

Completion of Field Based Exploration, Beharra High Purity Silica Project

ASX RELEASE

1st March 2019

ASX: PEC

CORPORATE DIRECTORY

Non-Executive Chairman
Julian Babarczy

Executive Directors
George Karafotias
Robert Benussi

Company Secretary
George Karafotias

Fully Paid Ordinary Shares
247,920,394

Unlisted Options
32,500,000

Project

Option to acquire 100% of
Beharra Sands Project
Western Australia

- Potential High Grade Silica Sand

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HIGHLIGHTS:

- Initial auger drilling across southern extent of tenure confirms presence of white silica sands to a depth of 2m and is open at depth
- Auger drilling of the Beharra south target was completed on 800x400m grid, covering 7,215m of strike and an average width of 1,700m
- Samples have been submitted for analysis to determine silica content and potentially deleterious element composition
- Bulk samples retained for further testing to ascertain beneficiation potential and final product specifications

Perpetual Resources Limited (ASX: PEC, “PEC” or “the Company”) is pleased to announce that the auger drilling campaign which was announced on the 12th February 2019 has been completed. A total of 38 auger holes were drilled to a maximum depth of 2m.



Figure 1: Beharra Auger Drilling Collar

The auger drilling completed has identified extensive white silica sands from surface to a maximum depth of 2m. Further updates will be provided upon receipt of analytical results. A program of works is being prepared to facilitate air core drilling upon the grant of the tenure.



Figure 2: White Silica Sands From Auger Drilling

A metallurgical testing program will commence upon receiving laboratory analytical results of the raw silica sands material. The testing program will aim to determine the suite of products capable of being produced through beneficiation.

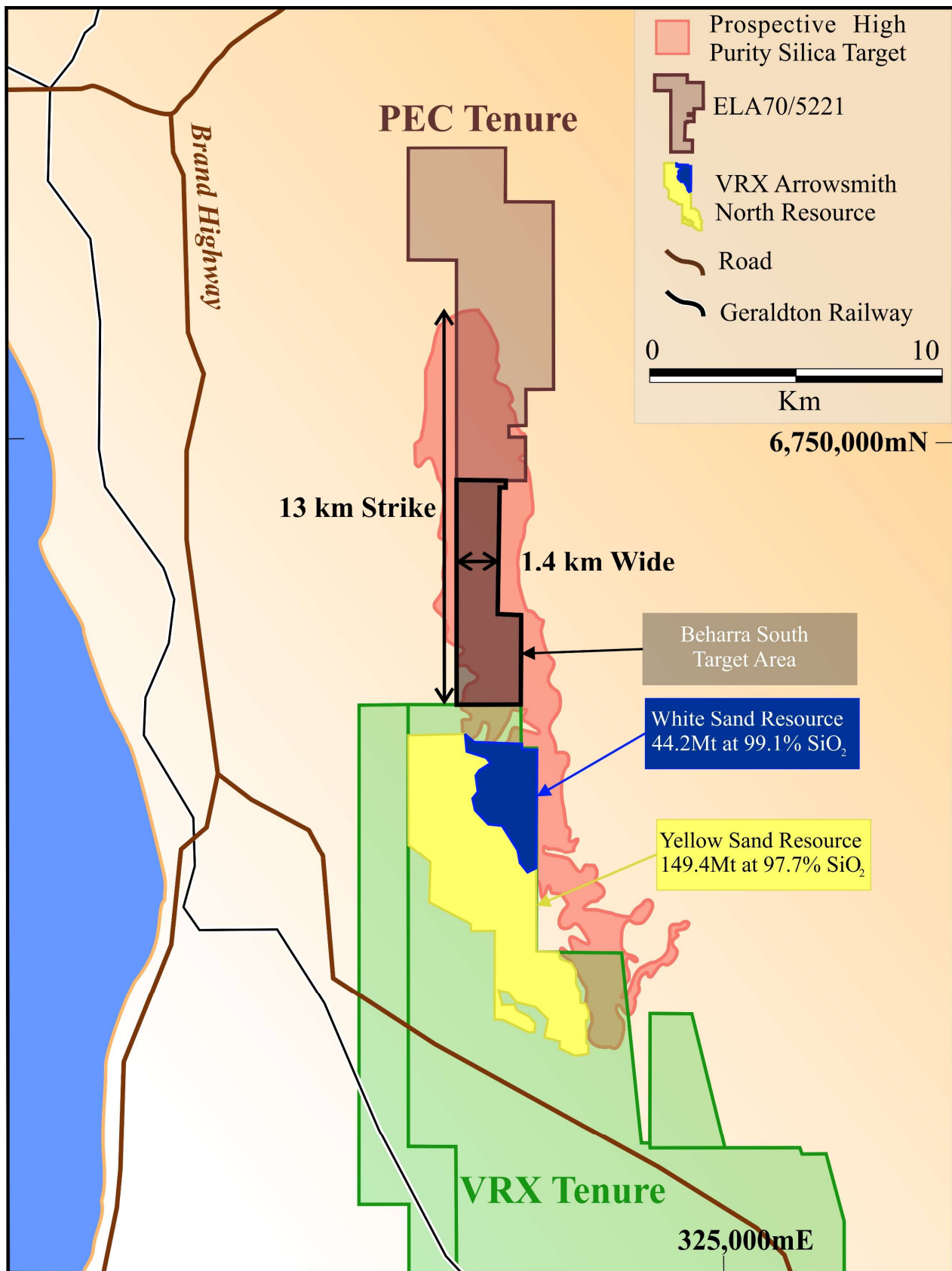


Figure 3: Beharra South Target Area, Infrastructure & Adjacent Project

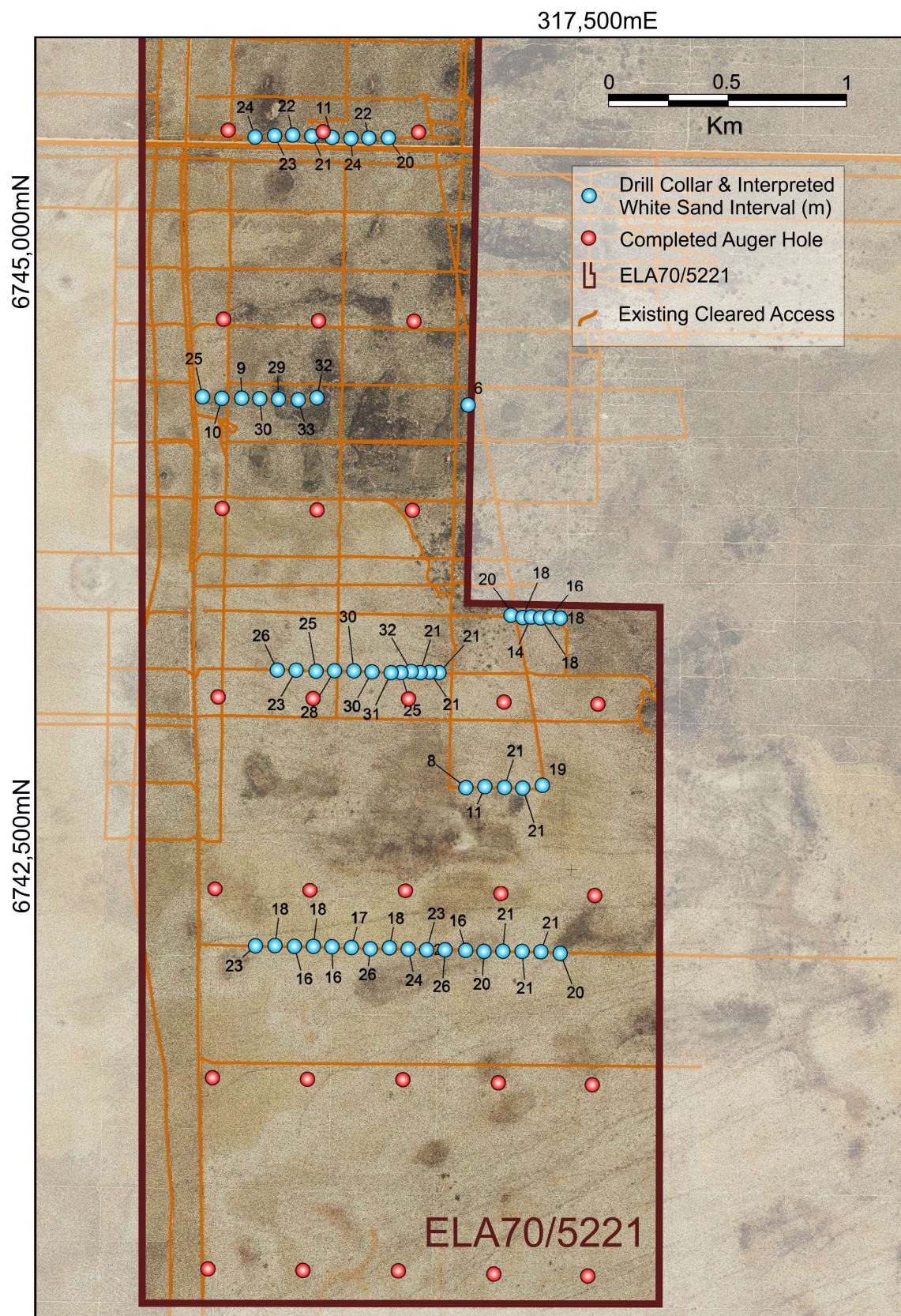


Figure 4: Completed Auger Drilling Program

About Beharra (Exclusive Option for PEC to Acquire 100%)

The Beharra Project is located 300km north of Perth and is 96km south of the port town of Geraldton in Western Australia. Access to the Project from Geraldton (to the north) and Perth (to the South) is via the sealed Brand Highway, thence the Mt Adams unsealed road providing access to the centre of the tenure.

Rail is accessible via the Mt Adams Road, with the rail line potentially providing access directly to the Port of Geraldton. Rail distance from the road access point adjacent to the Beharra Project is approximately 91km. The port of Geraldton is utilised as a bulk materials handling facility and is currently utilised for the export of bulk materials, minerals and concentrates. Grains, copper concentrates, zinc concentrates, nickel concentrates, mineral sands, talc and iron ore are currently being exported from the port. Extensive heavy mineral sands mining occurs to the south of the Project area, limesands mining to the west and natural gas production to the south of the Project.

The Beharra Project comprises of a single exploration licence application, E70/5221, covering an effective land area of 56.8km².

Silica Sands Market

Silica sands have an extensive range of uses including lower purity and grade applications such as construction sand, proppant sand used in well fracturing, and foundry sand. With increasing purity (>99.5% SiO₂) uses include glass making including clear glass. Uses for purity >99.8% include semiconductor fillers, LCD screens, and optical glass.

High Purity Quartz (>99.95% SiO₂) is reserved for solar silicon metal, semiconductors and specialist lamp tubing as well as other high-tech applications. The markets at the high end are small and demand the highest prices ranging from \$500/t to \$12,000/t depending on the level of purity.

The Company believes there is potential for the Beharra Project, pending further sampling and testing, to target high purity silica exceeding 99.8% SiO₂. At these levels of purity, the market is relatively small and typically demands prices in the range of \$160t-\$300/t of silica. Some of the main uses for silica of this grade are epoxy moulding compounds (EMC), liquid crystal displays (LCD) and optical glass.

The strategic location of the Project and advantageous existing infrastructure, positions the Project to be able to capitalise upon both local and potentially export markets, pending final product specifications.

-ENDS-

For enquiries regarding this release please contact:

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The information in this Stock Exchange Announcement that relates to Exploration, together with any related assessments and interpretations, has been approved for release by Mr. C.R. Hastings, MSc, BSc, M.Aus.I.M.M., Mr. Hastings is a Director and part time employee of Perpetual Resources Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Hastings consents to the inclusion of the information contained in this ASX release in the form and context in which it appears

References:

PEC Secures Option to Acquire Silica Sands Project (ASX Release) 6th February 2019

Amended Announcement- PEC Commences Work at Beharra (ASX Release) 12th February 2019

Table 1: Drill Collar Table

Hole	Easting	Northing	Dip	Azimuth	Depth
19BH001	316,000	6,740,800	-90	0	2
19BH002	316,400	6,740,800	-90	0	2
19BH003	316,800	6,740,800	-90	0	2
19BH004	317,200	6,740,800	-90	0	2
19BH005	317,600	6,740,800	-90	0	2
19BH006	316,000	6,741,600	-90	0	2
19BH007	316,400	6,741,600	-90	0	2
19BH008	316,800	6,741,600	-90	0	2
19BH009	317,200	6,741,600	-90	0	2
19BH010	317,600	6,741,600	-90	0	2
19BH011	316,000	6,742,400	-90	0	2
19BH011-TWIN	316,000	6,742,400	-90	0	2
19BH012	316,400	6,742,400	-90	0	2
19BH013	316,800	6,742,400	-90	0	2
19BH014	317,200	6,742,400	-90	0	2
19BH015	317,600	6,742,400	-90	0	2
19BH016	316,000	6,743,200	-90	0	2
19BH017	316,400	6,743,200	-90	0	2
19BH018	316,800	6,743,200	-90	0	2
19BH019	317,200	6,743,200	-90	0	2
19BH020	317,600	6,743,200	-90	0	2
19BH020-TWIN	317,600	6,743,200	-90	0	2
19BH021	316,000	6,744,000	-90	0	2
19BH022	316,400	6,744,000	-90	0	2
19BH023	316,800	6,744,000	-90	0	2
19BH024	316,000	6,744,800	-90	0	2
19BH025	316,400	6,744,800	-90	0	2
19BH026	316,800	6,744,800	-90	0	2
19BH027	316,000	6,745,600	-90	0	2
19BH028	316,400	6,745,600	-90	0	2
19BH029	316,800	6,745,600	-90	0	2
19BH030	316,000	6,746,400	-90	0	2
19BH030-TWIN	316,000	6,746,400	-90	0	2
19BH031	316,400	6,746,400	-90	0	2
19BH032	316,800	6,746,400	-90	0	2
19BH033	316,000	6,747,200	-90	0	2
19BH034	316,400	6,747,200	-90	0	2
19BH035	316,800	6,747,200	-90	0	2

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Sampling referred to in this announcement (1 March 2019) relates to samples that have been obtained from hand auguring to a maximum depth of 2m. Three samples were collected from each hole being surface to 0.5m, 0.5m to 1.0m, and 1.0m to 2.0m. The top meter of the hole was split into 2 samples to allow a separate sample of the top 0.5m that contains organic matter associated with native ground cover. If sand mining operation were to be carried out this top 0.5m would be stockpiled for future rehabilitation, so at this time treating it separately is appropriate. The shallow auger program was carried out to obtain representative sand samples to a maximum depth of 2m for the reasons as described in the Company release of 12th February 2019.
Drilling techniques	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> Drilling consisted of a manually hand operated 75mm diameter sand auger (Dormer Sand Auger) with PVC casing utilised to reduce contamination potential as the auger is withdrawn from the hole. The auger was driven about 300mm then retracted and the sample was placed in a UV resistant plastic bag and this continued until the sample interval was completed. The sample was labelled with the drill hole number and sample interval, then placed in a second plastic bag and sealed and removed from site for logging and sample preparation.
Drill sample recovery	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Each sample bag was weighed to determine the actual sample recovery, which resulted in an average sample weight of 7.5kg/meter of sample. The type of sand auger used provided a clean sample with less possibility of contamination compared to a flight auger.

Criteria	JORC Code explanation	Commentary
Logging	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The samples have been sufficiently logged including estimates of grain size, sorting and texture, and colour. Particular attention has been taken to ensure a more scientific and less subjective approach to colour has been adopted because colour (white to grey shades, and pale yellow shades) is one of the targeting features.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Samples were submitted to Intertek Laboratory in Maddington for drying, splitting, pulverization in a zircon bowl. A sub sample of 200g with a 75µm particle size is utilised for analysis. The sample preparation method is considered the industry standard for silica sands. Records were kept describing whether the samples were submitted wet or dry. Allowance was made for duplication by drilling a twin hole located within 1 meter of each other. 3 twin holes were drilled representing 8% duplicate sample. The sample size taken is appropriate for the sand being targeted.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> At the time of this release samples have been submitted for assay and results are presently pending. Results will be released once they have been received and checked. No geophysical tools were utilised for the process A process of utilising duplicate samples, twinned holes and umpire laboratories has been implemented to ensure the level of quality controls required
Verification of sampling and assaying	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Assay results are presently pending Twin holes were completed for 3 out of the 38 holes drilled to date All primary information was initially captured in a written log, data entered, imported then validated and stored in a geological database Assay results are presently pending

Criteria	JORC Code explanation	Commentary
Location of data points	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The position of the hole locations was determined by a GPS model Garmin GPS Map 64s With an accuracy of 5m. The CRS used was GDA94/MGA Zone 50 The topography at the project site currently under exploration is flat to gentle undulating terrain. Topographic control is presently via the GPS coordinates, a UAV survey is planned to be conducted to obtain a $\pm 50\text{cm}$ DTM across the entire project area.
Data spacing and distribution	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> The drill holes were spaced on an approximate 400m (east-west) x 800m (north south) grid. The adopted spacing at this time is sufficient based on the geological continuity of the sand formation being tested, and sufficient to be applied in a resource estimation. At this time sample compositing has not been applied but will be once the assay results are available. This will be applied to additional analytical test work relating to silica purity while at this stage silica grade is the measure required.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Orientation has been applied by opening sampling along strike (800m spacing) and reducing sample spacing to 400 across strike (400m) and it is believed at this time no bias is introduced
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> All samples have been bagged and removed from site and are under the care of the contract senior geologist who will carry out the logging and sample preparation. Samples were delivered to Intertek Maddington. The laboratory provided a sample reconciliation report which was audited against the sample submission sheet.
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> None undertaken at this time

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> ELA70/5221 currently under application, comprising effective land area of 56.8km². Located approximately 20km SE of Dongara, WA, 96km south of Geraldton. The southern section of the licence area which is the current focus of exploration is covered by Crown Land. The licence area north of the Crown land is Freehold/Leasehold land At the time of reporting Perpetual Resources has an exclusive option to acquire the tenement, refer to release dated 6th February 2019.
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> Past exploration by others targeting heavy mineral sands. Refer to release dated 6th February 2019, historical exploration.
<i>Geology</i>	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> Unconsolidated Quaternary coastal sediments, part of the Perth Basin. Aeolian quartz sand dunes overlying Pleistocene limestones and paleo-coastline.
<i>Drill hole Information</i>	<ul style="list-style-type: none"> 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 style="list-style-type: none"> easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	<ul style="list-style-type: none"> Refer release 6th February 2019 and Table 1, Section 3 that is included in that release.
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Current drilling (auger) results are included in this release, visual only. Further details on the sand characteristics and silica grade pending laboratory work and assay results.

Criteria	JORC Code explanation	Commentary
	<p>graderesults 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.</p> <ul style="list-style-type: none"> The assumptions used for any reporting of metal equivalent values should be clearly stated. 	<ul style="list-style-type: none">
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> 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'). 	<ul style="list-style-type: none"> Relationship between mineralisation widths and intercept length pending assay results
Diagrams	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Pending assay results
Balanced reporting	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Pending assay results
Other substantive exploration data	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Nil
Further work	<ul style="list-style-type: none"> The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	<ul style="list-style-type: none"> Pending the recent auger sampling results are positive, plans to carry out aircore delineation drilling to define the extent, volume and silica grade of the southern part of the licence area.