17 June 2014

RESOURCE UPGRADE – CLEVELAND TAILINGS RESOURCE

Elementos Limited (ASX: ELT) ("Elementos" or the "Company") is pleased to announce the upgrade of the Cleveland Tailings Resource from Inferred to Indicated.

Independent geological consultants, Mining One have reviewed the Cleveland Tailings Mineral Resource and the JORC (2012) compliant Mineral Resource has been upgraded to the Indicated category and is summarised below:

Cleveland Tin and Copper Tailings Mineral Resource 17 June 2014			
0% Sn Cut-Off			
Category	**Tonnage**	**% Sn as Cassiterite**	**% Cu**
Indicated	3,850,000	0.30	0.13
Total	3,850,000	0.30	0.13

Details

The Mineral Resource being reported is the tailings resource at the Cleveland Mine site in North West Tasmania. The material was deposited into the dams between 1968 and 1986 and was subject to routine mill assays and mass balances by the mine operator Aberfoyle Limited. The Aberfoyle data forms an important basis for reporting the Mineral Resource.

Geological Interpretation

The tailings are stored in two dams where the shapes and extents of the dams are known. The tailings consist of silt and sand sized materials created by grinding of tin and copper bearing mineralised rock. The tailings terminate at the original ground surface, and at the dam embankments and are covered with a layer of gravel and topsoil less than one metre thick. Tin occurs in the tailings principally as cassiterite and, to a much lesser extent, as stannite but only tin that occurs as cassiterite has been considered for this estimate.

Sampling and Drilling

The estimate of the tailings resource does not rely on the results of drilling but is based on sampling undertaken in the mill between 1968 and 1986. However, drilling in 2007 and 2013 collected unconsolidated samples of tailings and samples from 2007 were assayed and provided a validation of the estimated grade.

Sample Analysis

Mill samples were taken routinely in Aberfoyle's Cleveland Mill and assayed in the laboratory at Cleveland. Sampling in the Mill was routine and subject to metallurgical mass balances with a very large number of samples taken. Because this data was collected at a large, competently managed, public company owned mill and subjected to review by senior management, it is reasonable to assume that the data is sound.

The process used by Aberfoyle to determine tin content in the tailings was to conduct a total tin assay by pressed powder XRF and then determine soluble tin by wet chemical assay. Cassiterite percentage tin was then calculated by subtracting soluble tin from total tin and reported accordingly.

Estimation Methodology

The tonnages and grades for this report are estimated from reports of the tailings discharged from the Cleveland Mill as recorded by Aberfoyle. This is possible due to the tailings resource being well documented, discrete and complete.

The volume of material in the tailings dams has been confirmed by modeling surface plans of the tailing dam sites from before the dams where built and recent LiDAR survey topography using Surpac mine modelling software. Assumptions regarding the geometry of the upstream faces of the dam walls and the width of dam crests were made in order to model the volumes of the embankments and thus determine the volumes of the contained tailings. The correlation between the reported volume and the calculated volume was very high further increasing the confidence in the Aberfoyle data.

Cut-off Grade

Selective mining of the tailings is not planned, so no cut-off grade has been applied, that is, the Mineral Resource has been quoted at 0.0% tin cut-off grade.

Mining and Metallurgy

The proposed mining method is dry mining by excavator. For this method an excavator loads the tailings into a mobile pump box and water is added so slurry can be pumped to the processing plant. This mining method allows all the tailings to be mined including the dam walls.

In 1984, Aberfoyle conducted pilot scale retreatment of the tailings and reported 33%-45% tin recovery using conventional gravity and flotation processing or 48-69% tin recovery using pre-concentration by flotation and matte fuming. An independent metallurgical consultant has proposed, to the Company, tin recovery of 50% and copper recovery of 40% as a reasonable basis for planning and further studies.

Classification

The classification has taken into account the certainty of the volume, density, mineral makeup and grade of the material deposited in the tailings dams over an 18 year period. Given that Cleveland was a modern mine and mill, it is known that all tailings produced were deposited in the tailings dams.

To assess that the tailings resource has reasonable prospects of economic processing it was necessary to consider what is a viable mining method and the mineral processing amenability of the tailings. The Company engaged external consultants to confirm the feasibility of mining the entire tailings resource and the amenability of the tailings material to be successfully treated using traditional mineral processing techniques, with this information in hand the resource was reviewed and upgraded.

The mass, grade, density, shape and physical characteristics of the tailings have now been estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the tailings deposit and the tailings Mineral Resource has been classified as Indicated.

For more information, please contact:

Calvin Treacy
Managing Director
Phone: +61 7 3221 7770
Email: **admin@elementos.com.au**

Elementos is an Australian, ASX-listed, diversified metals company, including Cleveland, an advanced stage tin-copper and tungsten project in Tasmania, together with a number of prospective copper and gold assets in South America and Australia.

Please visit us at **www.elementos.com.au**

COMPETENT PERSON STATEMENT

The information in this report that relates to Mineral Resources, Exploration Results and Exploration Targets is based on information compiled by Mick McKeown of Mining One Consultants, a Competent Person who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mick McKeown is a full-time employee of Mining One Pty Ltd, a mining consultancy which has been paid at usual commercial rates for the work which has been completed for Elementos Limited.

Mick McKeown has sufficient experience which 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' Mick McKeown consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

ELEMENTOS LIMITED

ANNEXURE A

Table 1 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.	• The estimate of tailings grade is based on sampling in Aberfoyle's Cleveland Mill and subsequent metallurgical mass balances made by Aberfoyle during operations from 1968 to 1986 (see Table 4). • Unconsolidated samples of tailings were collected in 2007 from air core and auger drilling of 31 holes in Tailings Dams 1 and 2. • Unconsolidated samples of tailings were collected in 2013 from Wacker drilling of 21 holes in Tailings Dams 1 and 2.
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).	• Holes drilled to test the tailings in 2007 (see Figure 1) were air cored or augered • Holes drilled to test the tailings in 2013 (see Figure 2) were drilled using a Wacker drill.

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.	• Drilling campaigns were conducted in 2007 to obtain tailings material for metallurgical test work and in 2013 to test the physical material properties of the tailings and to provide tailings material for future metallurgical test work. • The estimate of the tailings resource did not rely on the results of either drilling programme (see *Estimation and modelling techniques* in Table 1 Section 3 below). • The technique used for the 2007 air core drilling was designed to recover samples from unconsolidated ground. The sample was returned from the face of the drill bit between an inner and outer tube to minimise sample contamination from the walls of the hole. • The technique used for the 2013 Wacker drilling used a continuous sample recovery barrel enabling a full column sample of tailings material to be recovered.
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.	• The estimate of the tailings resource did not rely on the results of drilling (*see Estimation and modelling techniques* in Table 1 Section 3 below). • All samples acquired from air core and auger drilling in 2007 were logged for material type and extent of apparent oxidation. Samples were submitted to a commercial laboratory for particle sizing determinations and assay. • All samples acquired from Wacker drilling in 2013 were logged for material type. Currently, samples are stored in a freezer pending further metallurgical investigations if required.

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.	• Sampling in the Cleveland Mill was subject to metallurgical mass balances from 1968 to 1986. • The estimate of the tailings resource did not rely on the results of drilling (see *Estimation and modelling techniques* in Table 1 Section 3 below). • Samples from air core and auger holes drilled in 2007 to test tailings were dried and split using a rotary splitter. The samples were of tailings, that is, of material which had already been crushed and pulverised. Sampling and sample preparation methods were appropriate for the testing that was undertaken. • Samples from the 2013 Wacker drilling were collected into core trays. Samples were sent to the Burnie Research Laboratory for storage. Samples from the Wacker holes drilled in 2013 have not yet been split or sampled.
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.	• Samples were taken routinely in Aberfoyle's Cleveland Mill and routinely assayed in the laboratory at Cleveland. • Mill sampling in the Cleveland Mill was routine and subject to metallurgical mass balances from 1968 to 1986. A very large number of tailings samples were taken during that time, probably at least one per day from 1968 to 1986. • The quality control procedures for sampling in the Cleveland Mill are not specifically known but the use of check samples by Aberfoyle was routine. Given that the data was collected at a large, competently managed mill and subjected to review by Aberfoyle senior management, it is reasonable to assume that the data is sound. • The reliability of Sn and Cu assays made in the Cleveland laboratory was confirmed by re-sampling and re-assaying of existing drill core by Rockwell Minerals Limited in 2011. • Aberfoyle made total % Sn assays by pressed powder XRF which was an appropriate method for the style of tin occurrence in the tailings. • Aberfoyle determined soluble % Sn assays by wet chemical based method which was an appropriate method for the style of tin occurrence in the tailings. • Aberfoyle determined cassiterite % Sn by subtracting soluble % Sn from total % Sn which is an appropriate method for determining cassiterite % Sn.

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.	• Samples were taken routinely in the Cleveland Mill and routinely assayed in the laboratory at Cleveland. Assaying in the Cleveland Mill was subject to metallurgical mass balances from 1968 to 1986. Given that the data was collected at a large, competently managed mill and subjected to review by Aberfoyle senior management, it is reasonable to assume that the data is sound. • The reliability of Sn and Cu assays made in the Cleveland laboratory was confirmed by re-sampling and re-assaying of existing drill core by Rockwell Minerals Limited in 2011.
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.	• In 2013, high resolution topography over the mine site was acquired using LiDAR (Light Detection and Ranging). The LiDAR data provided an accurate survey of the top of the tailings dams. Pitt and Sherry mining consultants used Aberfoyle scanned surface plans and results of the 2013 test drilling to model the topography of the base of tailings using Surpac mine modelling software. • The map grid used was the Map Grid of Australia (MGA) based upon the Geodetic Datum of Australia 1994 (GDA94). • The estimate of the tailings resource did not rely on the results of drilling (see *Estimation and modelling techniques* in Table 1 Section 3 below). • Collar positions of the air core and auger holes drilled in 2007 were picked up by a registered Surveyor in MGA coordinates. • Collar positions of the Wacker holes drilled in 2013 were picked up using GPS.
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.	• The estimate of the tailings resource did not rely on the results of drilling (see *Estimation and modelling techniques* in Table 1 Section 3 below). • Sampling in the Cleveland Mill was routine and subject to metallurgical mass balances from 1968 to 1986. A very large number of tailings samples were taken during that time, probably at least one per day from 1968 to 1986.

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.	• Not applicable to mill sampling. • The estimate of the tailings resource did not rely on the results of drilling (see *Estimation and modelling techniques* in Table 1 Section 3 below). • Air core, auger and Wacker holes were drilled vertically which is more or less perpendicular to the general stratification in the tailings dams.
Sample security	• The measures taken to ensure sample security.	• Samples taken in Aberfoyle's Cleveland mill were submitted to the laboratory attached to the mill. Given the proximity of mill to the laboratory, samples were not susceptible to interference. • The estimate of the tailings resource did not rely on the results of drilling (see *Estimation and modelling techniques* in Table 1 Section 3 below). • Supervision of the drilling of the air core and auger holes in 2007 and transportation of the samples to the Burnie Research Laboratory were undertaken by the supervising geologist from Lynch Mining Pty Ltd. • Supervision of the drilling of the Wacker holes in 2013 and transportation of the samples to the Burnie Research Laboratory were undertaken by the supervising geologist from Pitt and Sherry.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	• The quality control procedures for sampling in the Cleveland Mill are not specifically known but the use of check samples by Aberfoyle was routine. Given that the data was collected at a large, competently managed mill and subjected to review by Aberfoyle senior management, it is reasonable to assume that the data is sound.

Table 1 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.	• Exploration Licence EL7/2005 covers the Cleveland mine and Mineral Resource. EL7/2005 is held by Lynch Mining Pty Ltd. Elementos Ltd, through its wholly owned subsidiary Rockwell Minerals (Tasmania) Pty Ltd, is currently entitled to 50% of EL7/2005 and has exercised its option to acquire 100%. The proposed project area lies in Forestry Tasmania Managed Land.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• See Table 4 for a summary of work done by other parties.
Geology	• Deposit type, geological setting and style of mineralisation.	• The tailings are stored in two discrete dams for which the shapes and extents are reliably known (see *Location of data points* in Table1 Section 1 above and Figures 1 to 4 below). • The tailings consist of silt size and lesser sand size, chiefly siliceous and lesser calcareous and sulphide material, created by crushing and grinding of hard rock in Aberfoyle's Cleveland Mill between 1968 and 1986. • Tin occurs in the tailings principally as cassiterite and, to a much lesser extent, as stannite. Only tin that occurs as cassiterite has been considered for this estimate of the tailings resource.
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: o easting and northing of the drill hole collar o elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar o dip and azimuth of the hole o down hole length and interception depth o 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	• Not applicable, the estimate of the tailings resource did not rely on the results of drilling (see *Estimation and modelling techniques* in Table 1 Section 3 below). • Nevertheless, the locations of the 2007 air core and auger holes are shown in Figure 1 and their coordinates are listed in Table 3; the locations and coordinates of the 2013 Wacker holes are shown and listed in Figure 2. All holes were drilled vertically.

Criteria	JORC Code explanation	Commentary
	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.	• Not applicable, the estimate of the tailings resource did not rely on the results of drilling (see *Estimation and modelling techniques* in Table 1 Section 3 below).
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').	• Not applicable, the estimate of the tailings resource did not rely on the results of drilling (see *Estimation and modelling techniques* in Table 1 Section 3 below).
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.	• Not applicable, the estimate of the tailings resource did not rely on the results of drilling (see Estimation and modelling techniques in Table 1 Section 3 below).
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.	• Not applicable, the estimate of the tailings resource did not rely on the results of drilling (see *Estimation and modelling techniques* in Table 1 Section 3 below).
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.	• Not applicable, the estimate of the tailings resource did not rely on the results of drilling (see *Estimation and modelling techniques* in Table 1 Section 3 below).
Further work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).	• The estimate of the tailings resource did not rely on the results of drilling (see *Estimation and modelling techniques* in Table 1 Section 3 below).

Criteria	JORC Code explanation	Commentary
	• Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• No further drilling is planned to test the tailings. Selective mining of the tailings is not required nor planned (see *Mining Factors or assumptions* in Table 1 Section 3 below) and the estimate of the tonnage and grade of the tailings will not be materially improved by further drilling. • Samples acquired from Wacker drilling of tailings in 2013 will be submitted for assaying and metallurgical testing in 2014.

Table 1 Section 3 Estimation and Reporting of Mineral Resources

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.	• The specific measures taken by Aberfoyle to ensure the integrity of the Cleveland metallurgical data are not known but, given that the data was collected at a large, competently managed mill and subjected to review by Aberfoyle senior management, it is reasonable to assume that the data is sound.
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.	• Mick McKeown, now of Mining One, was employed as a geologist by Aberfoyle Limited from 1970 to 1973 and was professionally and personally acquainted with many of the Aberfoyle staff who worked at Cleveland. He made several visits to the Cleveland mine during the 1970s. In 2012, he visited the mine site and examined drill core from Cleveland held at the Mornington Core Store of Mineral Resources Tasmania.
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 shapes and extents of the tailings dams are well known (see *Location of data points* in Table1 Section 1 above and Figures 1 to 4 below). • The tonnages and grades estimated for this report were estimated from reports of tailings recorded by Aberfoyle as having been discharged from the Cleveland Mill between 1968 and 1986 (see *Estimation and modelling techniques* below). • Tin and copper occur throughout the tailings and the distribution of both tin and copper terminates abruptly where the tailings deposits terminate. • The tailings terminate at their base and up-hill at the original ground surface, and down-hill and along the flanks at the tailings dam embankments (see Figures 3 and 4). The tailings were laid down sub-aerially and, once the dams were no longer in use, Aberfoyle covered them with a layer of gravel and topsoil less than one metre thick, and the surface was re-vegetated. A small amount of tailings, just over 14000 cubic metres, from ore from the Hellyer silver-lead-zinc deposit is stored in two cells on the top of Tailings Dam 2.

Criteria	JORC Code Explanation	Commentary
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.	• Tailings Dam 1 is 300m long and 100m wide with a maximum depth of about 20m. Tailings Dam 2 is 400m long and up to 200m wide with a maximum depth of about 35m (see, for example, Figure 3 and Figure 4).
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.	• There is no block model of the tailings deposits. The tonnages and grades for this report were estimated from reports of tailings recorded by Aberfoyle as having been discharged from the Cleveland Mill between 1968 and 1986. • The tailings resource is documented, discrete and complete. The mine operated (a) over a relatively short time period for a mine in this style of deposit - 18 years compared, for example, with over 100 years for Renison and Mt Bischoff, (b) in a relatively modern time period - from 1968 to 1986, and (c) stored all the tailings from the mill on site in discrete, easily identifiable dams - no tailings has been lost from the dams. • Pitt and Sherry mining consultants used Aberfoyle surface plans and the results of 2013 test drilling to model the tailings dams and the base topography using Surpac mine modelling software. Assumptions regarding the geometry of the upstream faces of the dam walls and the width of dam crests were made in order to model the volumes of the embankments and thus determine the volumes of the contained tailings. Schematic profiles of Tailings Dam 1 and Tailings Dam 2 are shown in Figure 3 and Figure 4. • The current topographical surfaces were derived from LiDAR survey data and the map grid used was the Map Grid of Australia (MGA) based upon the Geodetic Datum of Australia 1994 (GDA94).
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• All assays were reported on a dry basis and all tonnages and grades are reported on a dry basis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	• Selective mining of the tailings is not planned (see *Mining factors or assumptions* below), so no cut-off grade has been applied, that is, the Mineral Resource has been quoted at 0.0% Sn cut-off grade.

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.	• Mineral Resources were estimated, not Ore Reserves, and no mining factors have been applied. • Nevertheless, Pitt and Sherry mining consultants have recommended a mining method by excavator whereby the excavator loads the tailings into a mobile pump box and water is added within the pump box so that a slurry can be mixed to the required density and pumped to a processing plant. • The proposed mining method has been based on mining all the tailings, including the dam walls.
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.	• There are reasonable prospects for eventual economic extraction of tin and copper using gravity and flotation methods. • In 1981, Aberfoyle considered that a mill recovery from treatment of run of mine ore of 65% for Sn could be maintained under best operating conditions. This is considerably better than the mill recoveries during the routine operation of the mill up until the time that report was made. This implies that some, at least, of the tin in the tailings dams should be recoverable. • In 1984, two years before mine closure, Aberfoyle reported that mill recoveries from pilot scale treatment of tailings of between 33% and 45% for Sn were attainable using conventional gravity and flotation processing and 48-69% Sn recovery using pre-concentration by flotation and matte fuming. • Recently, the metallurgical amenability of the tailings for Sn and Cu recovery has been reported in an internal study for Elementos by an independent metallurgical consultant. The study, based on the results of Aberfoyle bench and pilot scale test on tailings samples, proposed tin processing recovery from tailings treated of 50% into a 40% Sn concentrate and assumed copper processing recovery of 40% into a 20% Cu concentrate, although further test work was recommended to confirm the copper recovery values. Further test work was also proposed to confirm the recoveries and grades and to confirm the unit operations and flow sheet proposed.

Criteria	JORC Code Explanation	Commentary
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.	• Pitt and Sherry have been retained to design and plan for future waste and tailings disposal. • Elementos plans to re-treat all the tailings, including that in the dam walls, to remediate acid drainage from the dams. • Environmental approvals for operating a mine and processing plant at Cleveland are currently being sought from the Tasmanian State environmental regulators.
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. • Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	• Not applicable - tailings discharged from the Cleveland Mill were reported as dry tonnes.

Criteria	JORC Code Explanation	Commentary
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.	• The mass and grades of the tailings have been estimated from the operating statistics of a competently run mill supervised by qualified metallurgists and may be expected to be reasonably reliable (see *Estimation and modelling techniques* above). • The spatial distribution of the tailings tonnage and grade has not been determined but selective mining of the tailings is not planned (see *Mining factors or assumptions* above). This conforms with the Company's proposed plan to re-treat all the tailings, including that in the dam walls, to remediate acid drainage from the tailings dams (see *Environmental factors or assumptions* above). • The mass of the tailings has been confirmed by independent mining consultants (see *Estimation and modelling techniques* above). • The tailings resource is documented, discrete and complete (see *Estimation and modelling techniques* above). • Selective mining is not required (see *Mining factors or assumptions* above), so further drilling of the tailings before mining will not be necessary for the purposes of tonnage and grade estimation (see *Further work* in Table 1 Section 2 above). • The mass, grade, density, shape and physical characteristics of the tailings have now been estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the tailings deposit and the tailings Mineral Resource has been classified as Indicated.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	• The method of estimation of the tailings resource has been reviewed by Mike Adams of Rockwell Minerals Tasmania Pty Ltd and David Foster of Mining One Pty Ltd.

Criteria	JORC Code Explanation	Commentary
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 quantity and grades of the tailings have been estimated from the operating statistics of a competently run mill and are considered to be reasonably reliable (*see Estimation and modelling techniques* above). • The estimate of the mass of the tailings has been confirmed by independent mining consultants (see *Estimation and modelling techniques* above). • The estimate of the Mineral Resource is of the entire tailings resource without application of a cut-off grade; in this sense, the estimate is a global estimate (see *Estimation and modelling techniques* above). • The Mineral Resource estimate was based on production data from Aberfoyle's Cleveland Mill with which it conforms (see *Estimation and modelling techniques* above). • Although the estimate of the tailings resource did not rely on the results of drilling, assays of samples from the 2007 drill holes (see *Table 1 Section 2*) were submitted for assaying at the Burnie Research Laboratory. The Sn and Cu assays from these samples generally confirmed the reliability of Sn and Cu grades estimated for this report (see Table 4).

Table 2 Summary of Exploration and Mining History at Cleveland.

1898	S.C. Coundon, Prospector	Pegged leases over gossan for possibility of silver and lead.
1900	Harcourt Smith Government Geologist Department of Mines, Tasmania	Identified cassiterite in gossan.
1908 - 1917	Cleveland Tin Mining Company N.L.	Mined oxidised ore for tin.
1923	A.M. Reid Government Geologist Department of Mines, Tasmania	Recognised fissure lodes and replacement lodes.
1935-1937	Mount Bischoff Tin Mining Company	Small scale underground exploration: Battery, Smithy, Lucks, Khaki, Hall's, Henry's recognised.
1937	Q.J. Henderson Government Geologist Department of Mines, Tasmania	Described the work undertaken by the Mount Bischoff Tin mining Company.
1945	S.W. Carey Government Geologist Department of Mines, Tasmania	Reported all deposits were of replacement style.
1952-1954	T.D. Hughes Government Geologist Department of Mines, Tasmania	Postulated that the ore would continue in depth. Recommended cutting of a grid and geophysical surveys.
1953-1954	O. Keunecke and K.H. Tate Bureau of Mineral Resources Commonwealth of Australia	Concluded self-potential and magnetic surveys anomalies suggested that sulphide mineralisation may extend beyond the old workings.
1961-1965	Aberfoyle Tin Development Partnership	Explored the area with diamond drilling and proved up sufficient resources for mining.
1968-1986	Cleveland Tin N.L. and Aberfoyle Limited	Mined tin and copper ore and constructed and filled tailings dams 1 and 2, referred to as TD1 and TD2.
1987	Aberfoyle Limited	Surface of TD1 and TD2 rehabilitated.
1988	Aberfoyle Limited	Processed Hellyer ore and stored a small

		amount (just over 14,000 cubic metres) of the tailings in cells on the surface of Tailings Dam 2.
2007	Lynch Mining Pty Ltd	30 air core holes, for a total length of 561m, drilled to test tailings dams.
2013	Rockwell Minerals Limited	High resolution topographic data acquired using LiDAR. 32 Wacker holes, for a total length of 612m, drilled to test physical material properties of tailings.

Table 3 Co-ordinates and depths of air core and auger holes drilled in 2007. All holes were drilled vertically.

CLEVELAND DRILL COLLARS

Hole ID	Easting	Northing	Eoh Depth
CTD101	364572	5407299	19.5
CTD102	364587	5407295	19.0
CTD103	364596	5407284	19.0
CTD104	364610	5407278	14.0
CTD105	364625	5407280	13.0
CTD106	364639	5407274	12.0
CTD107	364654	5407268	10.0
CTD108	364666	5407264	6.5
CTD109	364681	5407261	5.0
CTD110	364696	5407265	4.0
CTD111	364605	5407278	16.1
CTD201	364572	5406658	35.0
CTD202	364578	5406680	35.0
CTD203	364577	5406700	31.5
CTD204	364578	5406719	33.0
CTD205	364589	5406733	33.0
CTD206	364605	5406751	30.0
CTD207	364620	5406765	26.0
CTD208	364607	5406796	29.0
CTD209	364642	5406753	28.0
CTD210	364633	5406782	26.0
CTD211	364641	5406802	25.0
CTD212	364647	5406820	25.0
CTD213	364656	5406835	24.0
CTD214	364658	5406854	17.0
CTD215	364669	5406872	14.0
CTD216	364683	5406887	10.0
CTD217	364693	5406904	9.0
CTD218	364711	5406913	11.0
CTD219	364728	5406923	13.0
CTD220	364736	5406941	9.0
CTD221	364744	5406956	10.0

ELEMENTOS LIMITED

Table 4 Assay results for air core and auger holes drilled in 2007.

Cleveland Tailings Composites Assay Data

Sample Description	Number	Pulv	Sn	As	Fe	MgO	Ca	Mn	Al	Cu	SiO2	S
			Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	%	%
		y/n	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	CS2000
CTD 101 1-2	383001	y	0.40	0.02	16.3	0.73	1.96	0.23	2.89	0.09	51.2	7.20
101 2-2	383002	y	0.32	0.04	19.1	1.54	1.81	0.24	2.83	0.16	44.4	8.92
102 1-2	383003	y	0.33	0.04	19.8	1.19	1.87	0.25	2.89	0.14	44.2	9.50
102 2-2	383004	y	0.30	0.01	16.4	0.82	2.03	0.24	2.96	0.07	50.6	7.17
103 1-2	383005	y	0.26	0.02	16.0	1.07	1.74	0.21	2.95	0.08	50.5	7.36
103 2-2	383006	y	0.29	0.03	16.2	2.44	1.83	0.24	3.38	0.12	45.3	6.29
104 1-2	383007	y	0.34	<0.01	15.3	1.56	2.15	0.25	2.96	0.18	37.7	7.08
104 2-2	383008	y	0.41	0.01	17.4	1.23	2.35	0.30	3.45	0.12	44.4	6.69
105 1-2	383009	y	0.39	0.04	16.7	1.64	2.33	0.32	3.63	0.14	46.1	5.81
105 2-2	383010	y	0.43	0.03	16.1	1.62	2.38	0.33	3.87	0.12	45.1	4.80
106 1-2	383011	y	0.41	<0.01	15.5	1.52	2.99	0.36	4.06	0.11	45.7	3.86
106 2-2	383012	y	0.46	0.01	15.3	1.53	2.51	0.37	4.22	0.11	46.3	3.36
107 1-2	383013	y	0.30	<0.01	12.4	4.33	2.73	0.29	4.15	0.08	46.3	1.89
107 2-2	383014	y	0.44	<0.01	14.2	2.23	2.50	0.37	4.47	0.11	46.6	2.33
108 1-1	383015	y	0.42	<0.01	13.5	2.29	3.01	0.37	4.39	0.10	46.6	1.70
109 1-1	383016	y	0.42	<0.01	14.4	1.19	3.15	0.40	4.36	0.11	48.1	1.85
110 1-1	383017	y	0.56	0.01	11.6	1.77	2.50	0.28	4.42	0.10	54.0	2.39
111 1-2	383018	y	0.43	0.01	19.0	1.28	2.46	0.29	3.10	0.26	42.0	7.80
111 2-2	383019	y	0.40	0.02	19.7	0.90	2.17	0.28	3.06	0.11	43.6	9.05
CTD 201 1-3	383020	y	0.28	<0.01	16.9	0.77	2.67	0.29	3.08	0.06	49.0	5.62
201 2-3	383021	y	0.31	<0.01	18.7	0.88	2.24	0.30	2.69	0.10	46.5	8.53
201 3-3	383022	y	0.30	0.02	19.9	0.79	2.51	0.30	2.89	0.10	43.6	8.62
202 1-4	383023	y	0.32	<0.01	18.9	0.78	2.60	0.31	3.01	0.08	45.7	7.65
202 2-4	383024	y	0.30	<0.01	18.9	0.71	2.96	0.30	2.81	0.09	43.4	7.81
202 3-4	383025	y	0.28	0.01	22.0	0.69	2.23	0.29	2.54	0.12	41.3	11.6
202 4-4	383026	y	0.34	0.03	18.9	0.91	3.00	0.36	3.56	0.12	43.2	6.67
203 1-2	383027	y	0.31	<0.01	18.5	0.78	2.73	0.33	3.08	0.09	44.3	7.46

Cleveland Tailings Composites Assay Data

Sample Description	Number	Pulv	Sn	As	Fe	MgO	Ca	Mn	Al	Cu	SiO2	S
			Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	%	%
		y/n	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	CS2000
203 2-2	383028	y	0.29	<0.01	21.5	0.69	2.39	0.31	2.64	0.14	41.9	10.6
204 1-4	383029	y	0.28	<0.01	18.1	0.84	2.75	0.33	3.24	0.08	47.0	6.73
204 2-4	383030	y	0.29	<0.01	21.0	0.70	3.00	0.32	2.81	0.14	40.9	9.79
204 3-4	383031	y	0.34	0.01	18.4	0.81	3.01	0.35	3.18	0.11	44.5	7.07
204 4-4	383032	y	0.35	<0.01	16.8	0.94	3.09	0.39	3.66	0.11	46.1	4.61
205 1-4	383033	y	0.28	<0.01	18.6	0.84	2.88	0.34	3.22	0.08	45.7	6.99
205 2-4	383034	y	0.33	<0.01	19.1	0.81	3.39	0.38	3.19	0.16	410.5	7.64
205 3-4	383035	y	0.35	0.01	17.5	0.92	2.98	0.38	3.51	0.12	46.6	5.37
205 4-4	383036	y	0.36	<0.01	16.9	0.96	3.26	0.40	3.68	0.09	46.2	4.30
206 1-4	383037	y	0.30	<0.01	18.8	0.82	2.69	0.34	3.17	0.10	45.8	7.38
206 2-4	383038	y	0.29	<0.01	16.6	0.82	3.61	0.39	3.38	0.07	46.0	4.67
206 3-4	383039	y	0.38	<0.01	16.3	0.91	3.52	0.40	3.71	0.11	47.5	4.25
206 4-4	383040	y	0.37	<0.01	16.5	0.98	3.35	0.40	3.83	0.09	46.3	3.84
207 1-3	383041	y	0.30	<0.01	18.4	0.82	2.88	0.35	3.22	0.09	46.4	6.77
207 2-3	383042	y	0.30	<0.01	15.5	0.86	3.74	0.37	3.63	0.08	48.4	3.90
207 3-3	383043	y	0.37	<0.01	16.8	0.91	3.61	0.41	3.69	0.10	45.7	4.41
208 1-4	383044	y	0.32	<0.01	17.1	0.98	2.73	0.36	3.59	0.09	47.7	5.16
208 2-4	383045	y	0.30	<0.01	16.5	0.87	3.75	0.38	3.52	0.08	44.9	4.38
208 3-4	383046	y										4.79
208 4-4	383047	y	0.39	0.02	16.1	1.04	3.54	0.43	4.06	0.13	46.7	3.09
209 1-4	383048	y	0.31	0.02	19.3	0.81	2.6	0.35	3.06	0.08	45.8	7.66
209 2-4	383049	y	0.27	0.01	17.4	0.87	3.67	0.40	3.55	0.07	45.2	4.92
209 3-4	383050	y	0.38	<0.01	15.2	0.97	3.94	0.38	4.09	0.11	46.8	2.99
209 4-4	383051	y	0.43	0.01	15.7	1.02	3.71	0.45	4.03	0.12	46.9	2.88
CTD 210 1-3	383052	y	0.27	<0.01	18.4	0.90	2.96	0.35	3.36	0.08	45.8	6.62
210 2-3	383053	y	0.32	<0.01	16.6	0.87	3.83	0.39	3.57	0.09	46.0	4.47
210 3-3	383054	y	0.40	0.00	16.2	0.99	3.85	0.43	3.82	0.11	46.6	3.62

ELEMENTOS LIMITED

Cleveland Tailings Composites Assay Data

Sample Description	Number	Pulv	Sn	As	Fe	MgO	Ca	Mn	Al	Cu	SiO2	S
			Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	Fusion	%	%
		y/n	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	XRF	CS2000
211 1-3	383055	y	0.29	<0.01	18.0	0.92	2.95	0.37	3.50	0.08	47.0	5.65
211 2-3	383056	y	0.32	<0.01	16.8	0.84	3.89	0.42	3.54	0.08	44.7	4.28
211 3-3	383057	y	0.13	<0.01	15.2	0.99	4.13	0.44	4.00	0.11	45.9	2.58
212 1-3	383058	y	0.28	0.00	16.9	0.98	2.97	0.36	3.60	0.09	47.3	5.06
212 2-3	383059	y	0.31	<0.01	17.7	0.85	3.81	0.44	3.45	0.10	43.0	5.04
212 3-3	383060	y	0.45	0.00	14.9	1.05	4.05	0.47	4.33	0.12	44.9	1.85
213 1-3	383061	y	0.31	0.01	17.3	0.99	3.02	0.38	3.63	0.09	46.3	5.00
213 2-3	383062	y	0.30	<0.01	18.2	0.87	3.86	0.46	3.54	0.11	42.0	5.41
213 3-3	383063	y	0.46	<0.01	14.9	10.60	4.09	0.46	4.29	0.14	44.8	1.76
214 1-2	383064	y	0.25	<0.01	16.8	0.95	3.41	0.36	3.77	0.10	46.6	4.82
214 2-2	383065	y	0.34	0.01	18.5	0.85	3.86	0.49	3.47	0.10	41.2	5.46
215 1-2	383066	y	0.30	<0.01	16.7	1.01	2.96	0.36	3.91	0.12	47.5	4.39
215 2-2	383067	y	0.26	0.00	17.9	0.82	3.68	0.49	3.30	0.11	40.1	5.38
216 1-1	383068	y	0.28	<0.01	16.5	1.06	3.06	0.37	3.99	0.14	46.9	4.38
217 1-1	383069	y	0.27	<0.01	17.1	1.00	2.91	0.34	3.75	0.11	47.2	4.90
218 1-1	383070	y	0.30	<0.01	16.6	1.00	3.06	0.36	3.84	0.13	46.8	4.23
219 1-2	383071	y	0.27	<0.01	18.1	0.89	2.78	0.31	3.36	0.11	45.2	7.14
219 2-2	383072	y	0.27	<0.01	16.7	1.09	3.30	0.44	4.23	0.14	46.1	3.39
220 1-1	383073	y	0.29	0.00	18.2	0.92	2.78	0.33	3.51	0.16	45.3	6.95
221 1-1	383074	y	0.36	0.00	19.4	0.87	2.37	0.32	3.28	0.20	44.0	8.68

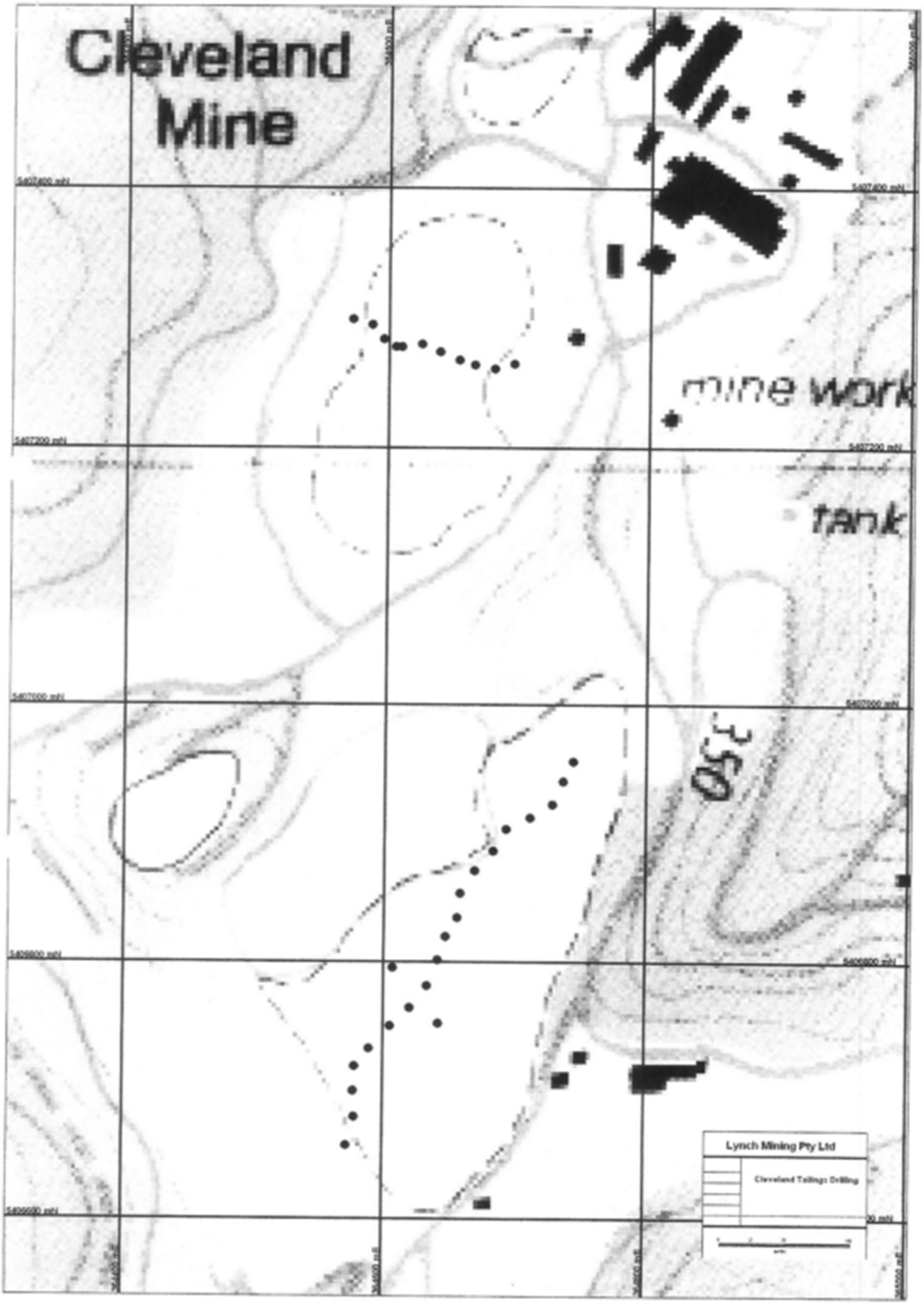
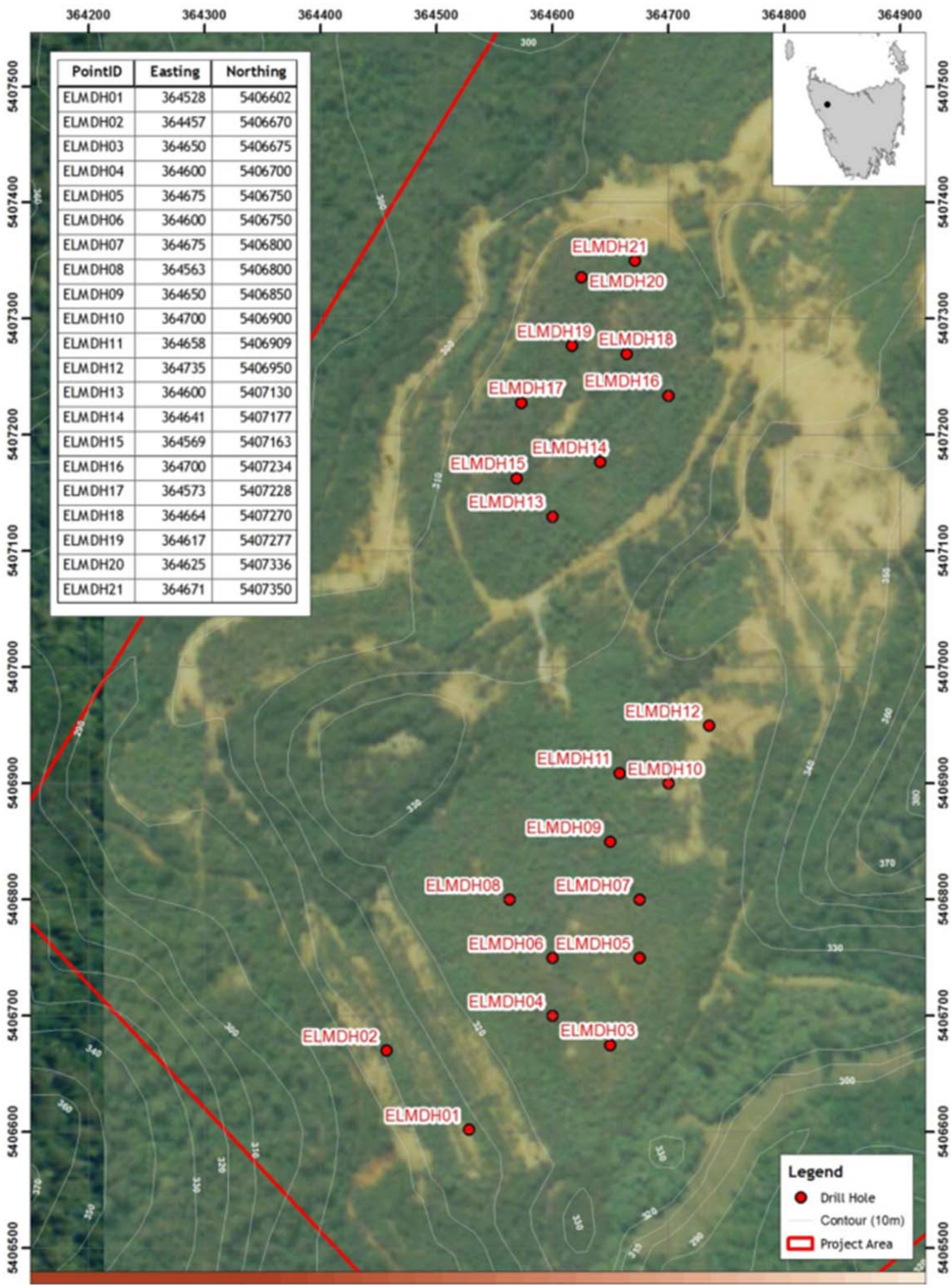


Figure 1 **Locations of air core holes drilled into tailings dams in 2007**

(From Lynch Mining Pty Ltd)



PointID	Easting	Northing
ELMDH01	364528	5406602
ELMDH02	364457	5406670
ELMDH03	364650	5406675
ELMDH04	364600	5406700
ELMDH05	364675	5406750
ELMDH06	364600	5406750
ELMDH07	364675	5406800
ELMDH08	364563	5406800
ELMDH09	364650	5406850
ELMDH10	364700	5406900
ELMDH11	364658	5406909
ELMDH12	364735	5406950
ELMDH13	364600	5407130
ELMDH14	364641	5407177
ELMDH15	364569	5407163
ELMDH16	364700	5407234
ELMDH17	364573	5407228
ELMDH18	364664	5407270
ELMDH19	364617	5407277
ELMDH20	364625	5407336
ELMDH21	364671	5407350

Figure 2 **Locations of Wacker holes drilled into tailings dams in 2013**

(From Pitt and Sherry Consultants)

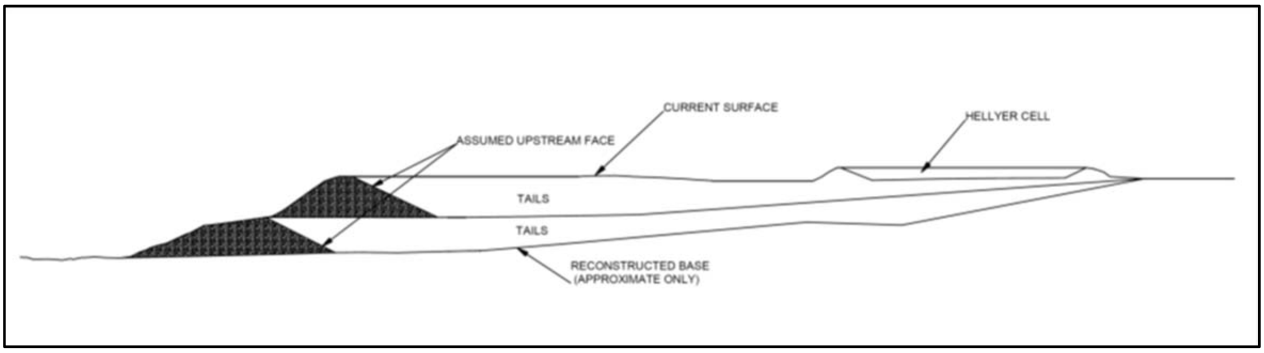


Figure 3 **Schematic profile through Tailings Dam 1.**

(from Pitt and Sherry Consultants)

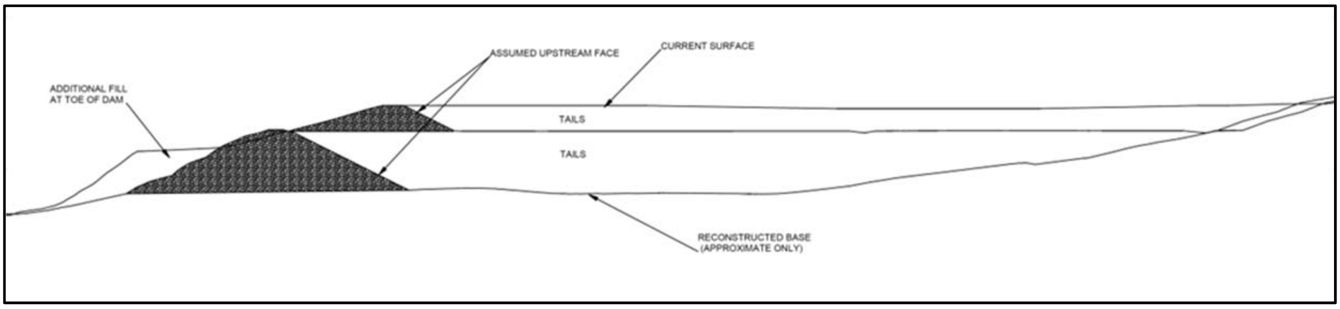


Figure 4 **Schematic profile through Tailings Dam 2.**

(from Pitt and Sherry Consultants)