsø the nearest major town, with a population of around 65,000, some 70km to the northeast (see Figure 1).

Graphite was first discovered in the area in 1870 and production started in 1917. Skaland is understood to be the largest flake graphite producer in Europe and is presently the world's highest-grade operating flake graphite mine. Skaland Graphite AS formerly extracted graphite ore from the Skaland mine which is located directly alongside the existing processing and port infrastructure, but since 2007 ore to the plant has been sourced from the nearby Trælen Mine.

Since the acquisition of Skaland Graphite AS on 4 October 2019, MRC has undertaken a re-evaluation of the mineral resources in the Trælen Graphite Mine by re-logging, re-sampling, and re-assaying of drilling core to build a 3D block model of the deposit. No previous JORC Resource estimation has been undertaken for the Skaland or Trælen deposits. Wardell Armstrong International ("WAI") as an independent consultant has completed an audit of the Mineral Resource Estimate of the Trælen deposit, prepared by MRC in accordance with the guidelines of the JORC Code (2012).



Figure 1: Location of the Skaland and Trælen Deposits

### **Geology and Mineral Resources Estimate**

The Trælen deposit lies on the northern tip of the Skaland peninsula and consists of two main and related lithological units. The tectono-stratigraphically lower unit is a banded gneiss with alternating biotite rich and granitic bands (locally termed "Trælen Gneiss") and an upper unit that consists of amphibolitic gneiss. These are heterogeneous hornblende gneisses with graphite horizons, possibly metamorphic greywacke and calciferous rocks. Both units contain granitic orthogneisses, possibly a result of partial melting of the surrounding rocks. Quartz diorites and different types of pegmatites occur as well, forming discontinuous intrusions.

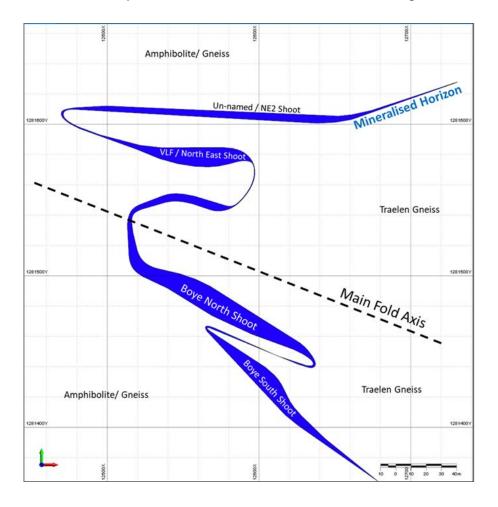
The graphite found in the upper unit is assumed to be primarily syngenetic and later exposed to tectonic activity leading to its present textural, mineralogical, geochemical and geometric characteristics.

The mineralised horizon is isoclinally folded and the thickest, most continuous mineralisation occurs as lens shaped bodies oriented parallel to the main fold axis. This horizon contains the most economically interesting instances of graphite at Trælen, and can vary between centimetres and 12-14m thick. There is minor graphite found in faults and along shears. There are minor exploration targets to the south and west of the current Trælen Deposit which may represent either a further fold of the same horizon or a second mineralised horizon.

The rocks in the area have been exposed to at least three phases of folding and deformation with the last folding phase responsible at Trælen with a fold axis dipping 30 to 90 degrees towards the west–northwest. The existence of hypersthene, signs of partial melting and migmatisation, and the occurrences of course grained flaky graphite, all indicate high temperature metamorphism.

The thicker, domainable zones of the graphite mineralisation are named the **Boye North Shoot**, **Boye South Shoot** (termed for their relative positions to each other), the **VLF** or **North East Shoot** and an unnamed second **northeast shoot** ("NE2"). The North East shoot was named as such due to occupying a location to the northeast of the mine workings, where it was identified at the 85mRL and above. A schematic plan view of the Trælen deposit is shown in Figure 2.

Figure 2- Schematic plan view of the Trælen Deposit at 0mRL - the North East and NE2 shoots migrate further east in respect to the North and South Shoots with increasing elevation

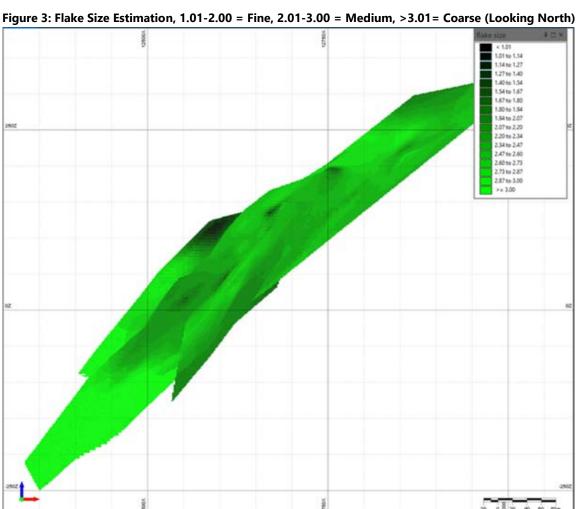


Two types of drilling have been conducted at Trælen, diamond drillholes (both from surface and underground) and shorter rotary probe (sludge) boreholes all drilled from underground. A total of 133 holes have been drilled, 93 diamond holes and 40 probe holes. The total metres drilled is 16,540m, which comprises of 15,531m diamond drilling (average 167m, min 36m, max 435m) and 1,009m of probe drilling (average 25.2m, min 15m, max 30m). All diamond drilling has been drilled with a core diameter of 36mm, the type of drilling has only been recorded for a few holes, either BQ wireline or LTK 48 conventional.

All significant graphite bearing intersections in the diamond core have been sampled by splitting the core longitudinally, with the mineralised zone sampled every two meters except for boundaries where a longer or shorter interval was taken.

All collected samples have been assayed at the on-site laboratory or sent to the ALS laboratory in Sweden (ALS Scandinavia) to complete the preparation and assaying. The 853 samples resubmitted to ALS have been analysed for both Total Carbon, using a similar method to the onsite laboratory, and Total Graphitic Carbon (TGC) by LECO furnace.

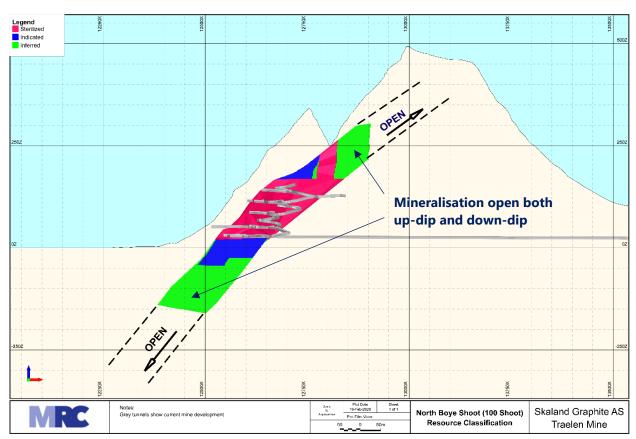
The Mineral Resource estimation involved the use of drillhole and geological mapping data to construct three dimensional wireframes to define mineralised domains. Samples were selected inside these wireframes, coded and composited. Boundaries were treated as hard with statistical and geostatistical analysis conducted on composites identified in individual domains. Grades were estimated into a geological block model representing each mineralised domain. Grade estimation was carried out by inverse distance for both TGC and flake size values by using Micromine software. The result of the flake size estimation is presented in Figure 3.



Zones of the Trælen deposit in close proximity to mining have been drilled to 40x20m spacing, closer in places due to the nature of fan drilling, which is considered to be sufficient for classification of an Indicated Resource. Given the adjustments needed to a large portion of assays from Total Carbon to represent Graphitic Carbon, there is additional uncertainty around exact grades. For this reason, there is no classification of Measured material in the Mineral Resource, even close to existing mining, where geological and spatial confidence is high.

Mining is currently being conducted by long hole open stoping in a bottom up sequence. Future mining is assumed to be long hole open stoping in a top down sequence. A cross-section of the Resource Classification on 100 Shoot is presented in Figure 4.

Figure 4: Resource Classification on 100 Shoot – the blue/green zones on the figure shows a fold where there is inferred classification on the northern limb of the fold and indicated classification on the southern limb



A summary of the Mineral Resource statement is shown in Table 1 as defined by the JORC Code (2012).

The stated Mineral Resource estimate is not materially affected by any known environmental, permitting, legal, title, taxation, socio-economic, marketing, political or other relevant issues, to the best knowledge of the authors. There are no known mining, metallurgical, infrastructure, or other factors that materially affect this Mineral Resource estimate, at this time.

The Company intends to commence a drilling program in Q2-2020 to upgrade the current resource and will target delineating a JORC Code (2012) compliant Measured Resource and subsequent Ore Reserve estimate after the drilling campaign.

**END** 

**Issued by** Mineral Commodities Ltd ACN 008 478 653 <u>www.mineralcommodities.com.</u> **Authorised by** the Board of Mineral Commodities Ltd.

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#### **About Mineral Commodities Ltd**

Mineral Commodities Ltd (ASX: MRC) is a global mining and development company with a primary focus on the development of high-grade mineral deposits within the industrial and battery minerals sectors.

The Company is a leading producer of zircon, rutile, garnet and ilmenite concentrates through its Tormin Mineral Sands Operation, located on the Western Cape of South Africa. In October 2019, the Company completed the acquisition of Skaland Graphite AS, the owner of the world's highest-grade operating flake graphite mine and one of the only producers in Europe. The planned development of the Munglinup Graphite Project, located in Western Australia, builds on the Skaland acquisition and is a further step toward an integrated, downstream value-adding strategy which aims to capitalise on the fast-growing demand for sustainably manufactured lithium-ion batteries.

#### **Competent Person Statement**

The information in this Securities Exchange Announcement that relates to Mineral Resources is based on information compiled by Mr Ché Osmond, who is a Chartered Geologist (CGeol) of Geological Society of London and Fellow of the Geological Society (FGS) a Recognised Professional Organisation (RPO). Mr Osmond is Technical Director of Wardell Armstrong International ("WAI") an independent consultant to Mineral Commodities Ltd. Mr Osmond 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 by the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("the JORC Code (2012)"). Mr Osmond consents to the inclusion in this ASX release in the form and context in which it appears.

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# (JORC Code, 2012 Edition - Table 1 report)

# **Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <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.</li> <li>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> <li>diamond holes and 40 probe holes, representing 15,531m of drilling and 1,245 analysed drill samples.</li> <li>Probe holes have not been sampled.</li> <li>Diamond drilling mineralised zones were sampled every two metres except for boundaries where a longer or shorter interval was taken. Unmineralised core was not sampled.</li> <li>Sampling method is by manually splitting half-core sampling of diamond drill core.</li> </ul>
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic) 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).	<ul> <li>Core diameter is approximately 36mm.</li> <li>No diamond drillholes are orientated.</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul> <li>multi-shot survey tools at intervals of 3.0m (6 holes in 2012 were surveyed on 4.0m intervals).</li> <li>Probe holes, and historical diamond drillholes, have not been downhole surveyed.</li> </ul>
Drill sample recovery	<ul> <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> <li>No continuous data was recorded on core recovery.</li> <li>Core that has been check logged shows there is not a significant issue with core loss, and that any material loss is not considered significant to the estimation of mineralisation.</li> <li>A sampling bias has not been determined.</li> </ul>
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Holes were initially geologically logged by on-site geologists and consultants.</li> <li>6 holes were check-logged in late 2019 and results were considered to compare favourably with historical logging.</li> <li>Geotechnical aspects in the form of RQD, joint type, alteration, frequency, and water inflow were collected for 6 holes drilled in late 2018 and 2019 only.</li> <li>6 diamond drillholes completed in 2018 and 2019 have been photographed in both dry and wet states.</li> </ul>
Sub- sampling techniques and sample preparation	,	<ul> <li>Diamond core has been split longitudinally with a manual core splitter, and half core sampled.</li> <li>Duplicates have been sampled sporadically using the remaining half of the core.</li> <li>Samples are crushed to 75% passing 5mm in an onsite cone crusher. The crushed material has then either been assayed at the on-site laboratory or sent to the ALS laboratory in Sweden (ALS Scandinavia) to complete the preparation and assaying.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <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> <li>ALS Sweden ("ALS") then further prepares the sample by weighing, drying, fine crushing the entire sample to &gt;70% passing 2mm, rotary splitting to 250g using a Boyd Rotary Splitter and finally pulverising the split to &gt;85% passing 75µm.</li> <li>The sample sizes are considered appropriate for the type of mineralisation under consideration.</li> </ul>
Quality of assay data and laboratory tests	<ul> <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> <li>Loss-on-ignition technique, which may include non-graphitic carbon such as from carbonate minerals. These are compared to Graphitic Carbon for appropriateness, and a consistent variance of 8.3% has been noted.</li> <li>No certified QAQC assays were completed by the on-site laboratory.</li> </ul>

Criteria	JORC Code explanation	Co	ommentary					
		•	No geoph	-		handheld instrume	nts were	utilised i
Verification of sampling and assaying	<ul> <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>	•	spaced dr values are logged fla Original p electronic by Maxwe an offsite by their tr Only mind TC values the graph reducing Due to th the need have bee amount o TGC assay Graphite of have beer down, as se	rillholes e reason ake size caper lo c forma cally sto ell Geos server s rained c or core   s from t hitic ca them by ne Skala to com of the facto of the facto of the facto shown shown	were revenably concern vary ogs have to the descripplied database photograph as the onsiturbon assett of the onsiturbon a	aphy exists to compellab have been a says to be used says to be used satory producing Te model using TGC on to be represent determined based that the same sample or atory. Where TG or with the remaining	ale varial teger restrance or transcribeen condatabase is vices and are to his djusted in the restrative of conthem to the most from the most	bility. TGO presenting ribing into nverted to e provided hosted o d managed storic logs n line wit esource b values, and ssay value f TGC. Th nean of 71 he Skaland exist, thes
		l F	sample count	16.99	25.45	23.34	19.41	

Criteria	JORC Code explanation	Com	nmentary			
		Mir	nimum	0.02	1.28	0.02
		Ma	aximum	44.9	52.53	52.53
		Std	d. Dev.	10.59	9.95	10.79
				112.06	98.96	116.49
		C.V	1.	0.62	0.43	0.56
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	• U r S · V · F · C · C · C · F · T	been lost. Hemployed submitted in the datale direction of downhole robe drill probe drilll	dowever, control diamond diamond diamond diamond diamond diamond diamond diamond diamovement diamovement diamond d	ollar locations were at the time of drilling of drilling of drilling of drilling of drilling of drilling of the surveying method of the save typically been ave typically been ave no downhold of been surveyed as exist.	med, as the collars he picked up by company using DGPS.  The been surveyed used including Leica Tollars and the collar diplet data to describe and only planned are accurate for collars.
Data spacing and distribution	<ul> <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> </ul>	v • 2	40x40m in t variable du	he areas o e to the fa appropr	f the mine. Further nned nature of the	oth Shoots is 20x20m down dip this becone holes. e and shape of
	, I I	1				

	Criteria	JORC Code explanation	Commentary
			been applied (minimum sample length 4cm) where appropriate and sampled to geological boundaries elsewhere.
MUO BEN	Orientation of data in relation to geological structure	<ul> <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>	drillholes being drilled as close to perpendicular to the interpreted strike of the geological units and graphite mineralisation as possible.
Delsonal	Sample security	The measures taken to ensure sample security.	<ul> <li>There is little information around sample security when using the on-site laboratory. The core and all samples are stored on site at the Skaland processing plant and in the old workings of the Skaland mine.</li> <li>External laboratories have significant chain of command documents due to shipping the samples internationally.</li> </ul>
	Audits or reviews	The results of any audits or reviews of sampling techniques and data.	<ul> <li>No external audits or reviews of the sampling techniques and results have been completed to date.</li> <li>MRC has conducted an internal review of sampling techniques and data, and found the following:         <ul> <li>Sample lengths have not been constrained by a minimum or maximum length</li> <li>The use of a manual core splitter has resulted in some inconsistences with respect to half core volumes</li> <li>The use of a manual core splitter has precluded zones of</li> </ul> </li> </ul>

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	Criteria	JORC Code explanation	Commentary
D			<ul> <li>internal dilution from being sampled due to hardness</li> <li>Data was primarily recorded on paper logs, then transcribed into a database. No major transcription errors were discovered</li> <li>WAI reviewed the data as part of an overall resource estimate review and found no fundamental errors or inconsistencies.</li> </ul>

# **Section 2 Reporting of Exploration Results**

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

Criteria JORC Code exp			JORC Code expla	nat	tion 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.	•	According to the Norwegian Minerals Act, graphite is owned by the landowner.  The Trælen Mine lies on cadastral numbers (property numbers) 6/1, 6/2 and 7/1. An agreement with the local landowner is in place and covers access (6/1 and 6/2) and mining (7/1).  Skaland Graphite AS also owns three properties (10/13, 10/108 and 10/164) which cover the current process plant, an old residence, an access road and the old Skaland Mine site. Skaland Graphite AS also owns 10/1/28 and 10/13/5 which comprise the wharf and hardstand area and have been leased back to the Berg Municipality.  Skaland Graphite AS has also leased 10/1/19, 10/1/24 and 10/1/27 on which the current main office building and car park are located.  The Skaland Graphite AS operating licence for the Trælen Mine was renewed on 28 May 2019 for a duration of 10 years.  The Company was granted permission to increase production to 16,000t of graphite concentrate per year, and the discharge of 40,000t of tailings to sea per year. The licence issued on the 28th June 2019 replaced the previous production licence of 24th Jan 2002 and discharge permit of 25th July 2019.  To the knowledge of WAI, all licences and permits are in good standing with no known impediments.
	Exploration done by other parties	•	Acknowledgment and appraisal of exploration by other parties.	•	MRC has not conducted any exploration on the Project. Exploration dates back to 1870 when graphite was first discovered in the area.

	Criteria	JORC Code expl	anation Commentary
For personal use only			<ul> <li>The Geological Survey of Norway has conducted extensive regional-scale exploration including geochemistry and geophysical surveys.</li> <li>Six drillholes were completed in 1985, followed by a Pre-Feasibility Study of the Trælen deposit conducted in 1998.</li> <li>In 2001 an additional drilling program was undertaken that comprised 15 drillholes for a total length of 2,103m. All holes intersected high grade graphite in the Boye-vein and 5 holes also intersected high grade graphite in the VLF-vein, which indicated a significant addition to the 1998 estimation.</li> <li>In 2002, based on a total of 35 drillholes, two ruler shaped mineralised bodies, or veins, were drill indicated and a Mineral Resource evaluation completed to estimate the contained tonnes and carbon in graphite grade.</li> <li>By 2017, a total of 101 drillholes had been completed and comprised 40 probe holes for a total of 1,009m and 61 diamond holes for a total of 7,506m.</li> </ul>
For pers	Geology	Deposit type, geological setting and style of mineralisation.	• The Trælen deposit lies on the northern tip of the Skaland peninsula and consists of two main and related lithological units. The tectono-stratigraphically lower unit is a banded gneiss with alternating biotite rich and granitic bands (locally termed "Trælen Gneiss") and an upper unit that consists of amphibolitic gneiss. These are heterogeneous hornblende gneisses with graphite horizons, possibly metamorphic greywacke and calciferous rocks. Both units contain granitic orthogneisses, possibly a result of partial melting of the surrounding rocks. Quartz diorites and different types of pegmatites occur as well, forming discontinuous intrusions.

Criteria	JORC Code expla	nation Commentar
		<ul> <li>The graphite found in the upper unit is assumed to be prima syngenetic and later exposed to tectonic activity leading to present textural, mineralogical, geochemical and geometharacteristics.</li> <li>The mineralised horizon is isoclinally folded and the thickest, montinuous mineralisation occurs as lens shaped bodies orient parallel to the main fold axis. This horizon contains meconomically interesting instances of graphite at Trælen, and ovary between centimetres and 12-14m thick. There is mingraphite found in faults and along shears. There are minexploration targets to the south and west of the current Træ Deposit, which may represent either a further fold of the sal horizon, or a second mineralised horizon.</li> <li>The rocks in the area have been exposed to at least three phase of folding and deformations. D1 developed the main foliation, is responsible for the majority of the large scale folding structure in the region and D3 which is the last folding phase responsible Trælen for the folds with a fold axis dipping 30 to 90 degree towards west-northwest.</li> </ul>
Drillhole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all material drillholes:         <ul> <li>easting and northing of the drillhole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drillhole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that</li> </ul>	

Criteria	JORC Code explanation	Commentary
	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.  general strike of the mineralised zones.  • Dip ranges – The dip of the mineralised 75°. Drillholes are generally inclined to i the mineralisation.	
Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> <li>No individual Exploration Results are reporting in No (high-grade) top cutting was used duestimation process. A statistical review of in the main body of the report.</li> <li>No metal equivalent equivalent procedure or reporting of metal equivalent and should be stated and some typical examples of such aggregations should be shown in detail.</li> </ul>	ring the Mineral Resource the assay data is outlined used during the Mineral ting. gths during the Mineral
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> <li>The strike of the mineralised zones range sections are orientated perpendicular to mineralised zones where possible.</li> <li>The dip of the mineralised zones range are generally inclined to intersect the mineralised zones range sections are orientated perpendicular to mineralised zones where possible.</li> <li>The dip of the mineralised zones range are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones ranges are generally inclined to intersect the mineralised zones are generally inclined to intersect the mineralised zones.</li> </ul>	the general strike of the from 55° to 75°. Drillholes peralisation at appropriate are downhole widths and
Diagrams	<ul> <li>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.</li> <li>Appropriate maps, sections and data ta the main body of the report.</li> </ul>	bulations are included in

Criteria	JORC Code expla	nation Commentary
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.	<ul> <li>Statistics of drillhole grades used during the Mineral Resource estimate are contained in the main body of the report.</li> <li>This report provides the total information available to date and is considered to represent a balanced report.</li> </ul>
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.	<ul> <li>A substantial amount of work has been completed at the Project by historic explorers dating back to 1870. Work has included geophysical surveys, soil sampling, diamond and probe drilling.</li> <li>A Pre-Feasibility Study for the Trælen deposit was prepared in 1998 following the drilling of 6 drillholes in 1985.</li> <li>In 2001 and 2002 50 drillholes were completed that culminated in a Mineral Resource evaluation completed to estimate the contained tonnes and carbon in graphite grade.</li> </ul>
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Further drilling will be required in order to improve the quality of the Mineral Resource estimation and develop detailed mine planning as the output of the plant is increased to 16,000tpa of concentrate (in accordance with the new permit) – a detailed drill programme has yet to be developed.</li> <li>Relevant level plans and cross-sections are presented in the report but until the drill programme has been developed it is not possible to present any meaningful diagrams.</li> </ul>

## **Section 3 Estimation and Reporting of Mineral Resources**

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code Commentary explanation
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> <li>Data validation procedures used.</li> <li>Data validation of results against logs and in a spatial context have been undertaken.</li> <li>Any discrepancies or errors were either corrected or the results rejected.</li> <li>Downhole survey was checked for significant deviation. No issues were identified.</li> <li>Assay were checked for anomalies between geology and TC, and TGC grade. No anomalies were identified. Drill cores with no sample assays were inserted with zero grade.</li> </ul>
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> <li>No site visit by the Competent Person has been undertaken at this stage due to the climate at the Project and time constraints Further, there is currently no active exploration work being undertaken.</li> <li>MRC Senior Geologist (Daniel Ball) visited the site in late 2019 and completed check logging of core that was available and validation of original paper logs was undertaken.</li> </ul>
Geological interpretatio	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>Confidence in the interpretation of the Trælen stratigraphy is considered to be high given domain interpretation was completed with a consideration for geological logging geochemical data and surrounding holes.</li> <li>Graphite is distinct geochemically and visually compared to the host rocks and is defined using lithological logging, and where logging was not available a total carbon value of &gt; 10% was used</li> </ul>

Crite	eria		JORC Code Commentary explanation
		The factors affecting continuity both of grade and geology.	<ul> <li>Domaining fits well with previous geological investigations of the overall architecture of the mineralisation.</li> <li>Major faulting may cause a break in domains to the east of the main mineralised zones, but lack of data around this fault has made it difficult to confidently interpret its affect.</li> <li>Domaining has been done manually, and as such, no major interpretation artefacts exist.</li> <li>Wireframe solids and surfaces of the Domains act as hard boundaries during estimation for the mineralisation.</li> </ul>
Dimension of the control of the cont	ensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.  Resource.	<ul> <li>The mineralised shoots consist of four 2-20m wide moderately plunging shoots, folded around a moderately plunging double anticline system</li> <li>100 Shoot:</li> <li>Length: 725m</li> <li>Width: 80-160m</li> <li>Depth to surface: +330m to -250m below sea level, from 0m to 75m inside mountain</li> <li>200 Shoot:</li> <li>Length: 190m</li> <li>Width: 55m</li> <li>Depth to surface: +140m to -130m below sea level, from 10m to 50m inside mountain</li> <li>300 Shoot:</li> <li>Length: 310m</li> <li>Width: 30m</li> <li>Depth to surface:+140m to -60m below sea level, from 100m to 130m inside mountain</li> </ul>

Criteria		JORC Code Commentary explanation
		<ul> <li>400 Shoot:</li> <li>Length: 268m</li> <li>Width: 50m</li> <li>Depth to surface: +140m to -150m below sea level, from 20m to 100m inside mountain</li> </ul>
Estimation and modelling techniques	<ul> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen, include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of byproducts.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> </ul>	<ul> <li>Inverse Distance Weighting method was used for the estimation, as not enough data was available for robust variography.</li> <li>1m composites were used for the estimation.</li> <li>No top-cuts were applied as outlier analysis indicated any high assay values were part of a normal distribution, and as such were not outliers.</li> <li>Parent block size was 8mx4mx2m, with sub-blocking down to a quarter of this to reflect domain boundaries closely. Estimate was into parent blocks only. Block size was based around the dimensions of the ore body, and drillhole spacing that was between 5m and 50m.</li> <li>Domain boundaries were treated as hard during estimation.</li> <li>Anisotropic search distances were used, with directions of major and semi major axes based on domain wireframe orientations.</li> <li>No top cuts were applied, based on visual review of all data and statistical analysis of the data lying within the domains.</li> <li>Micromine software was used.</li> <li>No check estimates or previous comparable estimates are available; mining data is available for reconciliation from the last 5 years of mining, which was used as a validation.</li> <li>No byproducts are present.</li> <li>No deleterious elements have been estimated.</li> </ul>

Criteria		JORC Code Commentary explanation
Moisture	The process of validation, the checking process used, the comparison of model data to drillhole data and use of reconciliation data if available.  The process of validation, the checking process used, the comparison of model data to drillhole data and use of reconciliation data if available.	<ul> <li>Estimate was visually checked against raw assays.</li> <li>Discretisation of 2x2x2.</li> <li>Maximum search distance of 55m.</li> <li>Maximum composite points per block – 15.</li> <li>Minimum points per block – 3.</li> <li>No quadrant or octant searching was used.</li> <li>Validation of the final resource has been carried out in a numbe of ways, including: <ul> <li>Visual validation - comparing block model estimated grade against drillhole by section.</li> <li>Statistical validation - comparing statistically by domain wireframe and block model grades versus sample and composite grades.</li> <li>Swath plots - graphical display of the grade distribution to compare the grade within these bands of the composite samples and the block estimated grades.</li> <li>Reconciliation - compare the estimated Mineral Resource inside the north and south stope outlines against production records.</li> </ul> </li> <li>All modes of validation have produced acceptable results.</li> <li>This is considered to be the maiden JORC resource estimate fo the Trælen deposit.</li> </ul>
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture and the method of determination of the moisture content.	All tonnes and grades are on a dry basis.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <li>The current reported resource was declared at a cut-off grade of 10% as the industry standard median grade for commercial</li> </ul>

		JORC explana
	dered to be approximately 9- mate economic cut-off and ion between sections. rious cut-off grades (COG) is	ents an approximat f the mineralisation
	Cut off Grades	Table at Various Cut
	Contained Total TGC (%) Graphitic Carbon (Tonnes)	
	27% 99,007	367,573 27
	27% 102,486	
	26% 104,951	
	26% 105,921	407,883 26
	26% 106,027	408,783 26
	26% 106,034	408,862 26
	26% 106,039	408,947 26
	26% 106,039	·
	26% 106,039	, , , , , , , , , , , , , , , , , , ,
	25% 197,331	· · · · · · · · · · · · · · · · · · ·
	23% 253,295	
	23% 267,348	· · ·
	22% 280,930	
	21% 291,148	
in the state of th	20% 300,806	
	20% 303,772	

1,559,893

1,564,764

20%

19%

2.5

0

304,813

304,902

Criteria				JOF exp	RC Coollanation	de Commentary
2			20	1,172,627	25%	296,338
Mining			17.5	1,486,175	24%	355,781
			15	1,587,387	23%	372,300
		ب	12.5	1,693,059	23%	386,851
		TOTAL	10	1,784,796	22%	397,175
			7.5	1,895,965	21%	406,839
			5	1,943,603	21%	409,812
			2.5	1,968,839	21%	410,852
			0	1,973,711	21%	410,941
factors or assumptions  Metallurgical factors or	process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.		ed due t	o geotechnical of the moun		tions no mining m
Metallurgical  factors or assumptions	• The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	plant.  • Any change	jes that		have not	e current procession been quantified as.

Criteria	JORC Code Commentary explanation
Environmenta l factors or assumptions	<ul> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered, this should be reported with an explanation of the environmental assumptions made.</li> <li>WAI understands that all necessary environmental permits required to operate the mine and process plant are in place.</li> <li>Any changes that MRC undertake have not been quantified or assumed to change the product specifications.</li> </ul>
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> <li>A bulk density of 2.72 has been measured from 12 samples, weighed dry then wet to determine the density (Archimedes principle).</li> <li>No wax coating was used to seal the sample.</li> <li>Visual inspection of the core indicates little loss of material due to vugs or other void spaces.</li> <li>No spatially relevant density estimate was made.</li> <li>It should be noted that historically a density value of 2.6 has been used but there is no supporting data for this value.</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>The Mineral Resources have been classified as the Indicated and Inferred Categories, in accordance with the 2012 Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code).</li> <li>A range of criteria has been considered in determining this classification including:</li> </ul>

Criteria		JORC Code Commentary explanation
	Whether the result appropriately reflects the Competent Person's view of the deposit.	<ul> <li>Geological continuity</li> <li>Data quality</li> <li>Drillhole spacing</li> <li>Modelling techniques</li> <li>Estimation properties including search strategy, number or informing data, average distance of data from blocks and estimation output from the interpolation</li> <li>No Measured Mineral Resources were classified.</li> <li>Indicated resources are typically supported by a drillhole spacing of between 20mx20m and up to 40mx40m.</li> <li>Inferred resources for drillhole spacing in excess of 40mx40m.</li> <li>Drillhole spacing greater than 100mx100m is considered to be unclassified.</li> <li>Where geological complexity is greater, around folds etc., Inferred classification has been used.</li> <li>Where typically material may be classified as Measured, such as near current mining fronts, due to the lack of geological data from mining (ie face maps and assays) and the adjusting of total carbor assays to represent total graphitic carbon, these areas have beer classified as Indicated only.</li> <li>The results of the validation of the block model shows acceptable correlation of the input data to the estimated grades.</li> <li>The Mineral Resource Classification reflects the views of the Competent Person.</li> </ul>
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>WAI is not aware of any audits or reviews of this or any previous Mineral Resource Estimates.</li> <li>This is considered to be a maiden Mineral Resource Estimate</li> </ul>

Criteria		JORC Code Commentary explanation
		under the guidelines of the JORC Code (2012).
Discussion of relative accuracy/confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul> <li>Calculated accuracy and confidence in the Mineral Resource Estimate are not explicitly stated.</li> <li>However, relative accuracy is reflected in the Resource classification, based on statistical analysis, and comparing the output of the results from the interpolation techniques with the mean statistical grades lying within the individual domains.</li> <li>The Indicated and Inferred Mineral Resource Estimates are considered to represent a local estimate as there is reasonable confidence in the location of mineralisation.</li> <li>The Trælen deposit has been mined continuously for the past 12 years and during this time, the high-grade nature of the mineralisation has been proven.</li> <li>While no previous comparable estimation has been conducted, the results of this estimation compare well with non-scientific approximations of the deposit.</li> <li>Globally the estimation is considered reasonable, while lack of data in general will lead to short scale variability and local estimation accuracy may be low.</li> <li>Production data from the mine has not been well documented, but where it is available, grade estimations from this estimate reconcile well with production data.</li> </ul>