

#### ASX Announcement 30 January 2017

## High Grade Heavy Mineral Resource Defined at Ambergate

- High grade (5.1% HM) Inferred Resource of 7.8 million tonnes defined at Ambergate
- Mineralisation at surface or shallow depths
- Ambergate the first of SER's five nearby WA Mineral Sands Projects, more to follow

Strategic Energy Resources Limited (ASX: SER) is pleased to announce a maiden JORC 2012 Inferred Mineral Resource Estimate for our Ambergate heavy mineral sands project (E70/4799) in Western Australia.

SER have defined a JORC 2012 Inferred Mineral Resource of **7.8Mt grading 5.1% Heavy Minerals for a total Heavy Mineral content of 394,000t**. The resource is calculated with a low grade Heavy Mineral cut-off of 3% and Slimes cut off of <22%.

SER have deliberately chosen to define a high grade resource at 5.1% Heavy Minerals with low grade cut-off of 3% in line with our strategy of high grade, low cost operations for maximum cash flow. For comparison, the nearby operating mine at the Keysbrook deposit has a grade of 2.2% Heavy Minerals with low grade cut-off of 1%.<sup>1</sup>

### Geology and Previous Exploration

The Ambergate Deposit formed approximately 800,000 years ago as a shoreline dune system. Mineralisation at Ambergate lies between the surface and depths of up to 10m, with the majority at less than 4m depth. The deposit is typical of the extensively mined dune deposits associated with the Capel Shoreline.

Ambergate was previous explored by Westralian Sands / Iluka and Olympia Resources with a total of over 1000 drill holes completed. Land access issues have been the main hurdle experienced by previous explorers at Ambergate.

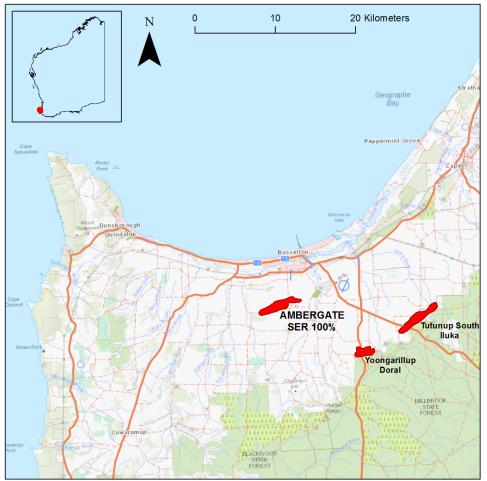
### Independent Mineral Resource Estimation Study

The Ambergate resource was produced via an independent Mineral Resource Estimation Study conducted by SRK Consulting. Regarding potential economic viability, the Study notes: "Past mining activities in the area, and the numerous operations with similar mineralisation style and grade tenor in the region, support the potential economic viability of the deposit". The SRK Study concludes that "Ambergate appears to have reasonable potential for economic extraction by way of small open pit surface mining."

SER notes that there are multiple Heavy Mineral Sands operations in the region, including Iluka mining ~15km East of Ambergate at Tutunup South and Doral planning to mine at Yoongarillup

<sup>&</sup>lt;sup>1</sup> See MZI ASX Announcements of 7 and 11 August 2015: <u>http://www.asx.com.au/asxpdf/20150811/pdf/430fls0xy8h0y3.pdf</u>

~10km SE of Ambergate. Historic records also indicate an area 6km west of Ambergate was mined by Cable Sands Pty Ltd in the 1960s to obtain 350,000 tonnes of heavy minerals.



**Figure 1: Ambergate Heavy Mineral Sands Project location** 

The Ambergate resource result has greatly increased SER's confidence that a significant Heavy Mineral Sands operation may be assembled by combing Ambergate with SER's four other nearby WA Mineral Sands projects.

#### **Way Forward**

SER has commenced metallurgical test work and landholder negotiations are well advanced. A small amount of additional drilling and data collection will likely result in a higher Mineral Resource classification.

The Resource Estimate was conducted by independent consultants, SRK Consulting, who have no beneficial interest in the outcome of the technical assessment.

Deposit	Grade HM%	Cut-off	Mt	Total HM (kt)	Company	Market Cap
Ambergate	5.1%	3.0%	7.8	394	SER	5.3M
Keysbrook <sup>2</sup>	2.2%	1.0%	90.3	2010	MZI	59.9M

Table 1:	Heavy	Mineral	Sands	Peer	Comparison

<sup>&</sup>lt;sup>2</sup> See MZI ASX Announcements of 7 and 11 August 2015: <u>http://www.asx.com.au/asxpdf/20150811/pdf/430fls0xy8h0y3.pdf</u> Strategic Energy Resources Limited Page **2** 

#### About SER's Western Australia Heavy Minerals Sands Projects

In late 2015, SER identified a significant opportunity to acquire several advanced heavy mineral sands exploration projects in Western Australia. SER lodged Exploration Licence applications covering five historic heavy mineral sands prospects; most of these applications have now been granted.

In recent years, the West Australian Government has identified the historic prospects as "Strategic Mineral Resources Protection Areas" and informed planning agencies to protect the deposits from conflicting land uses until mining is complete. SER believes this presents a unique opportunity to potentially develop these prospects.

The region is host to multiple operating heavy mineral sands mines, notably the Iluka operations at Capel. A former mine, now rehabilitated into a property development, lies just 6km from the Ambergate project.

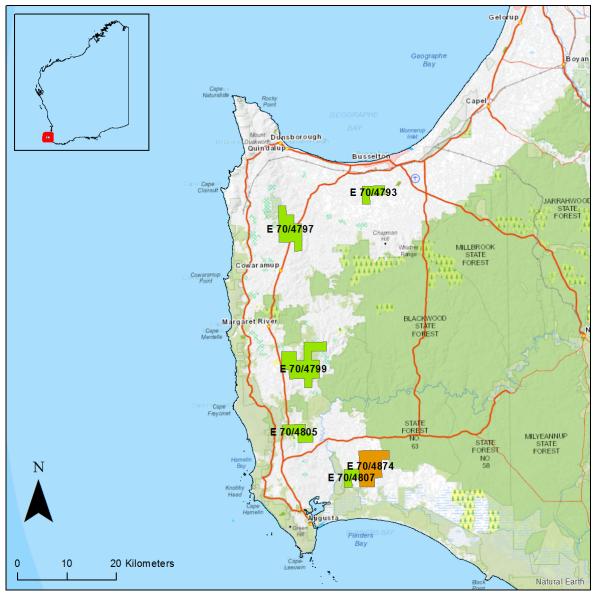


Figure 2: SER Exploration Licences (green) and Applications (orange)

#### **Summary of Ambergate Mineral Resource material information**

#### Geology

The Ambergate deposit is a surficial strandline dominated by dunes. Mineralisation occurs in sand, clayey sand and some sandy clay between the surface and a depth of up to 10m. SRK considers that the deposit geology is similar to the Bassendean Sand Formation and Yoganup Dune Sand Formation (also referred to as the Bassendean Dune System), which are thought to have formed as a shoreline dune system approximately 800,000 years ago. The Bassendean Dune Sand and Yoganup Dune Sand overlies the Guildford Formation, which is thought to be the local equivalent of the Yoganup Formation (the Yoganup Formation hosts other ilmenite deposits in the extended district).

#### Data acquisition

Drilling was completed primarily by aircore drilling by Westralian Sands. Olympia completed auger drilling in 2005 and aircore drilling in 2006. Thus 100% of the drilling was done prior to Strategic's involvement in 2016, and the information derived from the drilling is hereafter referred to as *historical data*. The database compiled by SRK contains 1,003 drill holes resulting in 8,826m of drilling. Samples were generally taken at 1m intervals. Assay determination was completed for HM% and slimes% using procedures thought to be industry standard. Some 37 assemblage / mineralogical determinations were completed on composite material collected from selected holes.

All data used for resource estimation are reported using the MGA50 coordinate system, with elevations based on Australian height datum (AHD) vertical datum adjusted for recent high accuracy aerial unmanned aerial vehicle (UAV) digital elevation model (DEM) survey completed by Strategic in late 2016.

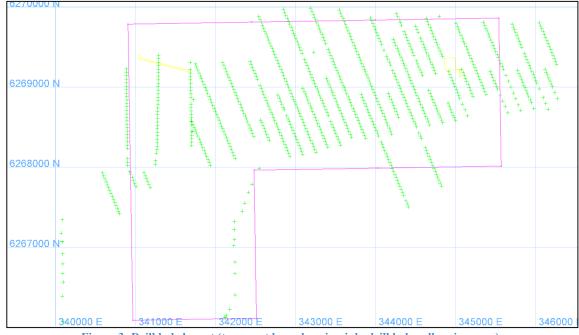


Figure 3: Drill hole layout (tenement boundary in pink, drill hole collars in green)

#### **Mineralisation Modelling and Estimation**

A nominal cut-off grade of 2.0% HM has been used to define mineralisation. In places, samples reporting <2.0% HM were included to improve domain continuity and reduce modelling issues. SRK has identified one major subparallel (termed Domain 110) and two semi-major subparallel mineralised horizons / domains of interest (Domains 120 and 130), and numerous smaller discontinuous subparallel mineralised horizons / domains (Domains 140 to 230). The major horizon / domain could be traced over almost the full east–west strike length of the Ambergate deposit, and orientation and thickness was observed to be consistent over the extents of the deposit.

The mineralisation wireframes were used to assign codes to the drill hole samples. Most of the samples had been collected on 1m intervals. Prior to grade and statistical interpolation, the assay data were downhole-composited to 1m lengths. Variographic studies were conducted to quantify grade continuity and to assist with the selection of estimation parameters. The experimental semi-variograms were estimated from the 1m composite data after applying a normal score transform. As a result of robust variography for Domain 110 being calculated, this variography was assumed for all other domains.

The block model was created to cover the extents of the Northern drill coverage at Ambergate. When choosing appropriate model cell dimensions, consideration was given to the drill spacing and sampling interval, the interpreted geometry and thickness of the lithological units, and the expected end-user requirements for the resource models. SRK also used Kriging neighbourhood analysis to check the suitability of the selected cell size.

Ordinary Kriging (OK) was used for grade interpolation, and the mineralisation boundaries were treated as *hard boundary domains*, meaning that model cells were estimated using only the samples in the same domain. Estimates were made to the (notional) location of the Parent cell using a 5 x 5 x 1 discretisation matrix. A multi-pass search strategy was implemented, which entails conducting the first interpolation pass using stringent sample selection parameters. For subsequent passes, less stringent parameters are used to estimate the grades of the cells that did not meet the first-pass criteria. The resource estimate presented in this Report was derived from Vulcan models and subsequently post-processed to a model that could be loaded as a .csv file in other software. To validate the Mineral Resource model visual assessment, statistical comparison and swath plots were used.

#### **Classification and Reporting**

The Ambergate Mineral Resource estimate was classified in accordance with the JORC Code, 2012 edition. Numerous factors were taken into consideration when assigning the classification applied to the Mineral Resource estimate. Of these factors, it is considered that the classification has been primarily influenced by the drill coverage, geological complexity and data quality as described below:

Data quality: The datasets comprise a mix of data acquired from programs conducted prior to Strategic's acquisition of the Ambergate lease (historical data). QA data are not available for the majority of the historical data, but SRK considers that comparisons between datasets indicate that the historical data are sufficiently reliable for resource estimation when classification is considered.

Geological complexity: The general orientation of the major defined domains / horizons appears to be consistent and predictable. Thickness is variable. The domains / horizons display good lithological continuity between holes, with individual domains easily traced along and between drill sections, although localised variability is evident.

Data coverage: The data coverage varies from sub-regions with a nominal spacing of 40 x 320m up to a nominal spacing of 40 x 160m. The variography studies indicate useful grade continuity ranges up to 450m for estimation and, as indicated above, geological continuity between drill holes is evident.

All estimated domain model cells within the defined extents were assigned a classification of Inferred Resource. A housing estate located in the eastern portion of the tenement has been excluded in the reporting of the Mineral Resource estimate.

The Mineral Resource estimate is classified in accordance with the JORC Code, 2012 edition. The Mineral Resource statement is presented in Table 2 at a variety of reporting cutoffs. SRK's optimum preferred reporting cut-off grade is 3.0% HM below a 22% Slimes content, as it similar to the economic criteria.

Low grade	Inferred			
HM cut-off (%)	(Mt)	HM (%)	Slimes (%)	Total HM (kt)
0	12.2	4.1	15.3	499
2.5	9.7	4.6	15.2	445
2.8	8.5	4.9	15.1	414
3.0	7.8	5.1	15.0	394
3.2	7.1	5.2	14.9	372
3.4	6.5	5.4	14.8	350

#### Table 2: Ambergate Mineral Resource estimate as at January 2017 - Slimes <22%

Note: SRK's preferred reporting HM cut-off grade is 3.0%, Slimes <22%.

The information in this statement that relates to the Mineral Resource Estimates is based on work conducted by David Slater of SRK Consulting (Australasia) Pty Ltd. David Slater takes responsibility for the Mineral Resource Estimate. David Slater is a Member of The Australian Institute of Mining and Metallurgy (AusIMM) and a member of the Australian Institute of Geologists (AIG) and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activities undertaken, to qualify as Competent Person in terms of the Australian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 edition). David Slater consents to the inclusion of such information in this report in the form and context in which it appears.

#### Appendix 1 JORC 2012 Table 1 Ambergate

## **APPENDIX 1 - JORC Code 2012 Edition**

## Section 1 Sampling Techniques and Data (Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	The database complied by SRK contains information for 1,003 drill holes, totalling 8,826 m of drilling that is comprised almost entirely of aircore drilling. All holes (100%) were drilled prior to Strategic's involvement in 2016, and the derived information is hereafter referred to as <i>historical data</i> . The information available for the historical programs is limited. The validity of the historical data has been assessed by local comparisons within the dataset. Aircore drill samples were collected on 1 m intervals. In mineralised zones, a ¼ split was collected from a splitter for assaying. Since project inception, most samples were assayed by the Westralian Sands laboratory (primary laboratory), but 1% of the samples were assayed by Western Geochem Laboratories. The laboratories have followed a conventional industry approach of attrition to break up consolidated material, screening to determine the Slimes, Sand and heavy media separation (all using tetrabromoethane (TBE) or equivalent) to determine the heavy mineral content of the sand.
Drilling techniques	• Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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.).	The sample data used for resource estimation were derived from aircore drilling. Drilling made use of a Mantis 75 4WD-mounted aircore drill rig and Warman Investigator truck-mounted aircore drill rig.
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/ coarse material.</li> </ul>	A qualitative assessment of recovery was performed by visual inspection at the drill site and recorded in the logging procedure, if inadequate. No so significant issues were reported. As drilling completed is shallow (<10 m), recoveries are appropriate.

Criteria	JORC Code explanation	Commentary
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	All drill holes in the programs were geologically logged to a level of detail deemed sufficient to enable the delineation of geological domains appropriate to support Mineral Resource estimation and classification. Logging used standard Westralian Sands logging styles. The logging is qualitative in nature.
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	Aircore samples were collected from each 1 m interval from the rig-mounted or standalone splitter configured to give a ¼ split. Sand samples were predominately dry. Upon receipt by the laboratory, the samples were sorted and oven-dried before a 100 g split was collected. Internal laboratory standards were documented as being used in the reports, but not formally recorded nor was statistical analysis completed.
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul>	Samples were soaked overnight then deslimed through a +0.5 mm screen and +45 $\mu$ m (or +63 $\mu$ m) screen, after being attritioned for a set period of 10 minutes. Both fractions were dried and weighed, +0.5 mm to 2 mm sieved and both fractions weighed, TBE separation was conducted on -0.5 mm +45 $\mu$ m fraction, the HM fraction was dried and weighed, and the HM reported as a percentage of whole sample. This is considered industry standard procedure. The laboratories also inserted internal QAQC samples to monitor the quality of the analysis, but details of this were not available to SRK.
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	Significant and anomalous intersections were assessed by SRK by reviewing geological logging data and digital geological interpretations. The database contains a number of aircore holes that are sufficiently close to be used to prepare paired datasets. Paired data comparisons indicated similar

Criteria	JORC Code explanation	Commentary
	Discuss any adjustment to assay data.	characteristics in terms of grade tenor and intercept thicknesses, with generally no significant issues identified.
		All assay data were accepted into the database as supplied, with no adjustments applied.
		Data importation into the Vulcan database was controlled by SRK.
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine</li> </ul>	Drill hole collars were available on plan to SRK. The accuracy cannot be verified by SRK as all drill collars are destroyed.
	workings and other locations used in Mineral Resource estimation.	All survey data are reported according to MGA94 Zone 50, with elevations based or AHD.
	<ul> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	No downhole survey was required as most holes were less than 10 m deep. A topographic survey was completed in November 2016 and drill collars were transformed to this digital elevation model (DEM).
Data spacing and distribution	Whether the data spacing and distribution is sufficient to	Drill coverages are variable, but the nominal spacings for the main mineralised material at Ambergate are 40 m spaced holes on 160 m section lines in the main zones, and 40 x 320 m spacings in the margins. All holes are orthogonal to the mineralisation, with a 90° inclination.
		At these drill spacings, the domains could be clearly traced between drill holes. The variography indicated practical grade continuity ranges up to 450 m.
		Most of the data used for resource estimation were derived from samples collected on 1 m intervals. The datasets were composited to 1 m intervals prior to grade estimation.
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	The orientation of the mineralised domains is quite consistent over the project area. Most of the drill holes are oriented orthogonal to the regional strike, and with a declination of 90°. This results in an approximate right angle (90°) intersection with the mineralised horizons/ domains.
Sample security	The measures taken to ensure sample security.	The sample dispatches were accompanied by supporting documentation in the drill logs (by the geologist) and showing the sample submission type, analysis and the number of samples.
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No audits or reviews have been completed by Strategic.

# Section 2 Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	The reported resources are located on exploration lease, E70/4793 (granted on 8 April 2016). The tenement is in good standing, and all work is conducted under specific approvals from the Department of Mines and Petroleum (DMP).
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	Data collected is considered historic in nature with most of the data collection and analyses completed between 1998 and 2007 by Westralian Sands (now Iluka) and Olympia Resources. Comparisons between datasets for HM % in the mineralised zones show high correlation. Strategic acquired the tenement that covers the deposit in 2016.
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>Regionally, the area of tenement E70/4793 is located over sediments of the southern Perth Basin. Locally, a paleo-shoreline system, which consists of dunal and beach sedimentation episodes of deposition, is evident.</li> <li>The Ambergate deposit is a surficial strandline dominated by dunes. Mineralisation occurs in sand, clayey sand and some sandy clay between the surface and a depth to 10 m. Logging includes minor amounts of coffee rock, mainly toward the base of the deposit. In many ways, the deposit is typical of the dune deposits associated with the Capel Shoreline, but contains a higher slimes content (sourced and adapted from Baxter, 2004).</li> <li>SRK considers that the deposit geology is similar to the Bassendean Sand Formation and Yoganup Dune Sand Formation (also referred to as the Bassendean Dune System), which are thought to have formed as a shoreline dune system approximately 800,000 years ago. The stratigraphy has been described by Cockbain (1990).</li> <li>The Bassendean Dune Sand and Yoganup Dune Sand overlies the Guildford Formation, which is thought to be the local equivalent of the Yoganup Formation (the Yoganup Formation hosts other ilmenite deposits in the extended district). A thicker ferruginous layer, locally known as coffee rock, has been encountered as pods underlying the Dune System. The coffee rock has elevated HM values and is ferruginised, cemented and currently it is not considered to be possible to process it. As a result of uncertainty around mineral processing, this material is excluded from the Mineral Resource reported.</li> <li>Most of the significant mineralisation is near surface (within 10 m) and within a partially stripped profile.</li> </ul>

Criteria	JORC Code explanation	Commentary
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that 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.</li> </ul>	No exploration results are reported.
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	No exploration results are reported.
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	No exploration results are reported.
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.	No exploration results are reported.

Criteria	JORC Code explanation	Commentary
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	No exploration results are reported.
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	At this stage, there are no additional substantive exploration data to report.
Further work	<ul> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	No further work is currently scheduled or planned.

# Section 3 Estimation and Reporting of Mineral Resources (Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	<ul> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for</li> </ul>	Resource data are stored in a Vulcan database and Microsoft Excel spreadsheets. All data loading was from checked primary data sources in reports.
	<ul> <li>Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	SRK spot-checked selected data in the database against the original source reports. The datasets were checked for internal consistency and logical data ranges when preparing data extracts for resource estimation.
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	A site visit was undertaken by SRK's Competent Person, David Slater, in January 2017. Mr Slater takes responsibility for the Mineral Resource estimation
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	The geological interpretation is considered consistent with site observations and with the broadly accepted understanding in the mining community of the regional geology. Mineralisation is typically defined by distinct changes in HM grade using a 2% nominal cut-off. Domain geometry was observed to be relatively constant over the defined extents, and the interpreted models were consistent with the depositional setting observed.
Dimensions	<ul> <li>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.</li> </ul>	The domains all strike to the west south west. The major domain has defined overall strike lengths of approximately 4,000 m, and has been interpreted generally to extend to surface. The semi-major domains have strike lengths up to 1,700 m.
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	The resource estimates were prepared using conventional block modelling and distance weighted estimation techniques. A model was prepared to represent the defined extents of the mineralisation for the deposit. The modelling study was performed using Vulcan and Supervisor software.
	<ul> <li>extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates</li> </ul>	Kriging neighbourhood analysis (KNA) studies were used to assess a range of parent cell dimensions, and a size of $40 \times 20 \times 1 \text{ m}$ (XYZ) was considered appropriate given the drill spacing, grade continuity characteristics, and the expected mining method. The nominal drill spacings range from $40 \times 160 \text{ m}$ to $40 \times 320 \text{ m}$ .
	and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.	The domain wireframes were used as hard boundary estimation constraints. Probability plots and distribution disintegration plots were used to identify outlier values.
	<ul> <li>The assumptions made regarding recovery of by- products.</li> <li>Estimation of deleterious elements or other non-grade</li> </ul>	The parent cell grades were estimated using Ordinary Kriging. Search orientations and weighting factors were derived from variographic studies. A multiple-pass
	variables of economic significance (eg sulphur for acid mine drainage characterisation).	estimation strategy was invoked, with KNA used to assist with the selection of search

Criteria	JORC Code explanation	Commentary
	<ul> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	distances and sample number constraints. Extrapolation along strike was limited to approximately half the nominal drill spacing. HM % is deemed to be the only constituent of economic importance. The model does contain estimates of Slimes % to assist in metallurgical assessment. This study used swath plots, statistics, visual review and internal peer review to validate the estimate.
Moisture	<ul> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	The resource estimate is expressed on a dry tonnage basis, and in situ moisture content has not been estimated.
Cut-off parameters	<ul> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	An cut-off grade of 3.0 %HM has been recommended by SRK for resource reporting on the basis of the cut-off used for the mineralisation interpretation; however, the estimate is relatively insensitive to cut-off up to 3.5% HM. A Slimes content of less than 22% was reported.
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.	Detailed mining studies have not yet been completed. It is expected that ore will be extracted using conventional shallow open pit mining methods. Mining dilution assumptions have not been factored into the Mineral Resource estimate.
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	Detailed metallurgical testwork and further assemblage/ mineralogical work is planned to be completed as part of further studies. Previous mineralogical work based on 37 composites from the drilling show within the mineralised area shows the valuable minerals in the heavy mineral fraction is approximately made up of 73% ilmenite,12% leucoxene, 12% zircon, 0.6% monazite and 2% other minerals. The TiO <sub>2</sub> content of the ilmenite was reported as 58.7%.

Criteria	JORC Code explanation	Commentary
	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.	It is anticipated that material included in the resource will be mined under the relevant environmental permitting. Areas of mineralisation in the eastern portion of the lease that encompass a housing estate have been excluded from the Mineral Resource.
Bulk density	<ul> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	No reliable dry bulk density data were available to SRK. As such, SRK has used a value from its database of similar style deposits. A value of 1.7 t/m <sup>3</sup> was used in the calculation of the Mineral Resource tonnages. Further dry bulk density data collection is recommended by SRK.
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	The resource classifications have been applied based on a consideration of the confidence in the geological interpretation, the quality and quantity of the input data, the confidence in the estimation technique, and the likely economic viability of the material. The defined domains can be traced over a number of drill lines and although there is some evidence of local thickness variability, they are generally consistent in terms of global thickness, orientation, and grade tenor. Data quality: The datasets comprise a mix of data acquired from programs conducted prior to Strategic's acquisition of the Ambergate lease (historical data). QA data are not available for the majority of the historical data, but SRK considers that comparisons between datasets indicate that the historical data are sufficiently reliable for resource estimation, given that a resource classification of Inferred has been applied. Geological complexity: The general orientation of the major defined domains/ horizons appears to be consistent and predictable. Thickness is variable. The domains/

	Criteria	JORC Code explanation	Commentary
)			horizons display good lithological continuity between holes, with individual domains easily traced along and between drill sections, although localised variability is evident.
			Data coverage: The data coverage varies from sub-regions with a nominal spacing of 40 x 320 m up to nominal spacings of 40 x 160 m. The variography studies indicate useful grade continuity ranges of up to 450 m for estimation and, as indicated above, geological continuity between drill holes is evident.
			Validation results: The model validation checks show a good match between the input data and estimated grades, indicating that the estimation procedures have performed as intended.
			Potential economic viability: Past mining activities in the area, and the numerous operations with similar mineralisation style and grade tenor in the region, support the potential economic viability of the deposit.
			However, the resource classification is largely based on quality assurance and drill spacing, with a classification of Inferred applied to all the mineralised material estimated.
	Audits or reviews	<ul> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	No independent audits or reviews have been conducted on the resource estimates, but Strategic's geology personnel have reviewed SRK's estimation. SRK's work has also undergone a round of internal peer review.
	Discussion of relative accuracy/ confidence	<ul> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	The resource estimates have been prepared and classified in accordance with the guidelines that accompany the JORC Code (2012 edition) and no attempts have been made to further quantify the uncertainty in the estimates. The largest source of uncertainty is considered to be related to quality assurance of the historic dataset and the data spacing, and hence mineralisation interpretation. A classification of Inferred is applied globally to the Mineral Resource. The Mineral Resource estimate should be considered as a global estimate only. The accompanying model is considered suitable in terms of supporting preliminary conceptual mine planning studies, but is not considered suitable for detailed production planning and mining studies.