ASX Code: "THR"

THOR MINING PLC

27 Jan 2021

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Key Projects:

- **Gold**
  Ragged Range WA
- **Copper**
  Alford East SA
  Kapunda SA
  Alford West SA
- **Tungsten**
  Molyhil NT
  Pilot Mountain USA
- **Uranium / Vanadium**
  Colorado / Utah USA

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Company Announcements Office
ASX Securities Limited,
20, Bridge Street,
Sydney, N.S.W. 2000

Maiden Copper-Gold Mineral Resource Estimate
Alford East ISR Project, South Australia

The directors of Thor Mining Plc ("Thor") (AIM, ASX: THR) are pleased to announce a maiden Mineral Resource Estimate of **177,000 tonnes of contained copper and 71,500 ounces of contained gold** at its Alford East copper-gold project, located on the Yorke Peninsula, South Australia (Figure 1).

Project highlights:

- Maiden Mineral Resource Estimate completed on the Alford-East Project (reported in accordance with JORC Code 2012) including Netherleigh Park, Liaway and Alford East prospects
- An Inferred Mineral Resource Estimate of
  - **125.6 Mt at 0.14% Cu for 177,000 tonnes of contained copper**
  - **71,500 ounces of contained gold**
- The resource estimate includes only oxide copper-gold mineralisation considered amenable to In Situ Recovery (ISR) techniques, and identical cut-off grades being used at operating ISR Copper projects such as Excelsior's Gunnison project in Arizona, USA
- There is clear potential for resources growth, along strike and at depth
- The Alford East Project covers the northern extension of Alford Copper Belt, where to the south-west, EnviroCopper Ltd has reported an Inferred Mineral Resource of 66.1Mt @ 0.17% Cu for three deposits; Wombat, Bruce and Larwood (THR:ASX Announcement 15 August 2019).

Mick Billing, Executive Chairman of Thor Mining, commented:
"The copper-gold Alford East Project results have exceeded our expectations for a Maiden Mineral Resource Estimate ".

"There have been more than 500 recorded drill holes into these deposits, and it is a tremendous bonus to be able to apply proven ISR technology thinking to produce this initial resource estimate."

"Significant growth potential exists for this resource, both at depth, and along strike and, while we commence testing activities to demonstrate the potential for ISR production, we will concurrently work towards increasing this resource."

"Our objective will be to work towards technical feasibility of ISR production, which will be designed to allow continuation of traditional farming activities, as much as possible during operations, and following the end of the project life, with the land effectively undisturbed."

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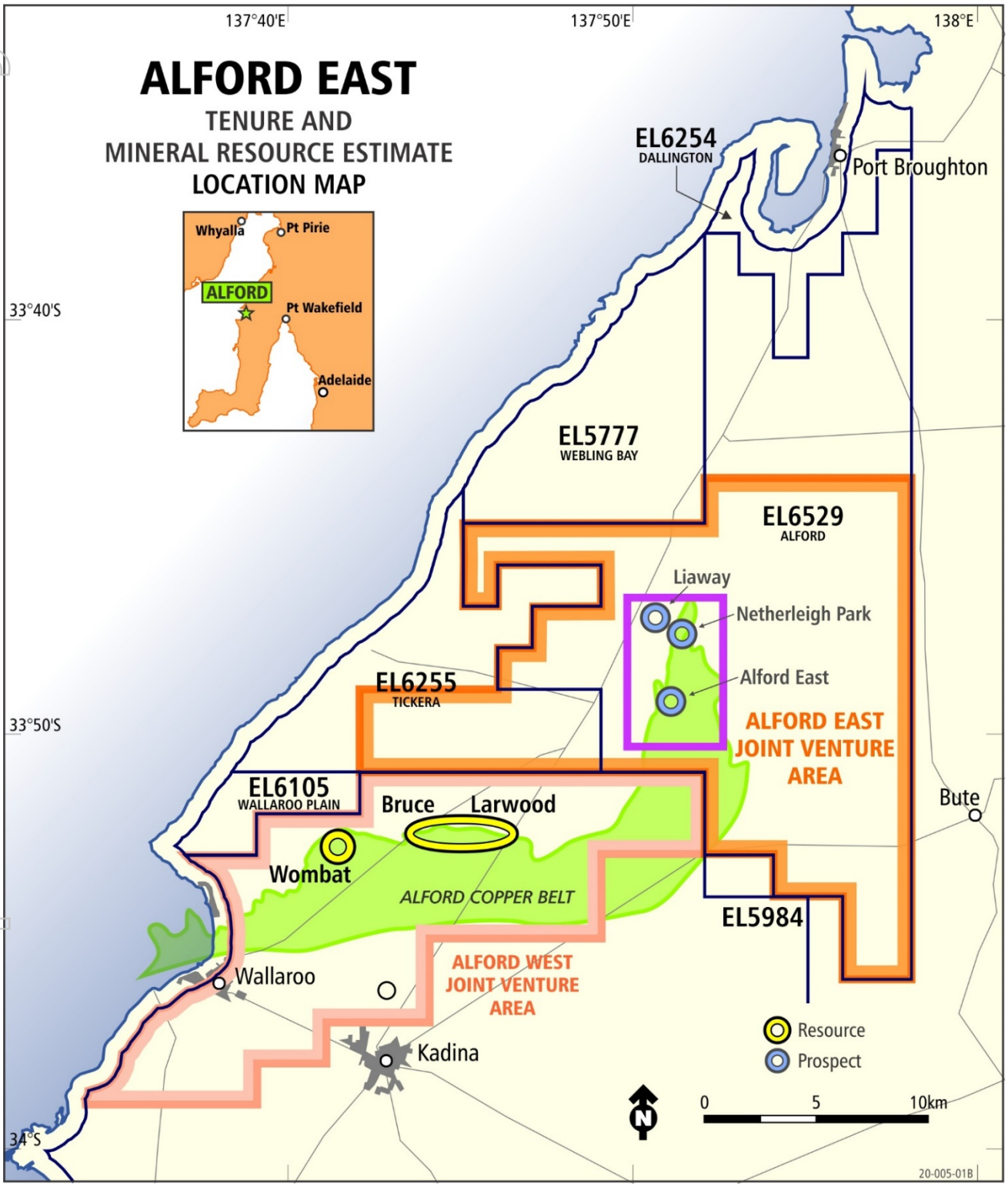

Figure 1: Tenement & Prospect Location Plan

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The Alford East Copper-Gold Mineral Resources are located on EL6529, where Thor is earning up to 80% interest from unlisted Australian explorer Spencer Metals Pty Ltd, covering portions of EL6255 and EL6529 (Figure 1) (THR:ASX 23 November 2020).

The Alford East Project lies within the Alford Copper Belt, a coherent zone of copper-gold oxide mineralization, within a structurally controlled north-south corridor consisting of deeply kaolinized and oxidized troughs within metamorphic units on the edge of the Tickera Granite (Figure 1 and Figure 2).

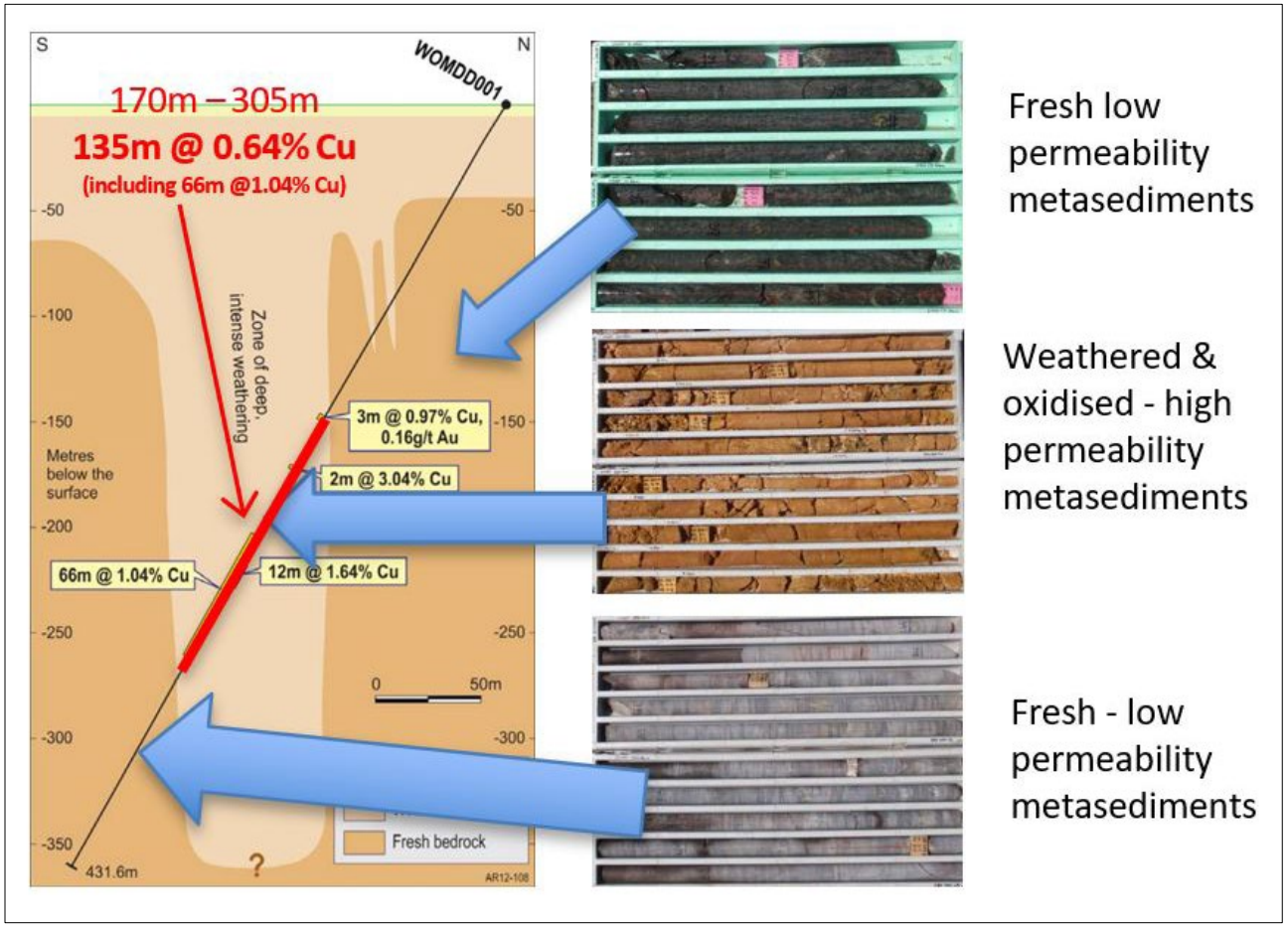

Figure 2: Alford Copper Belt cross-section schematic showing the coherent zone of ISR amenable copper-gold mineralization in trough of depth weathered metasediments (Drown, C., 2017, In-Sit copper Recovery investigation Moonta-Wallaroo District. SAEMC Conference December 2017)

Mineral Resource Statement Overview

Pursuant to ASX listing rule 5.8.1, and in addition to the JORC tables (attached) the company provides the following in respect of the Alford East Mineral Resource Estimate.

Alford East Mineral Resource Estimate and Reporting Criteria

Independent geological consultant Dr Graeme McDonald has reported the Mineral Resource Estimate in accordance with the JORC Code (2012), which is summarised in Table 1 below. A summary prepared by Dr McDonald forms part of this ASX release.

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Table 1: *Alford East Mineral Resource Estimate by JORC (2012) classification as at 22 January 2021, reported for oxide material only, at a cut-off grade of 0.05% Copper which is consistent with the assumed In Situ Recovery technique.*

Domain	Prospect	Category	Oxidation	Tonnes (Mt)	Cu %	Au g/t	Contained Cu (t)	Contained Au (oz)
AE_1	Alford East	Inferred	Oxide	24.6	0.12	0.021	30,000	16,000
AE_2	Alford East	Inferred	Oxide	6.8	0.13	0.004	9,000	1,000
AE_3	Alford East	Inferred	Oxide	34.9	0.09	0.022	33,000	25,000
AE_4	Alford East	Inferred	Oxide	8.0	0.11	0.016	8,000	4,000
AE_5	Alford East	Inferred	Oxide	11.0	0.22	0.030	24,000	11,000
Sub - Total		**Inferred**	**Oxide**	**85.3**	**0.12**	**0.021**	**104,000**	**57,000**
NP	Netherleigh Park	Inferred	Oxide	31.3	0.19	0.008	61,000	8,000
LW_E	Liaway	Inferred	Oxide	7.7	0.14	0.025	10,000	6,000
LW_W	Liaway	Inferred	Oxide	1.3	0.13	0.011	2,000	500
Sub - Total		**Inferred**	**Oxide**	**40.3**	**0.18**	**0.011**	**73,000**	**14,500**
Total		**Inferred**	**Oxide**	**125.6**	**0.14**	**0.018**	**177,000**	**71,500**

Note:

- *Figures are rounded to reflect appropriate level of confidence. Apparent differences may occur due to rounding.*
- *Cut-off of 0.05% Cu*
- *Thor earning up to 80% interest in Alford East Copper-Gold Project*

Geology and Geological Interpretation

The Alford East Project is located in the south-eastern portion of the Gawler Craton, close to the Torrens Hinge Zone, the major north-northwest-trending structural lineament that defines its eastern margin. The project covers a number of prospective magmatic centres with associated IOCG style alteration and mineralisation.

Outcrop of the Proterozoic basement rocks are limited as they are extensively masked by a veneer (<15m in depth) of transported clays and dune sands. The geology interpreted largely from geophysical data and drillholes consists of the metamorphosed Palaeoproterozoic Wallaroo Group sediments and volcanics intruded by the Tickera granitoids, which were syntectonically emplaced during the Hiltaba thermal event.

The region is extensively mineralised, with strongly developed Cu-Au mineralisation and lesser Ag, Pb, Zn, Mo, Ni, Co, U, Ni and Ce. The mineralisation occurs in breccia and shear zones, parallel to the foliation, in country rocks consisting of Palaeoproterozoic schist, quartzite and hornfels intruded by porphyry and granite.

Locally, the oxide mineralisation is hosted within variably weathered and sheared metasedimentary basement lithologies. Low grade copper mineralisation is widespread throughout the project area and is associated with

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the presence of chalcocite as the dominant copper bearing mineral as well as native copper and malachite. In total, eight separate zones of oxide mineralisation were defined of various size and thickness. Three zones in the north associated with the Netherleigh Park and Liaway prospects and five in the south associated with the Alford East prospect. With deeper depressions and troughs within the weathering profile generally hosting greater accumulations of oxidized copper and gold mineralisation (Figures 1-6).

Drilling techniques and hole spacing

The Alford East drillhole database used for the MRE contains a total of 512 holes for 40,385.65m of drilling. Comprising 440 Aircore (AC), 24 Reverse Circulation (RC), 11 Mud Rotary (MR) and 37 Diamond (DD) holes. The majority of holes have been drilled at angles of between 60° - 90° and approximately perpendicular to the strike of the mineralisation (Figure 4, 5 and 6).

Holes were drilled by various companies between 1982 and 2015, with the majority (94%) drilled since 2002. In the north, across the Netherleigh Park and Liaway prospects, drillholes were located approximately 40m apart along 80m spaced sections with variable orientation from E-W to NW-SE. In the south, at the Alford East prospects, drillholes were located 80 to 160m apart on approximately 200m spaced E-W sections.

Geological and assay data for all drillholes was used in the geological interpretation and Mineral Resource Estimate.

Sampling and sub-sampling

There is very little information about sampling techniques applied to drilling prior to 2002. Since 2002, the sampling methodology has been well documented. Drilling was undertaken by reputable drilling companies.

Aircore return samples were collected into polyurethane bags from the cyclone every metre and lined up on the ground adjacent to the rig. The polyurethane bags were then sampled as 3m composites via a spear or scoop into calico bags, which were then scanned with a portable XRF analyser and re-sampled at 1m intervals if Cu was detected over 400ppm.

HQ and NQ drill core was collected directly into trays, marked up by metre marks and secured as the drilling progressed. Core was cut into half longitudinally along a consistent line where possible, ensuring no bias in the cutting plane. A half was then collected on a metre basis where possible as determined by geological and lithological contacts.

Sample analysis method

Historic RC and DD samples associated with drilling undertaken by MIM Exploration (pre 2002) were submitted for sample preparation and analysis at Analabs in Adelaide.

All AC and DD samples collected by Sandfire, Hillgrove and Argonaut (post 2002) were submitted to ALS in Adelaide for sample preparation and analysis undertaken at ALS in Perth. All samples were sorted and dried then pulverized and split to produce a 30g charge for Au fire assay (AA21). Assays for an additional 48 elements were collected via method ME-MS61.

As part of the post 2002 drilling, standards, blanks and duplicates (inserted every 20 samples) have all been applied in the QAQC methodology and are well documented. Sufficient accuracy and precision have been established for the type of mineralisation encountered and is appropriate for QAQC in the Mineral Resource Estimation.

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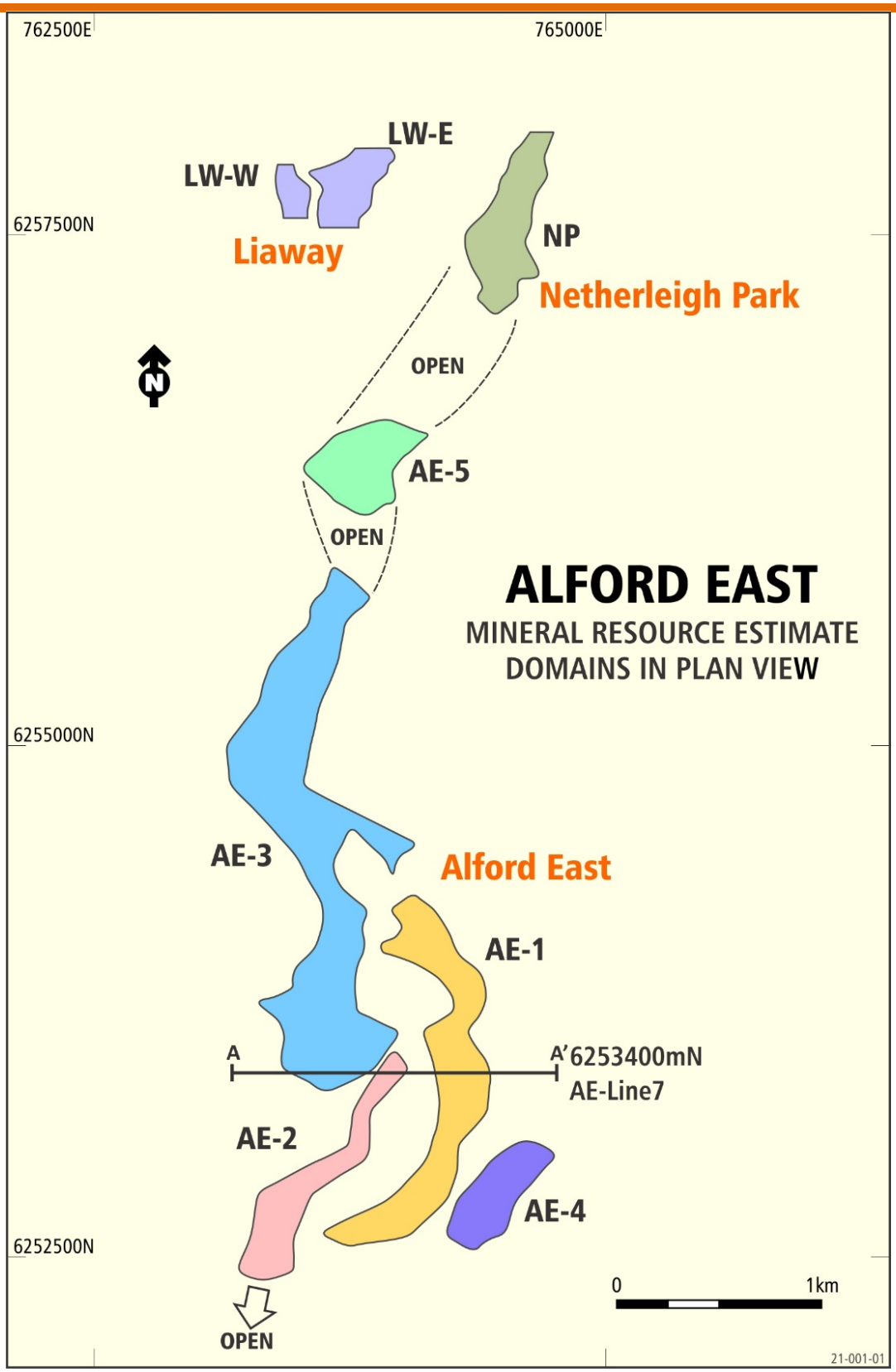

Figure 3: Alford East Project showing the Eight Mineralised Domains (Plan View)

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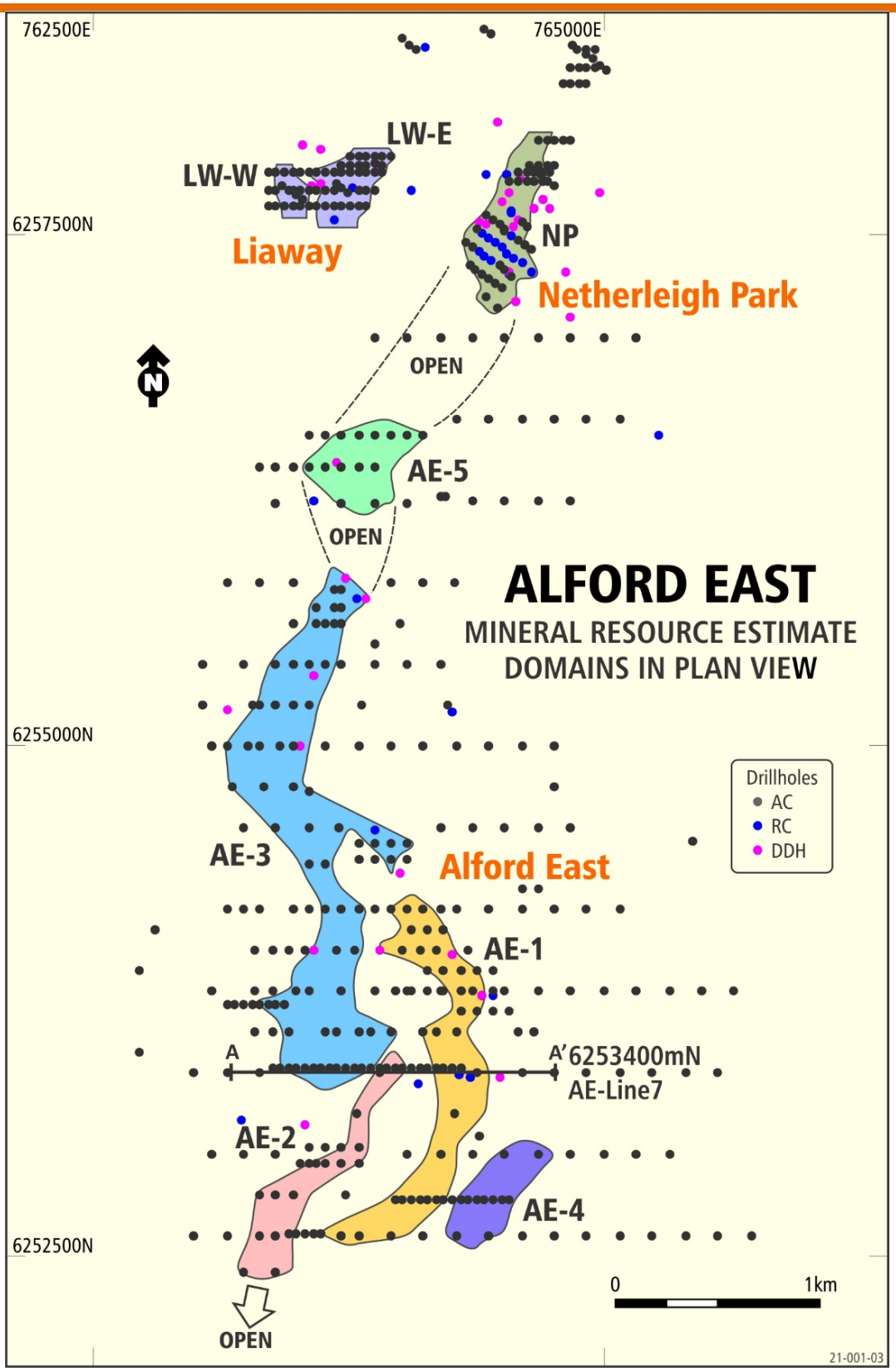

Figure 4: Alford East Project showing the drillhole density and type.

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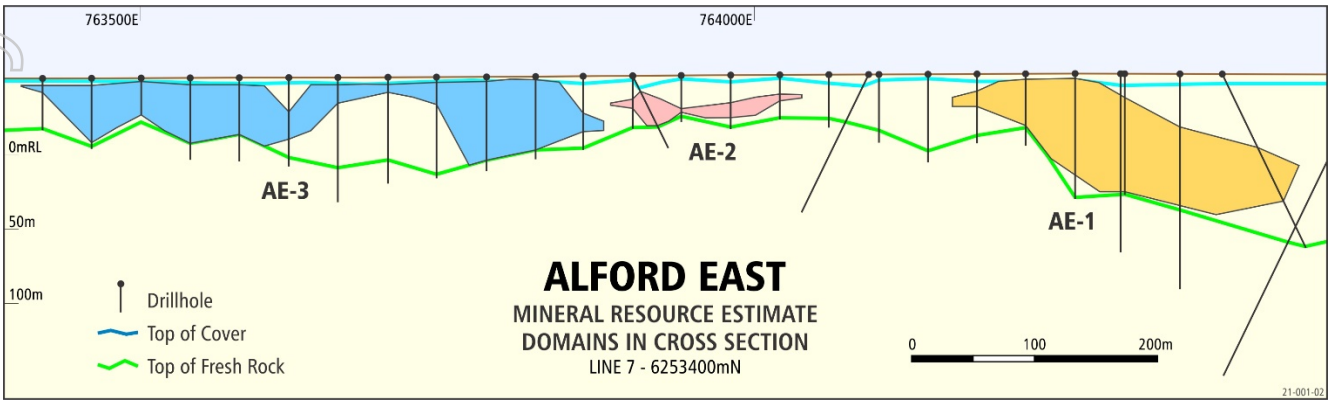

Figure 5: Alford East Project showing Mineralised Domains in Cross section (6253400nN)

Cut-off grades

The current Mineral Resource Inventory for the Alford East Project has been reported at a cut-off grade of 0.05% Cu. This is based on several factors including:

- An analysis of the distribution of mineralised Cu assays at the Alford East Project
- The cut-off grade of 0.05% Cu used in the Mineral Resource Estimate at the adjacent Bruce, Larwood and Wombat deposits (refer Thor Mining ASX announcement dated 15th August 2019 – "Substantial Mineral Resource Estimate for Moonta Copper")
- Proposed application of In-Situ Recovery (ISR) at the Alford East Project by Thor and
- Identical cut-off grades being used at operating ISR Copper projects such as Excelsior's Gunnison project in Arizona, USA.

No top cuts were applied.

Estimation methodology

Geology and mineralisation wireframes were generated in Micromine software using drillhole data supplied by Thor. Resource data was flagged with unique geology, oxidation and mineralisation domain codes as defined by the wireframes and composited to 2m lengths.

Due to differences in drillhole spacing and the shape and dimensions of the mineralisation between the northern and southern regions, separate block models were created for each region.

The northern block model has a parent block size of 20 x 40 x 10m with sub-blocks of 5 x 10 x 2m. The southern block model has a parent block size of 40 x 80 x 10m with sub-blocks of 5 x 10 x 2m. The different block sizes used adequately represent the respective mineralised volumes, with sub blocks estimated at the parent block scale.

Grade continuity analysis was undertaken in Micromine software for copper for the mineralised domains and models were generated in all three directions. Parameters generated were used in the block model estimation.

There is no bulk density data available for the oxide material at the Alford East project. As such, a review of the

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nearby copper oxide deposits of Wombat, Bruce and Larwood was undertaken. Examination of the Mineral Resource Estimate (refer Thor Mining ASX announcement dated 15th August 2019 – "Substantial Mineral Resource Estimate for Moonta Copper") revealed an average bulk density across all three deposits for the oxide mineralisation of 2.2 g/cm^3.

This value was applied during the Mineral Resource Estimate at the Alford East project. The value is within the range of expected values.

Classification criteria

The resource classification has been applied to the Mineral Resource Estimate based on the drilling data spacing, grade and geological continuity, and data integrity.

All of the Mineral Resource has been classified as Inferred Mineral Resources. This is primarily due to the low data density and lower levels of confidence in the geology, mineralisation and mineral resource estimation.

The classification reflects the view of the Competent Person.

Mining and Metallurgy

Thor are considering the In-Situ Recovery (ISR) technique as a means of extracting the copper and gold, to exploit the oxidized nature of the mineralisation, together with the depth extent, size, grade and continuity. Specialist lixiviants will also be trialled to recover both copper and gold in an environmentally sensitive manner. Preliminary hydrological studies by EnviroCopper (ECR) on similar mineralisation associated with the nearby Alford West mineral resources have been positive. Similarly, preliminary metallurgical testwork at the Alford West project has confirmed that copper is present in phases amenable to leaching.

No other mining assumptions have been made at this stage.

No metallurgical testwork has been undertaken at Alford East and as such no recoveries have been applied to the Mineral Resource Estimate.

Eventual Economic Extraction

It is the view of the Competent Person that at the time of estimation there are no known issues that could materially impact on the eventual extraction of the Mineral Resource.

Next Step - Exploration Activities

Potential to grow the Alford East copper-gold Mineral Resource Estimate remains along strike and at depth (Figures 3, 4, 5 and 6). Historic aircore and reverse circulation drilling within the project area stopped within the mineralised oxide copper-gold zones as per cross-section 6257550mN (Figure 6) with only limited deeper diamond holes continuing through the oxide copper mineralization. A diamond drilling program will hence be designed and implemented in the next few months to follow up on the depth extent of the oxide mineralization, adjacent to these mineralised diamond holes. In addition, drill holes will be placed along strike of the eight identified mineralised zones to confirm strike extent and continuity of the mineralization (Figure 3 and Figure 4).

Initial work has highlighted the deeper depressions and troughs within the weathering profile generally host greater accumulation of the oxide copper and gold mineralisation, hence geophysics (gravity and

electromagnetic) data will be reviewed to assist with mapping out these areas of interest for follow up drill testing.

Further work to increase confidence in the Mineral Resource Estimate includes drilling to delineate the boundaries of the Alford Copper Belt including closing off the Alford-East mineralization to the north, south and at depth; hydrogeological studies, and mineralogy and metallurgical studies to confirm the copper is in a phase amenable to ISR recovery.

Selected Alford East historic core available at the South Australian Drill Core Reference Library, will undergo specific gravity (S.G) measurements, and be submitted for analysis using the Hylogger™ core scanner for spectroscopic logging and imaging. This will help to characterise and identify the dominant clay and copper mineral species present, and reduce the number of new drill holes required for mineralogy and metallurgical testing.

In conjunction with the technical assessment Thor will continue ongoing stakeholder and community engagement, and regulatory activities.

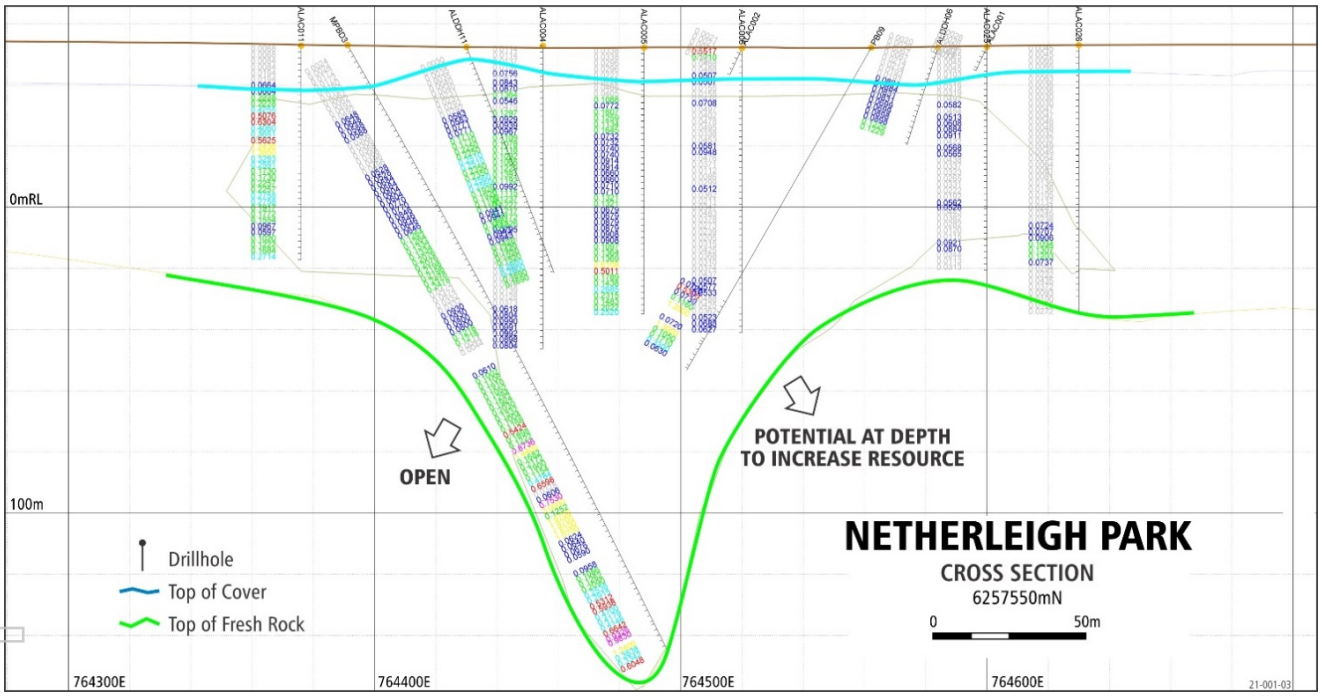

Figure 6: Cross Section 6257550mN showing oxide copper mineralization open at depth adjacent to diamond hole MPBD3.

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Authorised by Mick Billing, Chairman and Chief Executive officer

For further information, please contact:
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Updates on the Company's activities are regularly posted on Thor's website www.thormining.com, which includes a facility to register to receive these updates by email, and on the Company's twitter page @ThorMining.

Competent Persons Report

The information in this release that relates to the Estimation and Reporting of Mineral Resources has been compiled by Dr Graeme McDonald. Dr McDonald acts as an independent consultant to Thor Mining PLC on the Alford East Project Mineral Resource Estimation. Dr McDonald is a member of the Australasian Institute of Mining and Metallurgy and has sufficient experience with the style of mineralisation, deposit type under consideration and to the activities 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" (The JORC Code). Dr McDonald consents to the inclusion in this report of the contained technical information relating to the Mineral Resource Estimation in the form and context in which it appears.

The information in this report that relates to Exploration Results and the Estimation and Reporting of the Alford East Mineral Resource Estimation is based on information compiled by Nicole Galloway Warland, who holds a BSc Applied geology (HONS) and who is a Member of The Australian Institute of Geoscientists. Ms Galloway Warland is an employee of Thor Mining PLC. She has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she is undertaking 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'. Nicole Galloway Warland consents to the inclusion in the report of the matters based on her information in the form and context in which it appears.

About Thor Mining PLC

Thor Mining PLC (AIM, ASX: THR) is a resources company quoted on the AIM Market of the London Stock Exchange and on ASX in Australia.

At the 100% owned Ragged Range Project in the Pilbara region of Western Australia, Thor has exciting early stage results for which gold and nickel drilling is planned."

At Alford East in South Australia, Thor is earning an 80% interest in copper deposits considered amenable to extraction via Insitu Recovery techniques (ISR)

Thor also holds a 30% interest in Australian copper development company EnviroCopper Limited, which in turn holds rights to earn up to a 75% interest in the mineral rights and claims over the resource on the portion of the historic Kapunda copper mine in South Australia recoverable by way of in situ recovery[4]. Thor also holds rights to earn a 75% interest in portion of the Alford West copper project also in South Australia, and is also considered amenable to recovery by way of in situ recovery[5].

"Thor holds mineral claims in the US states of Colorado and Utah with historical high grade uranium and vanadium drilling and production results."

Thor holds 100% of the advanced Molyhil tungsten project in the Northern Territory of Australia, for which an updated feasibility study in August 2018[1] suggested attractive returns.

Adjacent Molyhil, at Bonya, Thor holds a 40% interest in deposits of tungsten, copper, and vanadium, including Inferred resource estimates for the Bonya copper deposit, and the White Violet and Samarkand tungsten deposits[2].

Thor holds 100% of the Pilot Mountain tungsten project in Nevada USA which has a JORC 2012 Indicated and Inferred Resources Estimate[3] on 2 of the 4 known deposits.

Notes

[1] Refer ASX and AIM announcement of 23 August 2018

[2] Refer ASX and AIM announcement of 26 November 2018, and 29 January 2020

[3] Refer AIM announcement of 13 December 2018 and ASX announcement of 14 December 2018

[4] Refer AIM announcement of 10 February 2016 and ASX announcement of 12 February 2018

[5] Refer ASX and AIM announcement of 15 August 2019

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JORC CODE, 2012 EDITION – TABLE 1

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 (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 hand held 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 (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.*
		• Historic RAB drilling by Jododex and Uranez (436 RAB holes for 13,545.7m), and North Broken Hill used auger drilling (191 holes). Follow-up drilling by Jododex with 3 angled and one vertical diamond hole for 890.23m. Follow up also included a diamond hole by Uranez in 1986, completed to 392.5m.
		• Historic Drilling – MIM (1993 -1997) – Diamond, reverse circulation and aircore drilling (used to obtain samples which were pulverised to produce sub samples for lab assay at Analabs SA).
		• Historic Drilling - Sandfire, Hillgrove & Argonaut (2002-2014):
		  • AC drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for Au fire assay AA21 and 48 element suite ME-MS61. Samples submitted to ALS, SA.
		  • Diamond drilling with half core sampled for Au fire assay AA21 and 48 element suite ME-MS61. Samples submitted to ALS, SA. Standard blank and duplicate inserted every 30 samples
		• There are no records indicating if any measures were taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.
		• Mineralization is determined by descriptive logs for each AC, RC and diamond hole as well as the incorporation of assay results.
		• Historic Collar elevations were calculated using the TEISA DTM Grid in 2001.

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Drilling Techniques	• *Drill type (air 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 orientated and if so, by what method, etc).*	• Drill methods included; auger, RAB, diamond coring, reverse circulation and aircore. Some precollars for diamond holes were drilled using rotary mud methods. • Hole diameters varied for different drilling methods. • Some diamond core was triple tubed. • Face sampling hammers were used for RC holes. • Other details unknown.
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 sample.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of coarse/fine material.*	• Sample recoveries for historic drillholes unknown. • No relationship is known to exist between sample recovery and grade.
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 mode, reading times, calibration factors applied and their derivation, etc.* • *Nature and 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.*	• MIM Drilling - Assayed for Au, As, Pb, Zn, Co Ni, Mo (GA101) And U, F, La, Ce (GX401) •Sandfire, Argonaut & Hillgrove Drilling - fire assay for gold with four acid digest for 46 element package. • Duplicate, Blank and standard samples inserted every 20 samples, were introduced into Sandfire, Argonaut and Hillgrove drilling, while the laboratory completed double assays on many samples. QAQC measures undertaken by other companies (MIM) is not generally known. •Argonaut, Sandfire and Hillgrove and external ALS laboratory introduced QAQC samples, which indicate acceptable analytical accuracy. No QAQC is known for MIM drillholes.

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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 or electronic) protocols.* • *Discuss any adjustment to assay data.*	• All significant intersections have been verified by an alternative company geologist. • There are no records of twinned drillholes. • No adjustments have been made to the laboratory assay data.
Location of data points	• *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.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Historic diamond drillhole collars were located from original grids and the collars pegged using GPS with an accuracy of +/- 0.5 meters, • Downhole surveys were completed on all RC and diamond holes using a compass-based instrument post 1996. Only 5 diamond holes prior to this date, have downhole survey information. • GDA94 (Zone 53).
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 classification applied.* • *Whether sample compositing has been applied.*	• The data spacing is considered sufficient to allow confident interpretation of exploration results. • No sample compositing has been applied.
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.*	• Drill lines are predominately oriented East-West. The main oxide mineralization strikes roughly north south and is flat lying with locally steep dipping structures.
Sample security	• *The measures taken to ensure sample security.*	• Measures for historic drillholes unknown.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No formal audits have been completed. • A review of the sampling techniques and data were undertaken as part of the Mineral Resource Estimate.

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Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section may apply to this section)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements of material issues with third parties such as joint ventures, overriding royalties, native titles 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 license to operate in the area.*	• The JV area covers portions EL6255 and EL6529 which are 100% owned by Spencer Metals Ltd. • PML 268 for aggregate & sand lies within EL6529 • There are no non government royalties, historical sites or environmental issues. • Underlying land title is Freehold land which extinguishes native title. • All tenure in good standing.
Exploration done by other parties	• *Acknowledgement and appraisal of exploration by other parties.*	• The general area of this report has been explored in the past by various companies including Jododex, Uranez, North Broken Hill, MIM, Hillgrove Resources, Argonaut Resources and Sandfire Resources. Activities include AC, RC, & Diamond drilling, and significant geophysical surveying. The Company has reviewed past exploration data generated by these companies.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Primary deposits in the region are considered to be of Iron Oxide Copper Gold (IOCG) affinity, related to the 1590Ma Hiltaba/GRV event. Cu-Au-Mo-Pb mineralisation is structurally controlled and associated with significant metasomatic alteration and deep weathering or kaolinisation of host rocks. • Locally, the low grade copper/gold oxide mineralisation that forms the basis for this Mineral Resource Estimate is hosted within variably weathered and sheared metasedimentary basement lithologies.

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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 drillholes:* ○ *Easting and northing of the drill collar* ○ *Elevation or RL (Reduced Level – elevation above sea level in meters) of the drill collar.* ○ *Dip and azimuth of the hole.* ○ *Down hole length and interception depth.* ○ *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.*	• No tabulation of drillhole information is presented as the results are historical and the omission of such detail does not detract from an investor's understanding of the report. Links and references to Open File reports are included in document. • A plan showing the location of drillholes is included in the report.
Data aggregation methods	• *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 some detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Intersections are calculated by simple averaging of 1m assays. • No metal equivalents are reported.
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 drillhole 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 (eg 'down hole length, true width not known').*	• All companies noted the association of copper oxide mineralization with intense clay alteration. The alteration is interpreted to be similar to that found in the adjacent Alford West area. • The drilling intersections quoted are downhole intercept lengths with an unknown orientation to dip and plunge of the target mineralization.
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 drillhole collar locations and appropriate sectional views.*	• Appropriate plans and sections with scales appear as Figures 1 to 6 in the report.
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.*	• The report summarizes publicly available open file results, not new results.

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, ground water, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• There is no other meaningful or material exploration data that has been omitted from the report.
Further work	• *The nature and scale of planned further work (eg tests of 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.*	• Further work may involve further drilling, mineral resource estimation, followed by technical studies including lixiviant optimisation, permeability studies, etc.

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Section 3 Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code explanation	Commentary
Database integrity	• *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.* • *Data validation procedures used.*	• A data check of source assay data and survey data has been undertaken. No translation issues have been identified. The data was validated during the interpretation of the mineralisation, with no significant errors identified. • Given the historical nature of some of the data, extensive checks were undertaken to ensure that collar details in particular were correct. • Data validation processes are in place and run upon import into Micromine to be used for the MRE. Checks included: missing intervals, overlapping intervals and any depth errors.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• Graeme McDonald (CP) has not undertaken a site visit due to the current lack of field activity in the area. • A review of the drilling, logging, sampling and QAQC procedures has been undertaken. All processes and procedures were in line with industry best practice. • Diamond drill core from the project has been viewed by the CP and the mineralisation and oxidation state confirmed.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• The geological interpretation is considered robust due to the nature of the mineralisation. • Due to the continuity of the geological interpretation, together with the drilling density, alternative interpretations were not considered. • The oxide mineralisation is hosted within variably weathered and sheared sedimentary basement lithologies. • In total, eight separate zones of oxide mineralisation were defined of various size and thickness. Three zones in the north associated with the Netherleigh Park and Liaway prospects and five in the south associated with the Alford East prospects. • Deeper depressions and troughs within the weathering profile generally hosting greater accumulations of oxidized copper and gold mineralisation.

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		• The presence of primary copper mineralisation within the fresh basement lithologies may affect grade continuity within the overlying oxide zones. • All drillholes have been used in the MRE. Lithology, oxidation, and assay data has been used to generate the mineralisation models. • The mineralisation interpretation is based on a copper cut-off grade of 0.05%, with some internal dilution allowed to maintain continuity.
Dimensions	• *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*	• The copper/gold mineralisation is hosted within eight separate oxide zones of various size and thickness. • Three zones in the north associated with the Netherleigh Park and Liaway prospects and five in the south associated with the Alford East prospects. • Plan dimensions of the zones vary from the smallest (180m wide by 270m long) to the largest (500m wide by 2,500m long). • The oxide zones are sub-horizontal and vary in depth from 10m to approximately 200m below surface.
Estimation and Modelling techniques	• *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.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation*	• Grade estimation of copper and gold has been completed using Ordinary Kriging (OK) into 8 mineralised oxide domains using Micromine software. Variography has been undertaken for copper only on the grade domain composite data. Variogram orientations are largely controlled by the strike and dip of the mineralisation. • A check estimate using an alternative estimation technique (ID2) has also been undertaken. • No assumptions have been made regarding recovery of any by-products. • In the north, across the Netherleigh Park and Liaway prospects, drillholes were located approximately 40m apart along 80m spaced sections with variable orientation from E-W to NW-SE. • In the south, at the Alford East prospects, drillholes were located 80 to 160m apart on approximately 200m spaced E-W sections. • The northern block model has a parent block size of 20 x 40 x 10m with sub-blocks of 5 x 10 x 2m to define the mineralisation, with the estimation at the parent block scale. • The southern block model has a parent block size of 40 x 80 x 10m with sub-blocks of 5 x

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	was used to control the resource estimates. • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drillhole data, and use of reconciliation data if available.*	10 x 2m to define the mineralisation, with the estimation at the parent block scale. ○ Pass 1 estimation has been undertaken using a minimum of 4 and a maximum of 20 samples into a search ellipse with a radius of approximately half the range, with samples from a minimum of two drillholes. ○ Pass 2 estimation has been undertaken using a minimum of 4 and a maximum of 20 samples into a search ellipse with a radius approximating the range, with samples from a minimum of two drillholes. ○ Pass 3 estimation has been undertaken using a minimum of 4 and a maximum of 20 samples into a search ellipse with a radius of approximately twice the range, with samples from a minimum of two drillholes. • For domains AE_2, NP, LW_E and LW_W a minimum of 1 hole was used during the third pass. • No selective mining units are assumed in this estimate. • Copper and gold have been estimated using the copper variograms for each mineralised domain. No correlation between variables has been assumed. • Domains AE_2 and AE_4 were estimated using the parameters established for domain AE_1. • The mineralisation and geological wireframes have been used to flag the drillhole intercepts in the drillhole assay file. The flagged intercepts have then been used to create composites in Micromine. The composite length is 2 m in all data. • The influence of extreme sample distribution outliers in the composited data has been determined using a combination of histograms and log probability plots. It was decided that no top-cuts need to be applied. • Model validation has been carried out, including visual comparison between composites and estimated blocks; check for negative or absent grades; statistical comparison against the input drillhole data and graphical plots.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• The tonnes have been estimated on a dry basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• For the reporting of the Mineral Resource Estimate, a 0.05 Cu% cut-off has been used.

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		• Based on data for similar deposits locally and globally and the proposed application of the In-Situ Recovery technique for the extraction of copper and gold.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the 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.*	• Due to the oxidized nature of the mineralisation, together with the depth extent, size, grade and continuity, Thor are considering the In-Situ Recovery (ISR) technique as a means of extracting the copper and gold. No other assumptions have been made.
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.*	• No metallurgical recoveries have been applied. • It has been demonstrated elsewhere that under the right conditions, ISR can be an economic means of extracting both copper and gold from oxide mineralisation.
Environmental factors or assumptions	• *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.*	• No environmental assumptions have been made during the MRE.
Bulk density	• *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.* • *The bulk density for bulk material must have been measured by methods that adequately*	• No bulk density data is available for the oxide material at the Alford East project. • A review of nearby copper oxide deposits revealed an average bulk density of 2.20 g/cm^3. • An average bulk density value of 2.20 g/cm^3 has been applied during the MRE.

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	account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. • *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	• The value is within the range of expected values.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *Whether appropriate account has been taken of all relevant factors (i.e. 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).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	• The resource classification has been applied to the MRE based on the drilling data spacing, grade and geological continuity, and data integrity. • The classification takes into account the relative contributions of geological and data quality and confidence, as well as grade confidence and continuity. • The classification reflects the view of the Competent Person.
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	• This Mineral Resource estimate has not been audited by an external party.
Discussion of relative accuracy/confidence	• *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.* • *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.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The relative accuracy of the Mineral Resource estimate is reflected in the reporting of the Mineral Resource as per the guidelines of the 2012 JORC Code. • The statement relates to global estimates of tonnes and grade.