ELEMENTOS
TOMORROW'S TIN

ASX ANNOUNCEMENT

04 March 2021

Cleveland Tin Project – Exploration Re-Commences.

Highlights:

- Exploration activities recommencing at Cleveland
- New exploration target identified adjacent to the existing geological resource
- Reconnaissance rock chip sampling of exploration target assays 0.7% Sn, 0.57% Cu, & 13.4% Zn
- Tin price at 10-year highs.

Amid surging tin prices, emerging Australian tin explorer **Elementos Limited (ASX: ELT)** has identified a new drill target at its 100% owned Cleveland Tin Project in Tasmania following the resumption of exploration activities at the project.

As the tin price jumped to ten-year highs above US$28,000/tonne in February, Elementos Chairman Andy Greig said the company moved quickly to assess the potential for additional tin resources at Cleveland while a major drilling campaign continues at its Oropesa Tin Project in Spain.

"There was a set of historic anomalies to the immediate northeast of the old Cleveland Mine and our existing geological resource which we have been eager to investigate for potential tin mineralisation," Mr Greig said.

"The prospective region contains the geological mine sequence and has a strike extent of approximately 500m, which is only marginally less than the strike extent of the historical Cleveland ore body. This means that we are targeting an area where the existing Cleveland resource may actually extend to the north."

Mr Greig said initial reconnaissance geological confirmation mapping and rock chip sampling carried out by the company in February had confirmed the prospectivity of the untested anomalies which were first identified by a Self-Potential (SP) geophysical survey in 1954.

"Four of the five rock chip samples that were collected contained visible sulphide mineralisation with the most significant assay being 0.7% tin, 0.57% copper, and 13.4% zinc from sample 130403," Mr Greig said.

"The nature of the mineralisation observed during the reconnaissance field work program is similar to that observed during the 2017 Cleveland diamond drilling program which targeted shallow resources above the existing resource, between the known resource and surface.

"The vein style mineralisation that was observed in 2017 occurs in close proximity vertically and laterally to the semi-massive sulphide ore at Cleveland.

"A program to drill test the SP anomalies is now being prepared for approval by Mineral Resources Tasmania," he said.

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The Cleveland Tin Mine operated as an underground mine by Aberfoyle Resources from 1968 to 1986 and contains a significant endowment of tin-copper tailings, open-cut and underground JORC Mineral Resources.

Figure 1. Cleveland Tin Project Location Plan

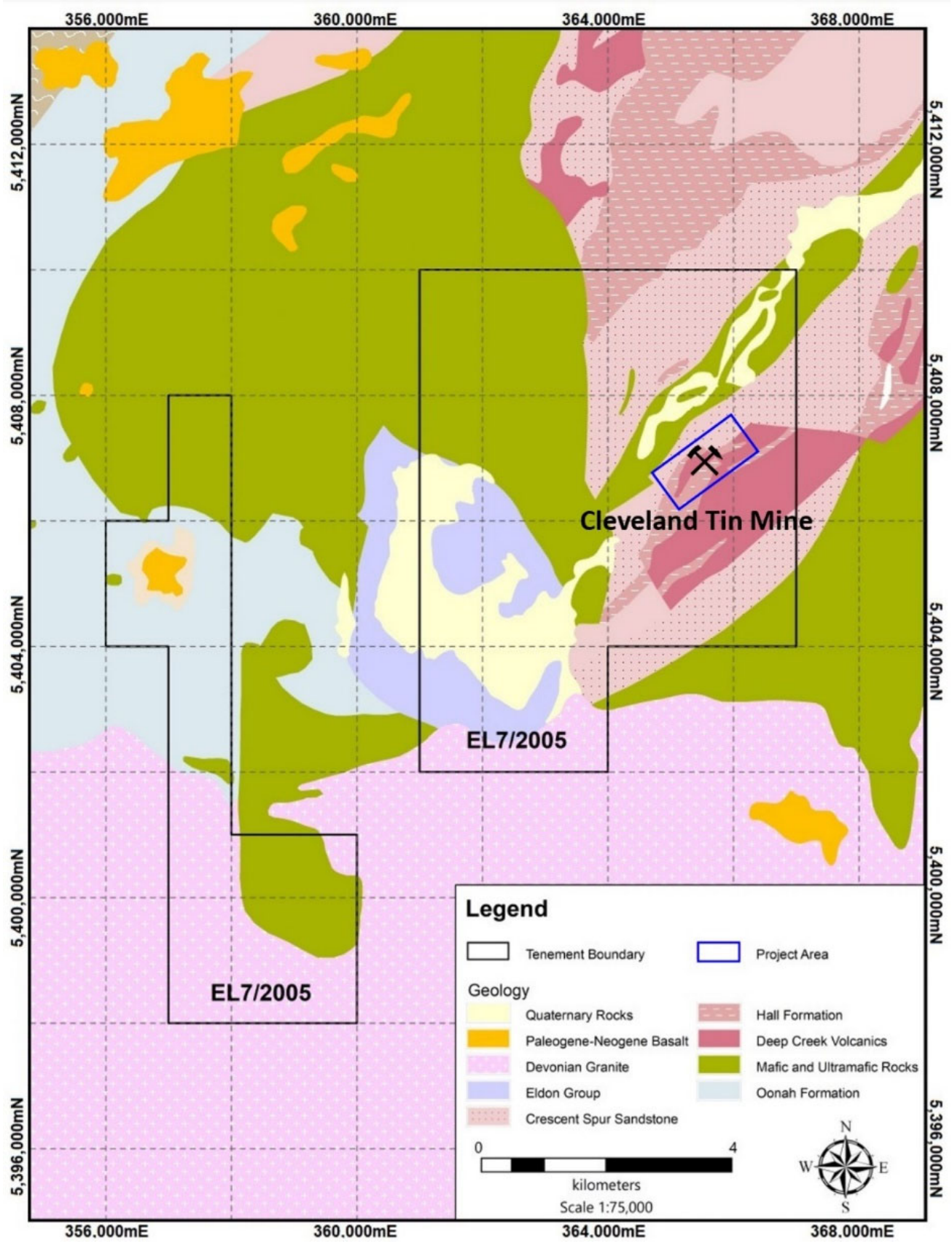

Figure 2: Cleveland Tin Project EL7/2005 – study area highlighted

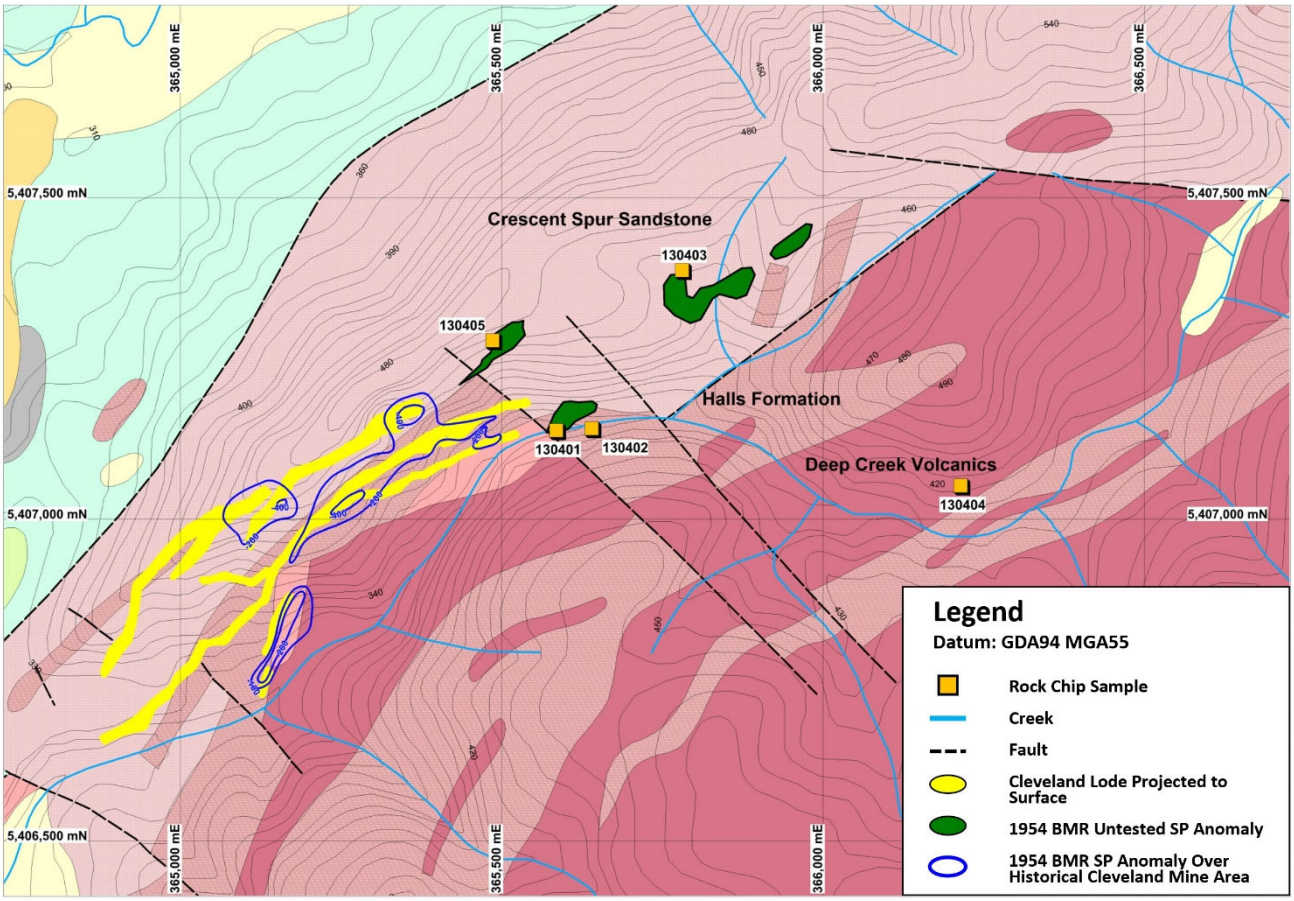

*Figure 3. Cleveland Tin Mine mine sequence highlighting the surface projection of the geological resource with superimposed SP anomalies (in blue) and **untested SP anomalies (in green)** to the northeast of the historical workings.*

Cleveland Tin Project – recent exploration program

- Reconnaissance geological mapping to confirm the presence of the geological mine sequence within the untested SP anomalies (Halls Formation and adjacent Crescent Spur Sandstone)
- Collection and assay of rock chip samples from within the untested SP anomalies
- Reconnaissance of potential access tracks and drill pad sites to drill test the SP anomalies.

Four of the five rock chip samples that were collected contained visible sulphide mineralisation with the most significant assay being 0.7% Sn, 0.57% Cu, & 13.4% Zn from sample 130403 (see Figure 3 and Table 1).

Sample ID	Easting_GDA94	Northing_GDA94	Description
	GDA 94 Zone 55	GDA 94 Zone 55	
130401	365587	5407136	Significantly oxidised sulphides within narrow veins within a white chert
130402	365642	5407139	Grey fine-grained partially silicified carbonate host rock containing disseminated pyrite
130403	365783	5407385	Fissure vein within white chert containing coarse grained sulphides
130404	366216	5407050	Magnetic basalt
130405	365488	5407276	Grey sandstone with cross cutting quartz veins containing sulphides

Table 1. Rock chip sample location and description

Sample ID	Sn %	WO3 %	Cu %	Pb %	Zn %	As %
130401	0.04	<0.01	0.02	0.02	1.66	0.57
130402	0.01	<0.01	0.01	0.03	0.34	<0.05
130403	0.7	0.01	0.57	0.1	13.4	12.4
130404	<0.01	<0.01	0.04	<0.01	0.04	<0.05
130405	0.02	<0.01	0.39	<0.01	<0.01	3.15

Table 2. Reconnaissance rock chip sampling assay results

Figure 4. Sample 130402 location. Sample interpreted to be from the Cleveland carbonate bearing host horizon (Washington Creek)

Exploration Rationale

A Self Potential (SP) geophysical survey carried out by the Bureau of Mineral Resources (BMR or Geoscience Australia) over the Cleveland Mine area in 1954 identified two main areas of anomaly. The first was drilled and became the Cleveland mine. The second was an area of weaker anomalies to the northeast of the current and historical resources (see Figure 3).

The SP survey was carried out before modern underground mining commenced in 1968. Only limited surficial exploration has been carried out over the area identified in the SP survey as being anomalous. No drill testing of the weaker anomalies has been carried out.

The SP technique is one of the earliest developed geophysical methods employed commercially for detecting massive sulphides beneath the surface. The Cleveland ore body is a "semi-massive sulphide" ore body containing tin as cassiterite. An SP anomaly is the detection at the surface of natural potentials resulting from electrochemical reactions beneath the surface. No electric current is introduced in the method. Semi-massive to massive sulphide ore bodies have been detected by the electrochemical reactions that occur due to oxidation of the ore bodies through interaction with groundwater.

The amplitude of the SP anomaly detected in 1954 by the BMR rapidly decreases with increasing depth from surface to the top of the historical ore body (and current open pit resource). The amplitude of the untested SP anomalies to the northeast of Cleveland suggests the possibility that sulphide mineralisation may occur at depth in the area.

NOTE: this Open Pit Tin-Copper Mineral Resource is a sub-set of the Total Tin-Copper Mineral Resource noted b

Category	Tonnage	Sn Grade	Contained Sn	Cu Grade	Contained Cu
Indicated	1.73 Mt	0.93%	16,100t	0.33%	5,700t
Inferred	0.16 Mt	1.18%	1,900t	0.49%	800t
TOTAL	1.89 Mt	0.95%	18,000t	0.34%	6,500t

Underground Tin-Copper Mineral Resource - September 2018 (at 0.35% Sn cut-off

NOTE: this Underground Tin-Copper Mineral Resource is a sub-set of the Total Tin-Copper Mineral Resource not

Category	Tonnage	Sn Grade	Contained Sn	Cu Grade	Contained Cu
Indicated	4.50 Mt	0.68%	30,600t	0.29%	13,000t
Inferred	1.08 Mt	0.70%	7,500t	0.25%	2,700t
TOTAL	5.58 Mt	0.68%	38,100t	0.28%	15,700t

Total Tin-Copper Mineral Resource - September 2018 (at 0.35% Sn cut-off)

Category	Tonnage	Sn Grade	Contained Sn	Cu Grade	Contained Cu
Indicated	6.23 Mt	0.75%	46,700t	0.30%	18,700t
Inferred	1.24 Mt	0.76%	9,400t	0.28%	3,500t
TOTAL	7.47 Mt	0.75%	56,100t	0.30%	22,200t

Tables subject to rounding errors; Sn = tin, Cu = copper

**1- This information was prepared and first disclosed in 2018 under the JORC Code 2012. It has not been updated since on the basis that the information has not materially changed since it was last reported*

Tailings Ore Reserve - September 2018 (at 0% Sn cut-off)

Category	Tonnage	Sn Grade	Contained Sn	Cu Grade	Contained Cu
Probable	3.7 Mt	0.29%	11,000t	0.13%	5,000t

Table subject to rounding errors; Sn = tin, Cu = copper

**2 - This information was prepared and first disclosed in 2015 under the JORC Code 2012. It has not been updated since on the basis that the information has not materially changed since it was last reported*

Underground Tungsten Mineral Resource - September 2018 (at 0.20% WO_3 cut-off

Category	Tonnage	WO_3 Grade
Inferred	4 Mt	0.30%

Table subject to rounding errors; WO_3 = tungsten oxide

**3 - This information was prepared and first disclosed in 2014 under the JORC Code 2012. It has not been updated since on the basis that the information has not materially changed since it was last reported*

Table 3. Cleveland Tin Project JORC Resources [*1]

Elementos' Board has authorised the release of this announcement to the market.

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ABOUT ELEMENTOS

Listed on the ASX in 2009, Elementos is committed to the safe and environmentally conscious exploration and production of high-grade tin resources.

Led by an experience-heavy management team and Board, Elementos is positioned as a diversified tin platform, with an ability to develop exciting projects in multiple countries.

As tin stocks hover at historic lows, the company is well-positioned to help bridge the significant supply shortfall in coming years. This shortfall is being partly driven by increasing global interest in renewable energy and electric vehicles. In 2018, Rio Tinto, through research by Boston's Massachusetts Institute of Technology (MIT), announced tin was predicted to be the metal most impacted by the transition to the new energy economy for its use in electric vehicles, robotics, renewable energy storage and advanced computation.

Competent Persons Statement:

The information in this report that relates to the Annual Mineral Resources and Ore Reserves Statement, Exploration Results and Exploration Targets is based on information and supporting documentation compiled by Mr Chris Creagh, who is a consultant to Elementos Ltd. Mr Creagh is a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy and who consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. Chris Creagh 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 in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012).

The Australian Securities Exchange has not reviewed and does not accept responsibility for the accuracy or adequacy of this release.

References to Previous Releases

The information in this report that relates to the Mineral Resources and Ore Reserves were last reported by the company in compliance with the 2012 Edition of the JORC Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The Mineral Resources, Ore Reserves, production targets and financial information derived from a production target were included in market releases dated as follows:

*1 - Substantial Increase in Cleveland Open Pit Project Resources following Revised JORC Study, 26 September 2018

The company confirms that it is not aware of any new information or data that materially affects the information included in the market announcements referred above and further confirms that all material assumptions underpinning the production targets and all material assumptions and technical parameters underpinning the Ore Reserve and Mineral Resource statements contained in those market releases continue to apply and have not materially changed.

JORC CODE, 2012 EDITION – TABLE 1

SECTION 1 SAMPLING TECHNIQUES AND DATA

Reconnaissance geochemical sampling – Cleveland Tin Project 2021

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.*	• Rock chip samples were collected as a composite sample to represent the specific nature of the sample required. Approximately 2kg of sample were collected at each site. • Field observations of visible sulphide mineralisation were used to determine the sample location
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).*	• N/A

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.*	• N/A
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.*	• N/A
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.*	• Samples were reconnaissance samples only • All samples were secured and delivered to the analytical laboratory (ALS, Burnie, Tasmania) by the sampler. • The samples were prepared for analysis by the following methods, WEI-21, CRU-21 and PUL-23 • The samples were analysed for Sn, W, Cu, Pb, Zn and As by analytical technique ME-XRF15d • Industry standard ALS QA/QC procedures were employed

Criteria	JORC Code explanation	Commentary
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.*	• ME-XRF15d is an appropriate analytical technique to determine the presence and total quantity of the principal element being investigated – tin (Sn) • No duplicates, standards or blanks were submitted for this programme • Industry standard QA/QC procedures were incorporated by ALS
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.*	• No verification samples were collected for this programme due to the limited number of samples and reconnaissance nature of the programme
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.*	• All samples were located by hand held Garmin GPS (Table 1) • Located in MGA94 Zone 55.
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.*	• Reconnaissance sampling only so data spacing and distribution is not relevant
Orientation of data in relation	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit*	• Reconnaissance sampling only

Criteria	JORC Code explanation	Commentary
to geological structure	*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.*	
Sample security	• *The measures taken to ensure sample security.*	• The samples were delivered to ALS Burnie by company representatives. All instructions were sample preparation and analysis accompanied the delivery of the samples.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits have been conducted.

SECTION 2 REPORTING OF EXPLORATION RESULTS

Reconnaissance geochemical sampling – Cleveland Tin Project 2021

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.*	• Exploration Licence EL7/2005 centred on the historical Cleveland Tin Mine in Tasmania. EL7/2005 is held by Rockwell Minerals Pty Ltd, a 100% subsidiary company of Elementos Limited. The project lies within Forest Tasmania Managed Land
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	Reconnaissance geological mapping and rock chip sampling based on a self-potential survey reported in 1954, that was carried out by the Bureau of Mineral Resources (now Geoscience Australia).
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Cleveland mineralisation is hydrothermal mineralisation associated with Devonian-Carboniferous granite intrusives, which outcrop within 5 kilometres of the historical workings. Gravity survey data suggests the granite occurs approximately 4km below the historical workings • The host sedimentary rocks were intruded by the Devonian-Carboniferous Meredith Granite. A quartz-porphyry dyke occurs approximately 350m below the land surface. • The tin/copper mineralisation occurs as semi-massive sulphide lenses consisting of pyrrhotite and pyrite with cassiterite with lesser stannite, chalcopyrite, quartz, fluorite and carbonates. Sulphide minerals make up approximately 20-30% of the mineralisation. The semi-massive sulphide lenses have formed by the replacement of carbonate rich sediments and are geologically similar to tin bearing massive to semi-massive sulphide mineralisation at Renison and Mt Bischoff.
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:*	• N/A

Criteria	JORC Code explanation	Commentary
	○ *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.*	
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.*	• N/A
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').*	• N/A

Criteria	JORC Code explanation	Commentary
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.*	• All diagrams in this report have been prepared to highlight the important elements to this 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.*	• All information relevant to this report has been included in the report
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• In 1954 Geoscience Australia published a report on a Self Potential survey carried out over the Cleveland Tin Mine and environs. This report has been used as a targeting tool for the reconnaissance rock chip sampling programme being reported here. • Information on the Cleveland Tin Mine ore body and current geological resource can be found in the following report released on 26 September 2018. "Substantial Increase in Cleveland Open Pit Project Resources following Revised JORC Study".
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.*	Future work will involve preparation of a work programme for approval by Mineral Resources Tasmania to drill test the Self Potential anomalies.

SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES

n/a

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.*	N/A
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.*	
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.*	
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.*	

Criteria	JORC Code explanation	Commentary
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 (eg 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 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 drill hole data, and use of reconciliation data if available.*	
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	•
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	•

Criteria	JORC Code explanation	Commentary
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.*	•
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.*	•
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.*	•
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 account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.*	•

Criteria	JORC Code explanation	Commentary
	• *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.* • *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).* • *Whether the result appropriately reflects the Competent Person's view of the deposit.*	•
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	•
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.*	•

SECTION 4 ESTIMATION AND REPORTING OF ORE RESERVES

n/a

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• n/a
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.*	•
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	•
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	•
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.*	•

Criteria	JORC Code explanation	Commentary
	• *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).* • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* • *Whether the metallurgical process is well-tested technology or novel in nature.* • *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* • *Any assumptions or allowances made for deleterious elements.* • *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* • *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	•
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	•
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk*	•

Criteria	JORC Code explanation	Commentary
	commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.	
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	•
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	•
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* • *A customer and competitor analysis along with the identification of likely market windows for the product.* • *Price and volume forecasts and the basis for these forecasts.* • *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	•
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.*	•

Criteria	JORC Code explanation	Commentary
	• *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	•
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	•
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	•
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	•
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve 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 reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the*	•

Criteria	JORC Code explanation	Commentary
	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.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	

SECTION 5 ESTIMATION AND REPORTING OF DIAMONDS AND OTHER GEMSTONES

n/a

Criteria	JORC Code explanation	Commentary
Indicator minerals	• *Reports of indicator minerals, such as chemically/physically distinctive garnet, ilmenite, chrome spinel and chrome diopside, should be prepared by a suitably qualified laboratory.*	•
Source of diamonds	• *Details of the form, shape, size and colour of the diamonds and the nature of the source of diamonds (primary or secondary) including the rock type and geological environment.*	•
Sample collection	• *Type of sample, whether outcrop, boulders, drill core, reverse circulation drill cuttings, gravel, stream sediment or soil, and purpose (eg large diameter drilling to establish stones per unit of volume or bulk samples to establish stone size distribution).* • *Sample size, distribution and representivity.*	•
Sample treatment	• *Type of facility, treatment rate, and accreditation.* • *Sample size reduction. Bottom screen size, top screen size and re-crush.* • *Processes (dense media separation, grease, X-ray, hand-sorting, etc).* • *Process efficiency, tailings auditing and granulometry.* • *Laboratory used, type of process for micro diamonds and accreditation.*	•
Carat	• *One fifth (0.2) of a gram (often defined as a metric carat or MC).*	•
Sample grade	• *Sample grade in this section of Table 1 is used in the context of carats per units of mass, area or volume.* • *The sample grade above the specified lower cut-off sieve size should be reported as carats per dry metric tonne and/or carats per 100 dry metric tonnes. For alluvial deposits, sample grades quoted in carats per square metre or carats per cubic metre are acceptable if accompanied by a volume to weight basis for calculation.*	•

Criteria	JORC Code explanation	Commentary
	• *In addition to general requirements to assess volume and density there is a need to relate stone frequency (stones per cubic metre or tonne) to stone size (carats per stone) to derive sample grade (carats per tonne).*	
Reporting of Exploration Results	• *Complete set of sieve data using a standard progression of sieve sizes per facies. Bulk sampling results, global sample grade per facies. Spatial structure analysis and grade distribution. Stone size and number distribution. Sample head feed and tailings particle granulometry.* • *Sample density determination.* • *Per cent concentrate and undersize per sample.* • *Sample grade with change in bottom cut-off screen size.* • *Adjustments made to size distribution for sample plant performance and performance on a commercial scale.* • *If appropriate or employed, geostatistical techniques applied to model stone size, distribution or frequency from size distribution of exploration diamond samples.* • *The weight of diamonds may only be omitted from the report when the diamonds are considered too small to be of commercial significance. This lower cut-off size should be stated.*	•
Grade estimation for reporting Mineral Resources and Ore Reserves	• *Description of the sample type and the spatial arrangement of drilling or sampling designed for grade estimation.* • *The sample crush size and its relationship to that achievable in a commercial treatment plant.* • *Total number of diamonds greater than the specified and reported lower cut-off sieve size.* • *Total weight of diamonds greater than the specified and reported lower cut-off sieve size.* • *The sample grade above the specified lower cut-off sieve size.*	•

Criteria	JORC Code explanation	Commentary

Value estimation	• *Valuations should not be reported for samples of diamonds processed using total liberation method, which is commonly used for processing exploration samples.*
	• *To the extent that such information is not deemed commercially sensitive, Public Reports should include:*
	  o *diamonds quantities by appropriate screen size per facies or depth.*
	  o *details of parcel valued.*
	  o *number of stones, carats, lower size cut-off per facies or depth.*
	• *The average $/carat and $/tonne value at the selected bottom cut-off should be reported in US Dollars. The value per carat is of critical importance in demonstrating project value.*
	• *The basis for the price (eg dealer buying price, dealer selling price, etc).*
	• *An assessment of diamond breakage.*
		•

Security and integrity	• *Accredited process audit.* • *Whether samples were sealed after excavation.* • *Valuer location, escort, delivery, cleaning losses, reconciliation with recorded sample carats and number of stones.* • *Core samples washed prior to treatment for micro diamonds.* • *Audit samples treated at alternative facility.* • *Results of tailings checks.* • *Recovery of tracer monitors used in sampling and treatment.* • *Geophysical (logged) density and particle density.* • *Cross validation of sample weights, wet and dry, with hole volume and density, moisture factor.*	•

Criteria	JORC Code explanation	Commentary
Classification	• *In addition to general requirements to assess volume and density there is a need to relate stone frequency (stones per cubic metre or tonne) to stone size (carats per stone) to derive grade (carats per tonne). The elements of uncertainty in these estimates should be considered, and classification developed accordingly.*	•