ASX Code: "THR"

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Shares: THR
OTCQB Listing
Shares: THORF

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Key Projects:
- **Gold**
Ragged Range Pilbara WA
- **Copper**
Alford East SA
- **Uranium / Vanadium**
Colorado / Utah USA
- **Tungsten**
Molyhil NT

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Project Advancement
Alford East Copper-Gold ISR Project, South Australia

The directors of Thor Mining Plc ("Thor") (AIM, ASX: THR, OTCQB: THORF) are pleased to provide an update on the Alford East Copper-Gold Project, South Australia.

Project highlights:

- Significant intercepts including:

21AED001	32.9m @ 0.4% Cu and 0.31g/t Au from 81.5m (ASX:THR 31.8.21),
21AED002	59.9m @ 0.3% Cu from 21.9m (ASX:THR 31.8.21),
21AED003	32.4m @ 0.2% Cu from 15m,
21AED004	**55.9m @ 0.53% Cu from 7m, including**
	11.7m @ 1.0%Cu from 17.3m including
	5.7m @ 1.23% and 0.16g/t Au from 17.3
21AED005	**72.7m @ 1.0% Cu and 0.19g/t Au from 6.3m, including**
	18.2m @ 2.0% Cu and 0.34g/t Au from 15.8m (ASX:THR 31.8.21),

- A robust 3D geological model generated from recent drilling data highlights key structural and lithological controls on mineralisation and potential high-grade target zones.
- Initial hydrometallurgy trialling of an environmentally friendly glycine lixiviant shows positive gold and copper recovery.
- Phase two diamond drilling program is being designed, including continuing hydrogeology and hydrometallurgical studies.

Nicole Galloway Warland, Managing Director of Thor Mining, commented:

"The success of our first phase of drilling, with significant uplift in copper and gold grade adjacent to the Netherleigh Fault, is very exciting and suggests the potential for extended zones of higher-grade copper and gold along strike and at depth.

Demonstrating Thor's greater understanding of the geological and structural constraints through the new geological modelling is critical to the overall project development, especially as we plan our second phase of drilling and progress our hydrometallurgical studies.

These favourable initial hydrometallurgical results for the metal recovery for both copper and gold using a socially and environmentally friendly solution 'glycine' rather than conventional acid in-situ recovery (ISR) is significant, as Thor strives towards the in-situ assessment of the Alford East Project."

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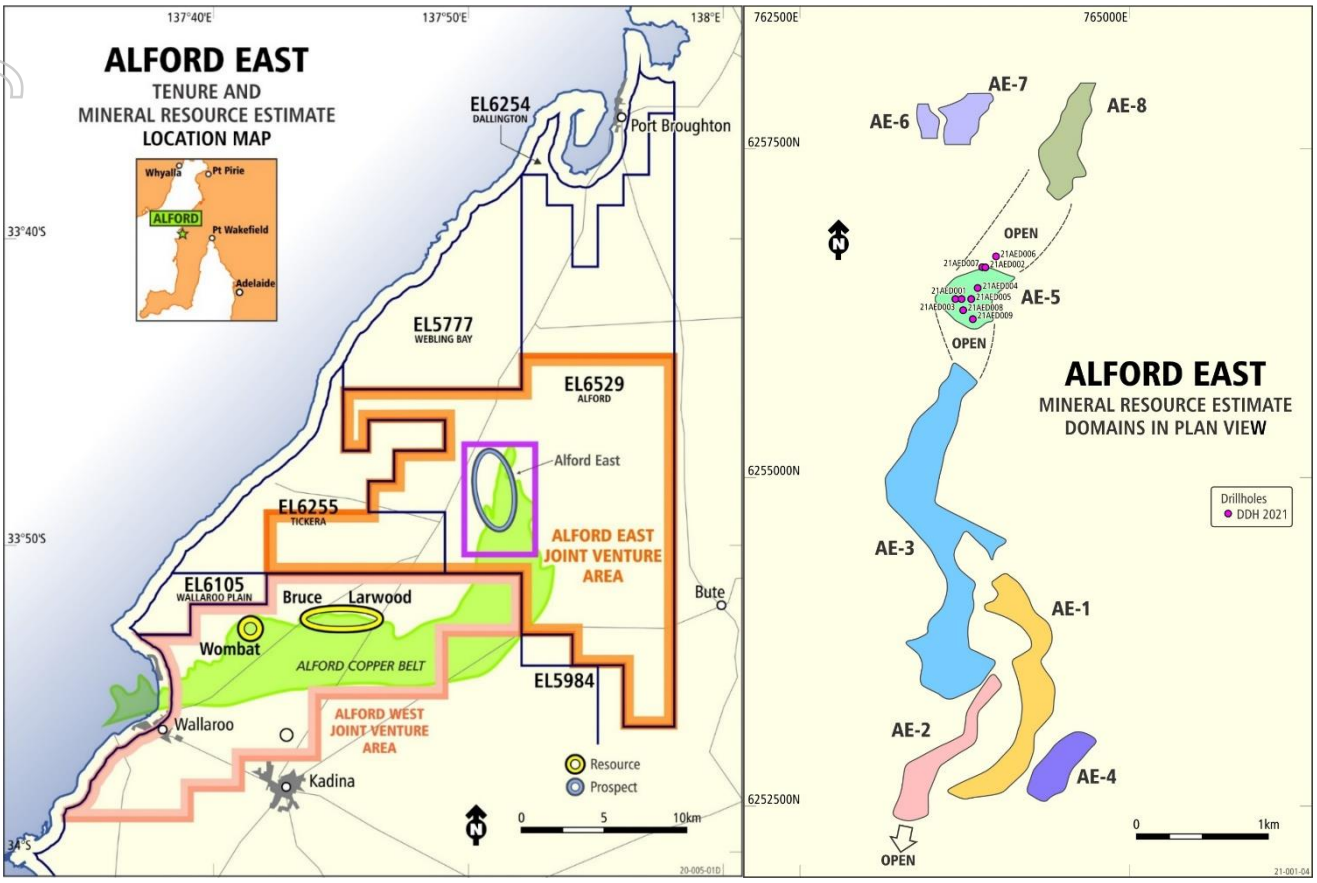

Figure 1: Tenement & Prospect Location Plan (left) and Mineral Resource Domains (right)

Alford East Project

The Alford East Copper-Gold Project is 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) (ASX: THR Announcement 23 November 2020).

The Alford East Project covers the northern extension of the Alford Copper Belt, located on the Yorke Peninsula, SA. The Alford Copper Belt is a semi coherent zone of copper-gold oxide mineralisation, within a structurally controlled, north-south corridor consisting of deeply kaolinised and oxidised troughs within metamorphic units on the edge of the Tickera Granite (Figure 1), Gawler Craton, SA.

Utilising historic drill hole information, Thor completed an inferred Mineral Resource Estimate (MRE) (ASX: THR Announcement 27 January 2021):

- 125.6Mt @ 0.14% Cu containing 177,000t of contained copper
- 71, 500oz of contained gold

www.thormining.com/sites/thormining/media/pdf/asx-announcements/20210127-maiden-copper.gold-estimate-alford-east-sa.pdf

Based on the nature on the oxide mineralisation, the deposit is considered amenable to In-Situ Recovery (ISR) techniques. For further information on ISR please refer to Thor's website via this link for an informative video: www.youtube.com/watch?v=eG_1ZGD0WIw

Alford East Diamond Drilling Program Update

The first phase of drilling comprised nine diamond drillholes totalling 878m, with assays now received for all drillholes. This initial program for Thor focussed only on the northern portion of the Alford East copper-gold deposit, around the AE-5 mineralised domains (Figure 1 and 2), with drilling targeting areas open at depth and along strike.

Drillhole assay results are reported in Table B and C (Appendices).

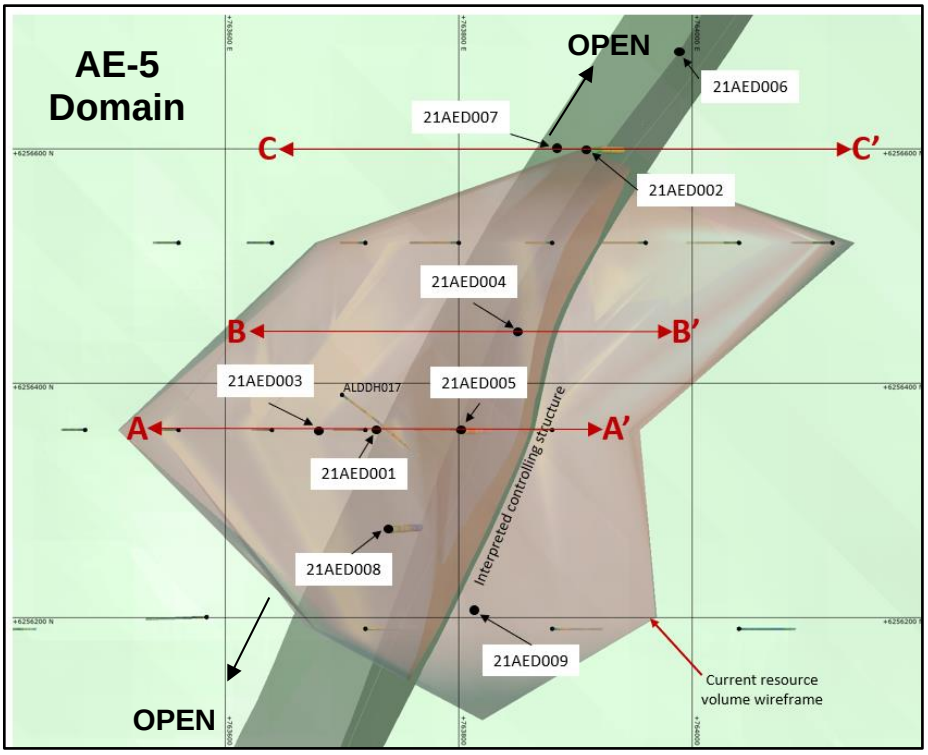

Figure 2: Alford East Project AE-5 domain showing drillhole location plan.

For ISR purposes, drilling was limited to the deeply weathered lithological profile, testing the extent of the oxide zone and the depth boundary of the Top of Fresh Rock (TOFR). The copper-gold oxide mineralisation is hosted within deeply kaolinised (clay) and metasomatic altered units on the contact between the Olympic Domain Wallaroo Group metasediments and the Hiltaba Suite Tickera Granite, Gawler Craton (Figure 1). Copper oxide mineralogy is dominated by malachite and chalcocite.

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Drill targeting, vectoring in on the hanging wall side of the north-south trending controlling structure, now referred to as Netherleigh Park Fault, intercepted zones of high-grade copper and gold grades resulted in significant grade uplift in comparison to the MRE.

Drillholes 21AED001, 21AED003 and 21AED005 (Section A-A' 6,256,360mN) were drilled through the central portion of AE-5 (Figure 3), designed to validate the geological model and test areas, open at depth. The high-grade copper and gold intercepts in 21AED001 opens the mineralisation up at depth, whilst 21AED005 highlights the grade uplift along the Netherleigh Park Fault.

21AED004 (Section B-B' 6,235,440mN) was drilled along strike to the north 21AED005, a continuation of higher copper grades along fault (Figure 2 and 4).

21AED002, 21AED006 and 21AED007 (Section C-C' 6,235,600mN) were all drilled to the north of the AE-5 MRE domain, with assay results extending the known copper mineralisation along strike towards AE-8 (Figure 2, 3 and 6).

Multi-element analysis of the assay results highlights two distinct higher-grade zones of copper-gold mineralisation within a broader mineralised envelope. The lower of the two has a distinct IOCG geochemical signature – elevated Cu, Au, Mo, Co, Se, Bi & REE (Figure 6 log plot). This potentially reflects sulphide oxidation of primary mineralisation; whilst the upper zone has a more amorphous distribution typical of a supergene mineralised system.

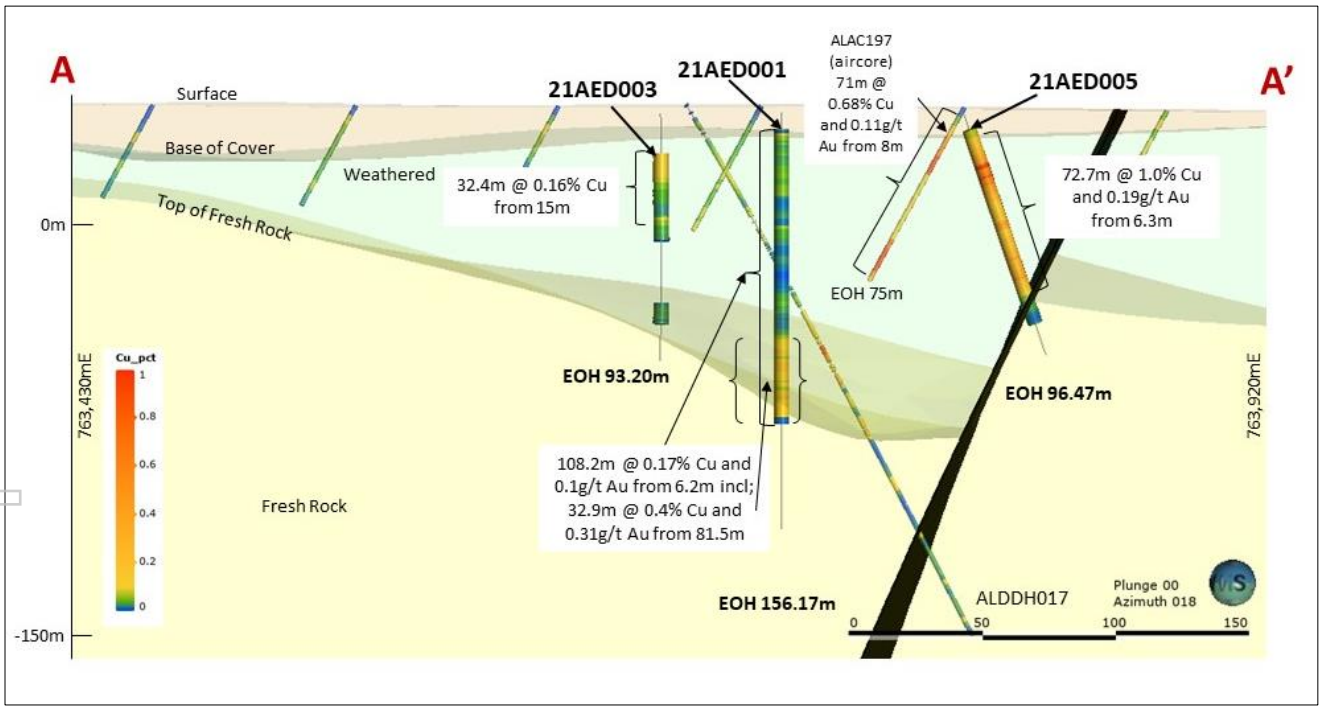

Figure 3: Cross section 6,256,360mN looking NNE, showing 21AED001, 21AED003 and 21AED005. Copper assays shown as cylinder down hole trace.

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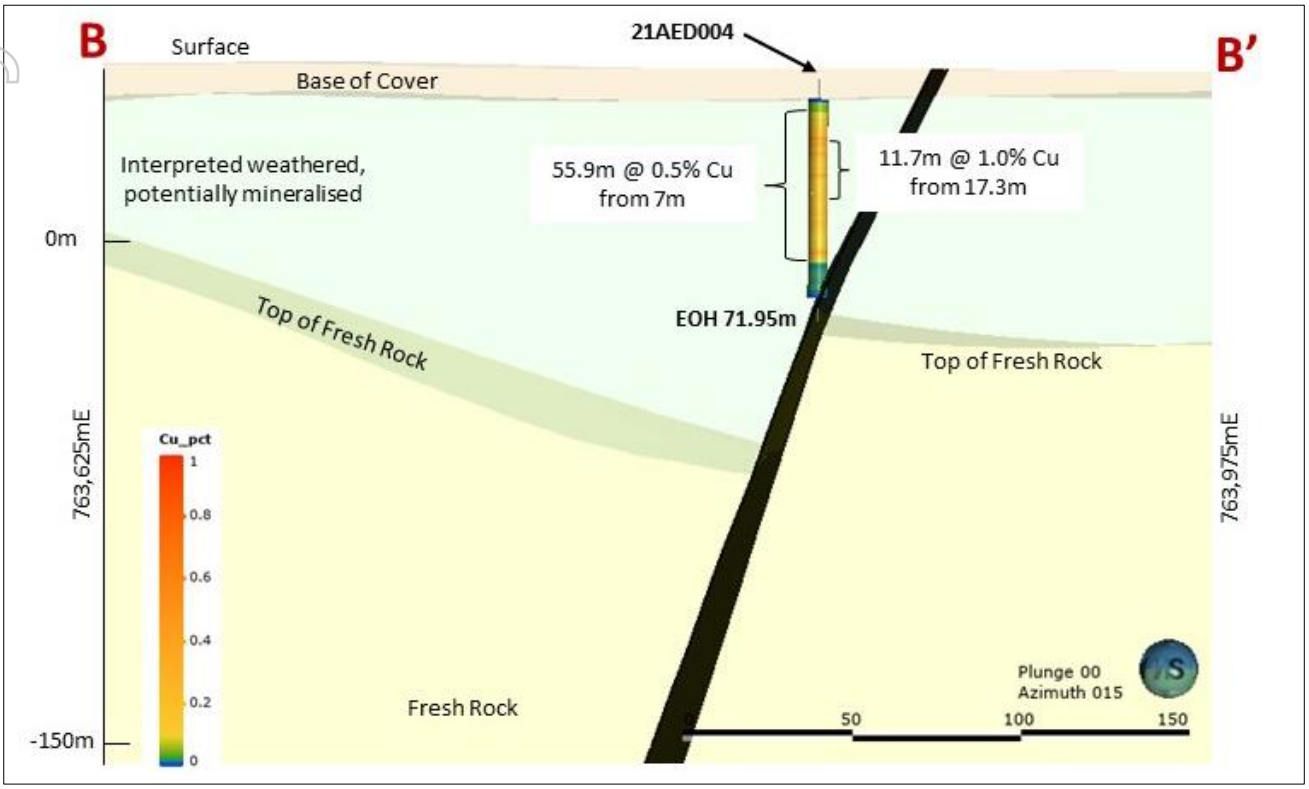

Figure 4: Cross section 6,256,4400mN looking NNE, showing 21AED004, with copper assays shown as cylinder downhole trace.

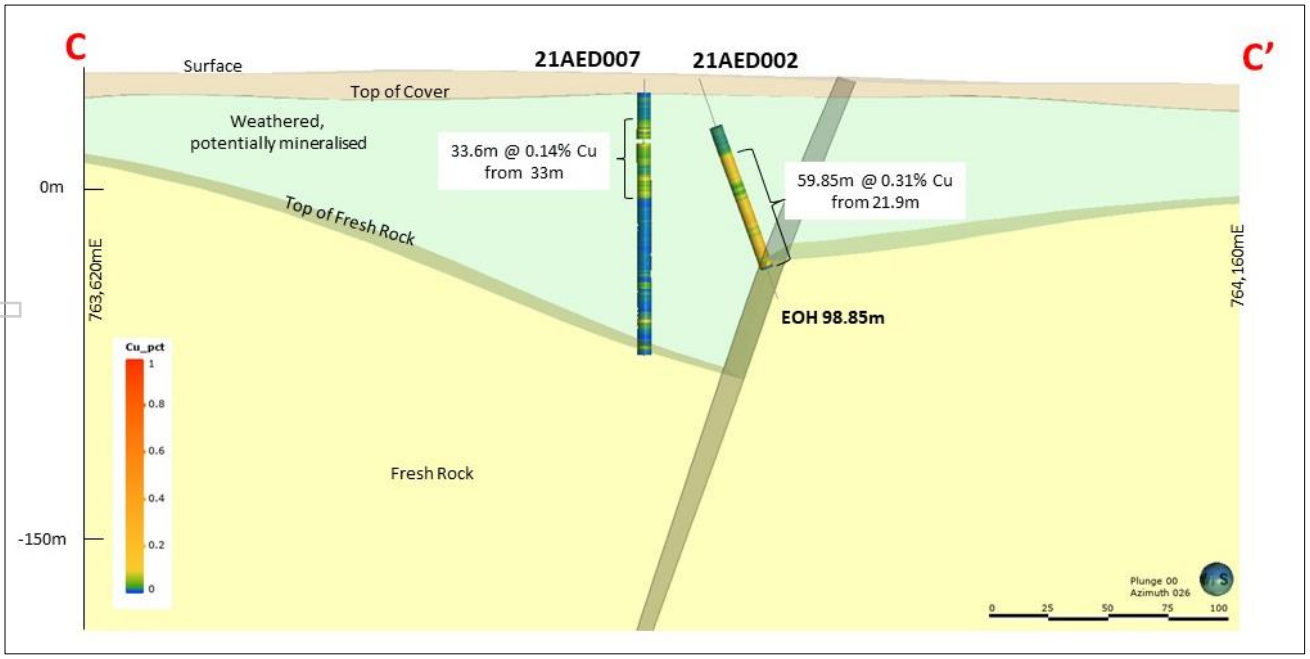

Figure 5: Cross section 6,256,600mN showing 21AED002 and 21AED007, with copper assays shown as cylinder downhole trace.

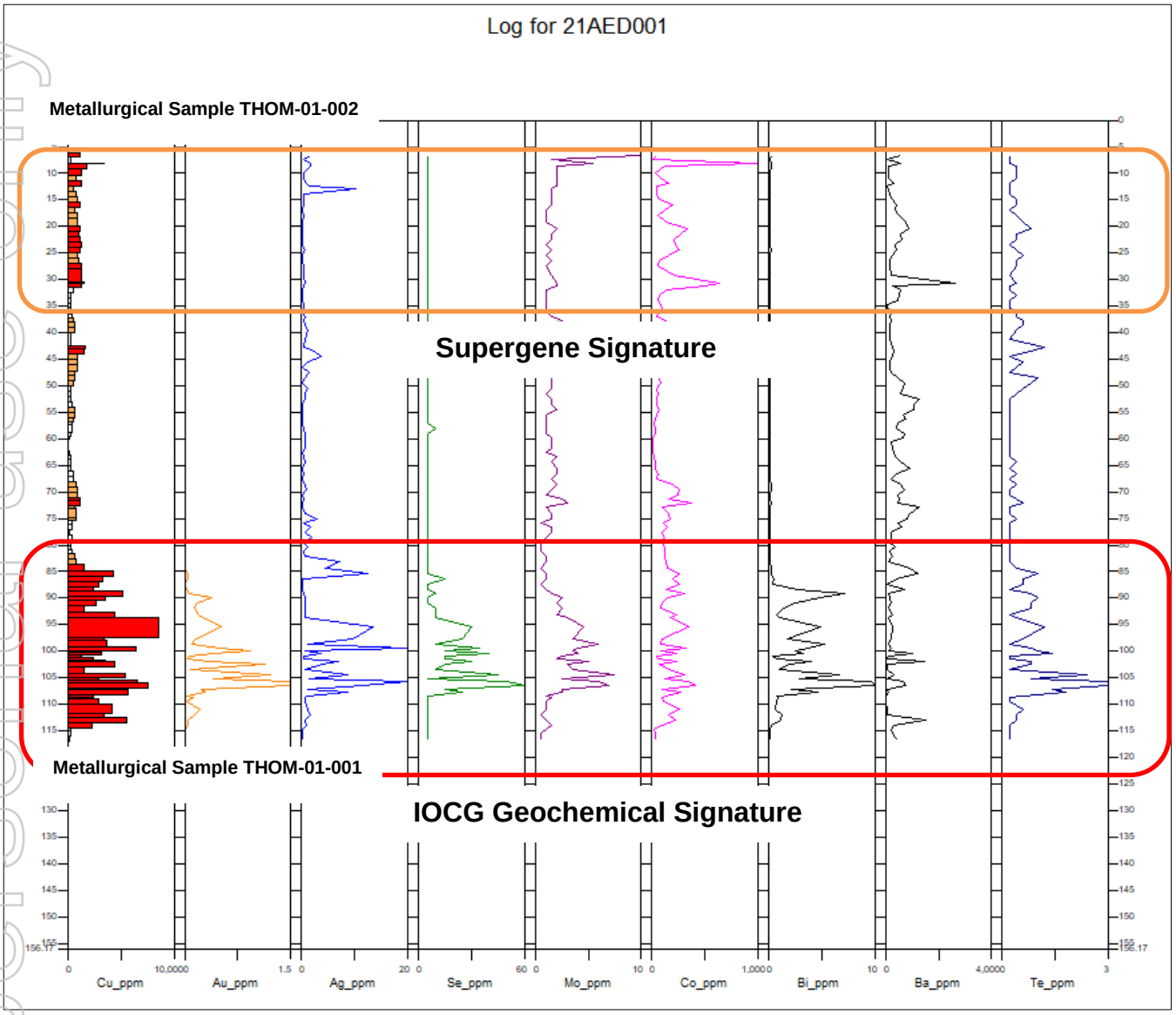

Figure 6: Multi-element log plot for 21AED001 showing two distinct higher grade copper zones with the lower gold rich zone reflecting IOGC geochemical signature. Also showing metallurgical samples

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New Alford East Geological Model

Based on the recent diamond drilling, a new robust 3D geological model was generated (Figure 7) using a combination of weathering, lithology, assay and structural data from logging, and regional geology, structural and geophysics (magnetics and gravity) data.

Key geological outcomes:

- The best oxide mineralisation seems to occur where a fault has facilitated a more deeply weathered profile
- Some faults appear to have had minor vertical offset on them post-development of the weathering profile (for example, the north-east trending Netherleigh Park Fault, central to the project area).
- Mineralisation shows a preference to metasediments.
- A Sulphidic-Magnetic-Shale (SMS) stratigraphic-alteration unit, appears as a marker unit in the regional and more local magnetics images, as well as in the regional 3D magnetics and gravity inversions.
- The SMS unit was modelled using the information above, showing an overall synformal shape with AE3 sitting in the core or trough of overlying metasediments formed by the synform.
- Most supergene mineralisation appears to occur in the hanging wall of the SMS, whilst the weathered primary mineralisation (such as in the deeper sections of AE8 and AE5) appears to be associated with major faults, such as the central Netherleigh Park Fault.

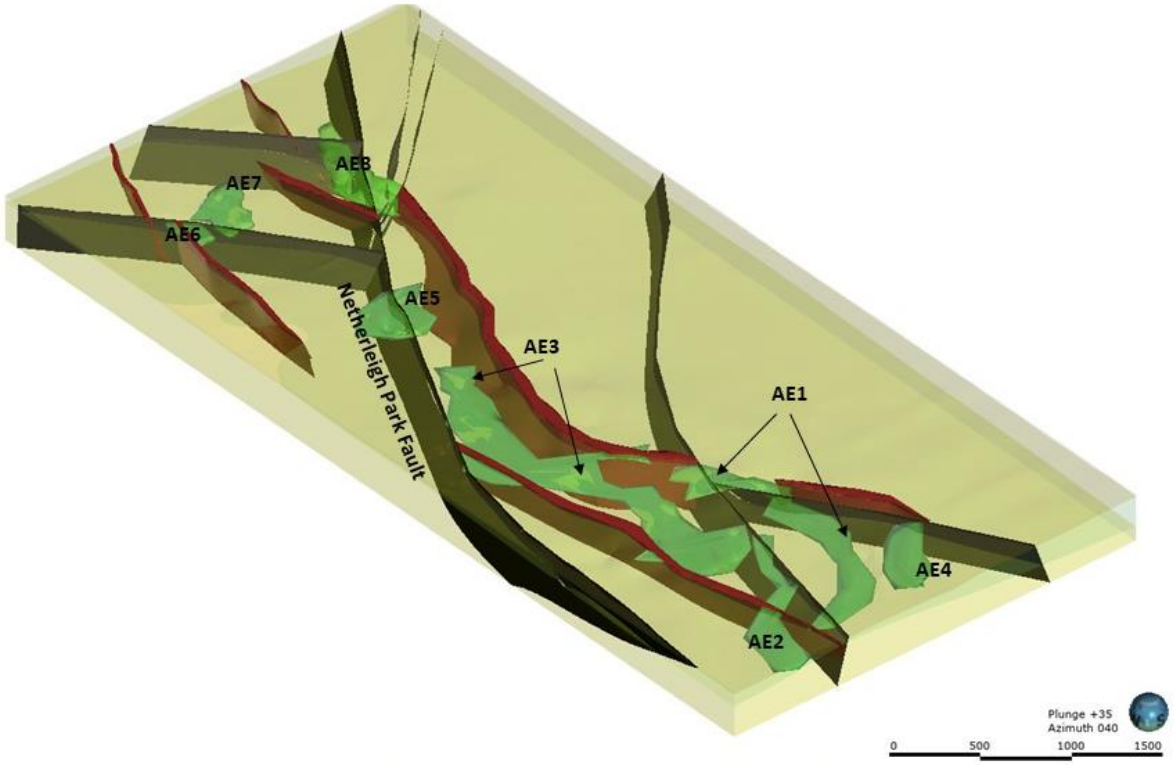

Figure 7: 3D Geological Model – showing the major faults in black, cover in translucent brown, weathered rock in translucent green, fresh rock in translucent yellow, suphidic-magnetic-shale (SMS), and the resource domains in green (labelled).

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Hydrometallurgy

Thor's objective is to identify an in-situ recovery pathway ideally for both the copper and gold mineralisation at the Alford East Project that is socially and environmentally friendly rather than using conventional acid in-situ recovery (ISR).

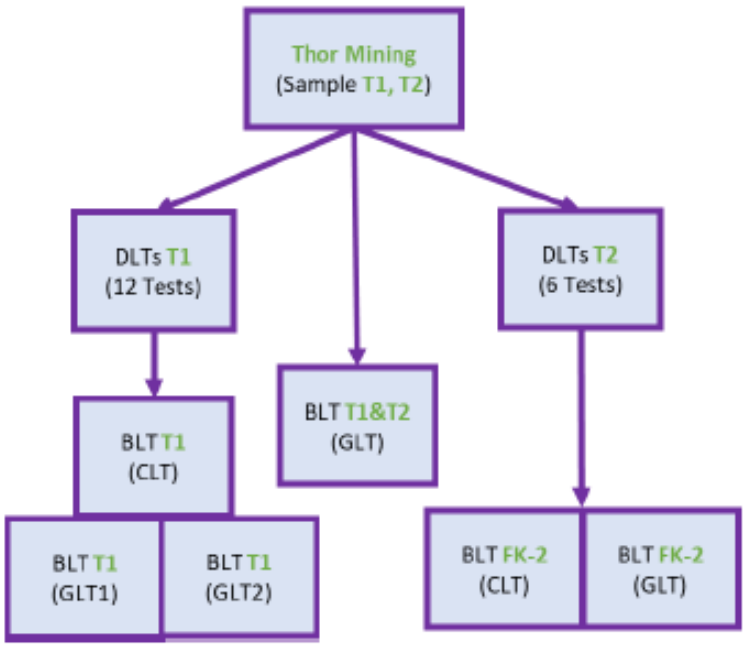
This has led to Thor engaging Mining Processing Solutions (MPS) trialling their alkaline Glycine Leaching Technology (GLT), branded as their *GlyCat*™ and *GlyLeach*™ processes, that have the capability to selectively leach base and precious metals using glycine as the principal, eco-friendly, reagent.

A preliminary 'Discovery' metallurgical test program has been carried out to determine the amenability of the Alford East mineralisation to metal recovery using GLT. The test work has involved two rounds of Diagnostic Leach Tests (DLTs), and one round of Bottle Roll Tests (BRTs) (Figure 8) on the two samples from 21AED001 (Table D). The two zones are highlighted in Figure 6. Ground water collected from Alford East was used in the laboratory test work to ensure water characteristic especially pH were tailored to Project conditions.

Table D: Samples Selected for testing - Fire and 4 Acid Digest assay Results

Hole ID	Sample	Assay ID	Cu (ppm)	Au (ppm)
21AED001	AE Upper Zone	THOM-01-002	1,080	0.02
21AED001	AE Lower Zone	THOM-01-001	4,920	1.10
21AED001	Combined	THOM-01-003	2,950	0.51

Figure 8: Overview of Test work



Per Sample
- *2 x assay (ALS)*
- *2 x Copper Sequebtial assay*
- *2 x Gold Sequential assay*

Diagostic leach test (DLTs)
- *18 solids (Cu & Au)*

Bottle RollLeach Tests (BLsT)
- *6 test x 5 solutions*

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Initial Findings:

- Based on copper sequential analysis (identifies leachable copper mineralogy) - 15% of the copper from the upper zone and up to 50% from the lower zone should be theoretically leachable with GLT.
- Based on the gold diagnostic leach assays, extraction from the lower zone of up to 73.4% should be theoretically leachable with GLT. Upper zone had negligible gold.
- Diagnostic Leach test– designed to be initial comparison tests to ascertain the response to a range of conditions including a baseline cyanidation test.
- Bottle Roll tests (6):
  - The composite sample performed very well with GLT, extracting 98.1% of the gold and over 40% of the copper.
  - Lower zone using GLT extracting 78.3% of the gold and 33.5% of the copper, whilst theLower zone using cyanide extracted 64.1% Au and 48.2% of the copper.
  - The alkaline Glycine Leaching Technology (GLT) has slower leaching dynamics, than cyanidation, so if given more time higher extractions would be expected.

Next Step

Based on the new geological model, approximately 10 diamond drill holes have been designed to test potential high-grade zones (Figure 9):

- Along strike and up-dip of deeply weathered zones,
- Targeting controlling key structures including the Netherleigh Park Fault at depth especially where there are large gaps in existing data,
- Targeting intersection of SMS and Liaway offset Fault,
- Targeting intersection of Netherleigh Park Fault and Liaway Fault
- Targeting subordinate splays off Netherleigh Park Fault where there is evidence of a deep weathering trough.

In addition, hydrogeological water bores and pump testing is in planning to determine aquifer connectivity between holes, with initial focus in the northern area of the mineralisation.

Concurrent to drilling, hydrometallurgical work will continue to investigate and optimise both copper and gold metal extraction using environmentally friendly lixiviants.

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Figure 9: Phase two proposed drillholes, targeting potential higher-grade zones open at depth and along strike.

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This announcement is authorised for release to the market by the Board of Directors.

For further information, please contact:

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Elements: *Cu=Copper, Au = Gold, Ag=Silver, Mo=Molybdenum, Co=Cobalt, Se= Selenium, Bi=Bismuth, Ba=Barium and Te=Tellurium*

Competent Persons Report

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.

Forward Looking Statements

This document may contain certain forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning Thor Mining PLC current expectations, estimates and projections about the industry in which Thor operates, and beliefs and assumptions regarding Thor's future performance. When used in this document, words such as "anticipate", "could", "plan", "estimate", "expects", "seeks", "intends", "may", "potential", "should", and similar expressions are forward-looking statements. Although Thor believes that its expectations reflected in these forward-looking statements are reasonable, such statements are subject to known and unknown risks, uncertainties and other factors, some of which are beyond the control of Thor and no assurance can be given that actual results will be consistent with these forward-looking statements

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.

About Thor Mining PLC

Thor Mining PLC (AIM, ASX: THR; OTCQB: THORF) is a diversified resource company quoted on the AIM Market of the London Stock Exchange, ASX in Australia and OTCQB Market in the United States.

The Company is advancing its diversified portfolio of precious, base, energy and strategic metal projects across USA and Australia. Its focus is on progressing its copper, gold, uranium and vanadium projects, while seeking investment/JV opportunities to develop its tungsten assets.

Thor owns 100% of the Ragged Range Project, comprising 92 km^2 of exploration licences with highly encouraging early-stage gold and nickel results in the Pilbara region of Western Australia, for which initial drilling was carried out in 2021

At Alford East in South Australia, Thor is earning an 80% interest in copper deposits considered amenable to extraction via In Situ Recovery techniques (ISR). In January 2021, Thor announced an Inferred Mineral Resource Estimate of 177,000 tonnes contained copper & 71,000 oz gold[1].

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 and the Alford West copper project, both situated in South Australia, and both considered amenable to recovery by way of ISR.[2][3]

Thor holds 100% interest in two private companies with 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, including measured, indicated and inferred resources[4], in the Northern Territory of Australia, which was awarded Major Project Status by the Northern Territory government in July 2020.

Adjacent to 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.[5]

Notes

[1] *www.thormining.com/sites/thormining/media/pdf/asx-announcements/20210127-maiden-copper.gold-estimate-alford-east-sa.pdf*

[2] *www.thormining.com/sites/thormining/media/pdf/asx-announcements/20172018/20180222-clarification-kapunda-copper-resource-estimate.pdf*

[3] *www.thormining.com/sites/thormining/media/aim-report/20190815-initial-copper-resource-estimate---moonta-project---rns---london-stock-exchange.pdf*

[4] *www.thormining.com/sites/thormining/media/pdf/asx-announcements/20210408-molyhil-mineral-resource-estimate-updated.pdf*

[5] *www.thormining.com/sites/thormining/media/pdf/asx-announcements/20200129-mineral-resource-estimates---bonya-tungsten--copper.pdf*

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Table A: *Alford East Mineral Resource Estimate as at 22 January 2021, with AR-5 extending towards AE-8 domains (previously Netherleigh Park) the focus of the current drilling program highlighted – Figure 2.*

Domain	Tonnes (Mt)	Cu %	Au g/t	Contained Cu (t)	Contained Au (oz)
AE_1	24.6	0.12	0.021	30,000	16,000
AE_2	6.8	0.13	0.004	9,000	1,000
AE_3	34.9	0.09	0.022	33,000	25,000
AE_4	8.0	0.11	0.016	8,000	4,000
AE_5	11.0	0.22	0.030	24,000	11,000
AE-8 (NP)	31.3	0.19	0.008	61,000	8,000
AE-7 (LW_E)	7.7	0.14	0.025	10,000	6,000
AE-6 (LW_W)	1.3	0.13	0.011	2,000	500
Total	125.6	0.14	0.018	177,000	71,500

Note: MRE reported on oxide material only, at a cut-off grade of 0.05% copper which is consistent with the assumed In Situ Recovery technique.

Table B: *Drill Collar Locations*

Hole ID	EOH Depth	East	North	RL	Dip	Azimuth
21AED001	156.17	763,727.91	6,256,359.35	48.69	-90^0	360^0
21AED002	98.85	763,908.67	6,256,599.18	48.35	-70^0	90^0
21AED003	93.20	763,680.15	6,256,359.62	48.39	-90^0	360^0
21AED004	71.95	763,849.71	6,256,442.33	46.84	-90^0	360^0
21AED005	96.47	763,799.52	6,256,358.84	47.91	-70^0	90^0
21AED006	135.4	763,988.83	6,256,682.88	44.71	-90^0	360^0
21AED007	115.2	763,883.93	6,256,600.85	48.09	-90^0	360^0
21AED008	77.8	763,739.04	6,256,274.50	47.67	-70^0	90^0
21AED009	32.63	763,812.14	6,256,205.90	46.10	-90^0	360^0

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Table C: *Summary of Significant Drillhole Assays with copper reported above 0.05% Cu and gold above 0.1g/t Au*

Hole ID	Drill Type	Sample type	Depth From (m)	Interval (m)	Cu %	Au g/t	Comments
21AED001	*Diam -HQ*	*Geological*	*6.2*	*108.2*	*0.17*	*0.1*	*Full oxide profile – with zones of internal dilution*
		including	*6.2*	*25.3*	*0.11*	*NSI*	*Upper Zone (above 0.05% Cu)*
		including	*81.5*	*32.9*	*0.4*	*0.31*	*Lower Zone (above 0.05% Cu)*
		including	*102*	*5*	*0.5*	*1.02*	*Lower zone (above 0.05%Cu)*
21AED002	*Diam -HQ*	*Geological*	*21.9*	*59.9*	*0.31*	*NSI*	*Full oxide profile (above 0.05% Cu)*
21AED003	*Diam -HQ*	*Geological*	*15*	*32.4*	*0.16*	*NSR*	*Full oxide profile*
		including	*15*	*13.6*	*0.25*	*NSR*	
21AED004	*Diam -HQ*	*Geological*	*7*	*55.9*	*0.53*	*NSR*	*Full oxide profile*
		Including	*17.3*	*5.7*	*1.23*	*0.16*	
21AED005	*Diam -HQ*	*Geological*	*6.3*	*72.7*	*1.0*	*0.19*	*Full oxide Profile (above 0.05% Cu)*
		Including	*15.8*	*18.2*	*2.0*	*0.34*	*Upper Zone (above 0.05% Cu)*
21AED006	*Diam -HQ*	*Geological*	*31.1*	*30.8*	*0.09*	*NSR*	*Upper Zone*
		and	*105.8*	*13*	*0.1*	*NSR*	*Lower Zone*
21AED007	*Diam -HQ*	*Geological*	*33*	*33.6*	*0.14*	*NSR*	*Full oxide Zone (above 0.05%Cu)*
		Including	*33*	*4*	*0.1*	*0.13*	
21AED008	*Diam -HQ*	*Geological*	*7*	*7*	*0.13*	*NSR*	*Upper zone (above 0.05%Cu)*
		and	*27*	*15.5*	*0.08*		*Lower zone (above 0.05%Cu)*
21AED009	*Diam-HQ*		*-*	*NSR*	*-*	*-*	

Notes to Table B and C

1. An accurate dip and strike and the controls on mineralisation are only interpreted and the true width of mineralisation is unknown at this time.
2. In Diamond (Diam drilling), individual samples were collected at geological intervals with no individual sample smaller than 0.1m and none larger than 1.5m.
3. All samples are analysed using a 50g fire assay with ICP-MS (inductively coupled plasma - mass spectrometry) finish gold analysis (0.01ppm detection limit) and Aqua Regia Multi-Element with ICP-MS finish (1ppm Cu detection limit) by Bureau Veritas, Adelaide South Australia.
4. Intersections are generally calculated over >1m intervals >0.05% Cu (500ppm) using weight averaging technique. Some internal dilution is included in 21AED001 full oxide profile <10m below 0.05% *Cu* for geological ISR modelling continuity.
5. g/t (grams per tonne), ppm (parts per million), NSI = no significant intercept above 0.01ppm Au
6. Drill type; Diam = Diamond, HQ = Diamond Core diameter
7. Coordinates are in GDA94, MGA Z53 using DGPS position

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1 JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

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 handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (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.*	Diamond drilling program with half core sampled for Au fire assay FA001 and Aqua Regia 48 element suite AR001. Samples submitted to Bureau Veritas (BV), SA. Standard blank and duplicate inserted every 30 samples pXRF readings taken very 0.5m down the hole. Vanta C Series 800427 XRF - 40sec reading time. Instrument calibrated externally annually and with QA/QC at start prior to sampling and calibration disc every 30 readings All co-ordinates are in UTM grid (GDA94 Z53) and drill hole collars have been surveyed by DGPS to an accuracy of 0.1m. Down holes surveys using Truman with readings every 6m. Diamond samples were collected at geologically defined intervals (minimum sample length 0.1m, maximum sample length 1.5m) for all drill holes in the current program Samples are cut using an automated diamond saw and half core is submitted for analysis at Bureau Veritas, SA. The sample size is deemed appropriate for the grain size of the material being sampled. Mineralisation is determined by descriptive geological logs for diamond hole as well as the incorporation of assay results and pXRF readings
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	Diamond drilling - GMP drilling Pty Ltd. B&D Multi 35 Rig 0-6m open hammer – transported cover sequence. HQ standard tube diamond drilling

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Criteria	JORC Code explanation	Commentary
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	Core recovery assessed and measured relative to drill rod measurements into laptop computer. HQ single tube drilling through weathered zone to maximise sample recovery. The sample recovery and condition is recorded every meter. Generally, core recovery is 98-100%, but occasionally drops to 70% in friable clays zones due to compaction and/or broken ground. No relationship is known to exist between sample recovery and grade
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	All core is qualitative geologically logged (lithology, structure, alteration, veining, mineralization weathering, colour and other features of the core). Core photography completed prior to core cutting and after Core (and intersections) logged based on geological, lithological and structural boundaries. All drill samples are measured for magnetic susceptibility at 1m intervals, and XRF readings taken every 0.5m.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Half core samples submitted for laboratory analysis. Diamond core was given up to two weeks to dry out, prior to cutting and sample prep. Sampling is carried out using standard protocols and QAQC procedures as per industry practice. Field QAQC procedures involved the use of certified standards, blanks and duplicate sample submitted every 25 samples. These are routinely checked against originals. Handheld pXRF readings reported. pXRF readings taken on whole (HQ) core at 0.5m intervals prior to cutting. Vanta Series C 40 second reading time.

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		Instrument calibrated at start, QAQC with 2 standards and 1 blank every 30 readings. External instrument calibration completed annually. Readings taken every 0.5m down hole
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	Diamond core sampled through potential copper and gold zones. Samples submitted to Bureau Veritas for 50g fire assay and Aqua Regia multi-element analysis. Internal certified laboratory QAQC is undertaken including check samples, blanks and internal standards Handheld pXRF readings reported. Vanta Series C 40 second reading time. Instrument calibrated at start, QAQC with 2 standards and 1 blank every 30 readings. External instrument calibration completed annually. Readings taken every 0.5m down hole
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	All drilling data is collected in a series of templates in excel including geological logging, sample information, collar and survey information, All data is digitally recorded in the company's electronic database. No adjustments have been made to the assay data. All significant intersections have been verified by an alternative company geologist. There are no twinned drillholes
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	Collars picked up using DGPS – MGA94 zone 53 (GDA) used. Down hole survey readings taken every 6m with Boart Longyear Truman multi shot camera

Criteria	JORC Code explanation	Commentary
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	Drillhole data spacing is considered appropriate to allow confident interpretation of exploration results. pXRF readings taken every 0.5m down the hole. 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 holes were oriented vertical (090 degrees) or 070 towards 090degrees which is perpendicular to strike of the geological trough. Orientational bias is not applicable this stage with half core samples taken across full mineralised zone and pXRF sampling every 0.5m downhole
Sample security	• *The measures taken to ensure sample security.*	Samples were trucked from Alford to Adelaide, to Challenger Geological Services for cutting and prep, prior to submission to Bureau Veritas, Adelaide for analysis.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	No formal audits have been undertaken

Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	Alford East project: ▪ The JV area covers portions EL6255 and E6529 which are 100% owned by Spencer Metals Ltd. • PML 268 lies within E6529 • 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	• *Acknowledgment 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,

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		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 Exploration results announcement, is hosted within variably weathered and sheared metasedimentary basement lithologies.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *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.*	Drillhole information is included in report, with Table B summarising drillhole collar information. Plan and sections showing drillhole locations is included in 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 detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated*	Weighted averaging technique is used for reporting exploration assay results, with pXRF Intersections are calculated by simple averaging of 0.5m assays. No metal equivalents are reported.

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	The copper oxide mineralization is associated 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 mineralisation
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	Appropriate maps and sections included in document.
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.*	All results have been reported
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.*	All data have been reported
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	Awaiting additional laboratory assays. Drilling to continue along sections and areas open to the north and south. Refer to diagram in document for geological interpretation and potential extensions.

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