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APS

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Sparkler A Silica Sands Exploration Project Inferred Mineral Resource Estimate Update

Highlights

- **37 million inferred tonnes** at **99.66%** SiO_2 and 0.02% (200ppm) Fe_2O_3 in fine sand fraction (0.106mm – 0.6mm).
- **25 million inferred tonnes** at **99.67%** SiO_2 and 0.03% (300ppm) Fe_2O_3 in coarse sand fraction (+0.6mm).
- Improved confidence in the updated Inferred Minerals Resource Estimate provides encouragement for further work to reduce iron content and increase the potential purity of the final processed products.

Allup Silica Limited (ASX:**APS**, "**Allup**" or the "**Company**") is pleased to announce the Inferred Mineral Resource Estimate for the **Sparkler A** Silica Sands Exploration Project has been updated by an Independent Geologist.

Based on the most recent Sparkler A metallurgical results, which were released to the market on 16 May 2022, an update of the Inferred Mineral Resource Estimate for the Sparkler A Silica Sands Exploration Project, which is summarised in **Table 1**.

Allup Silica's Chairperson, Andrew Haythorpe said;

"Allup is very encouraged by these results as in many ways they validate our strong held hope and belief for this Project. We are currently exploring further at both the Sparkler B and Sparkler C locations looking for much of the same outstanding potential."

UPDATED SPARKLER A – Inferred Mineral Resource Estimate

The Sparkler Silica Sand Exploration Project Inferred Mineral Resource Estimate is summarised in Table 1. This estimate is in accordance with JORC Code (2012) guidelines, including clause 49 for Reporting Mineral Resources for Industrial Minerals.

What Has Changed?

The previous (October 2021) Inferred Minerals Resource Estimate stated the in-situ resource at:

- **73 million inferred tonnes** at **96.62%** SiO_2 and 0.41% (4100ppm) Fe_2O_3

The updated Inferred Mineral Resource Estimate, which is based on the most recent drilling and metallurgical results, reclassified into three sand fraction characterisations was updated to:

- **70 million inferred tonnes** at **96.84%** SiO_2 and 0.34% (3400ppm) Fe_2O_3 in-situ bulk mineral resource.
- **37 million inferred tonnes** at **99.66%** SiO_2 and 0.02% (200ppm) Fe_2O_3 in sand fractions (0.106mm – 0.6mm).
- **25 million inferred tonnes** at **99.67%** SiO_2 and 0.03% (300ppm) Fe_2O_3 in coarse sand fractions (+0.6mm).
- **4 million inferred tonnes** at **97.70%** SiO_2 and 0.41% (4,100ppm) Fe_2O_3 in fine sand fractions (+0.45mm – 0.106mm).

Table 1: Sparkler A Silica Sand Exploration Project Inferred Mineral Resource Estimate

Size Fraction	Method	Yield %	Tonnes	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	TiO_2 %	LOI %
In-situ resource			70,000,000	**96.84**	1.17	**0.34**	0.43	0.66
coarse sand +0.6mm	wet screen	36.5%	25,000,000	**99.67**	0.06	**0.03**	0.04	0.09
sand 0.106mm - 0.6mm	wet screen -attrition -HLS floats -Non-magnetics	52.9%	37,000,000	**99.66**	0.06	**0.02**	0.03	0.08
fine sand 0.045mm - 0.106mm	wet screen	5.2%	4,000,000	**97.70**	0.17	**0.41**	1.04	0.25

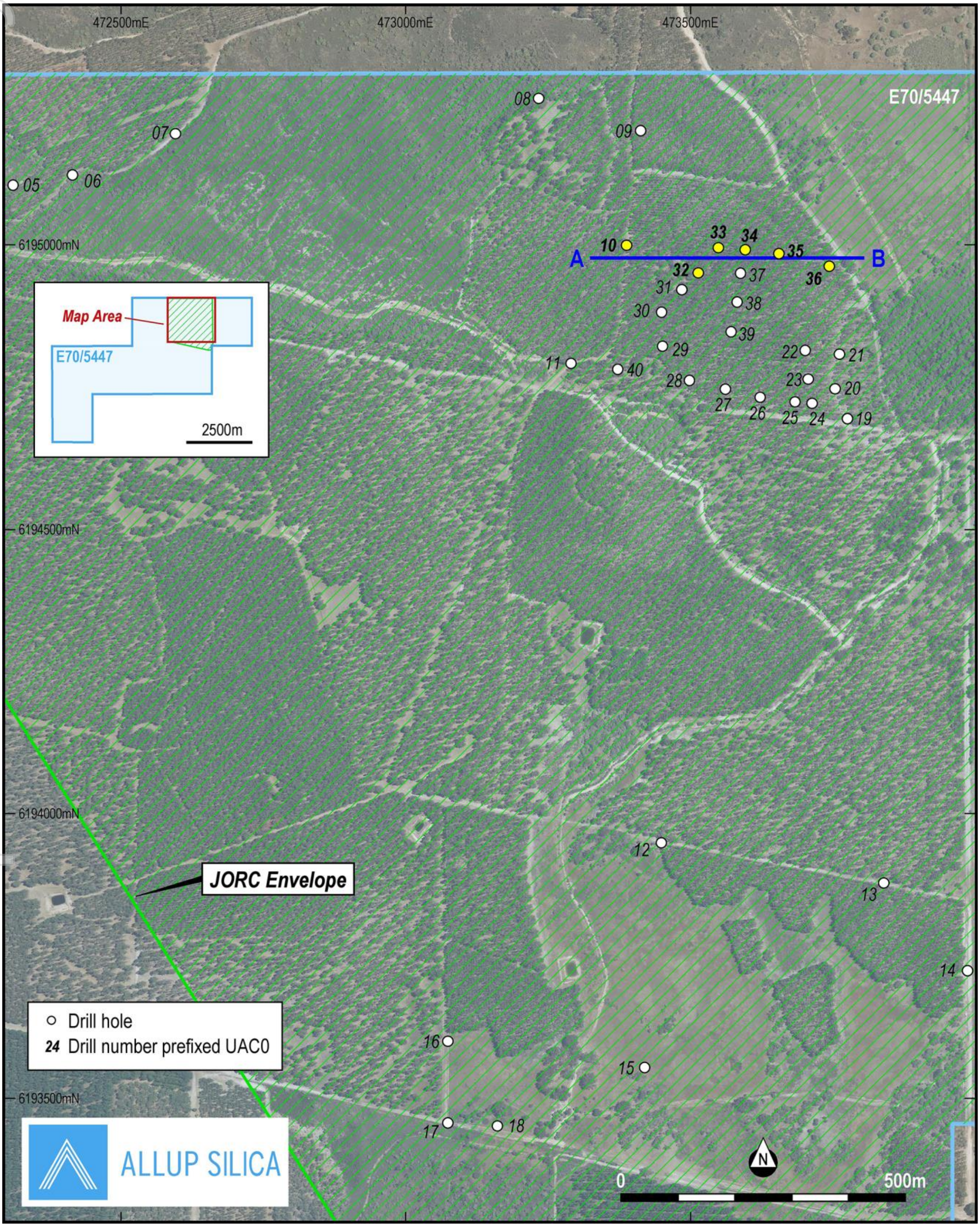

Figure 1: Location of metallurgical test-work drill holes inside JORC outline.

A composite sample from four drillholes (UAC020, UAC021, UAC033 and UAC040) was submitted for Metallurgical test-work carried out by Nagrom Laboratories, Perth. Initial test-work consisted of a sizing analysis followed by wet screening. Additional test-work was conducted on the sand fraction 0.106mm - 0.6mm. This consisted of attrition analysis, heavy liquid separation (HLS) and magnetic separation.

Bulk Met UAC040 12-20m -0.6+0.106mm SG 2.96 FT Attritioned +0.106mm

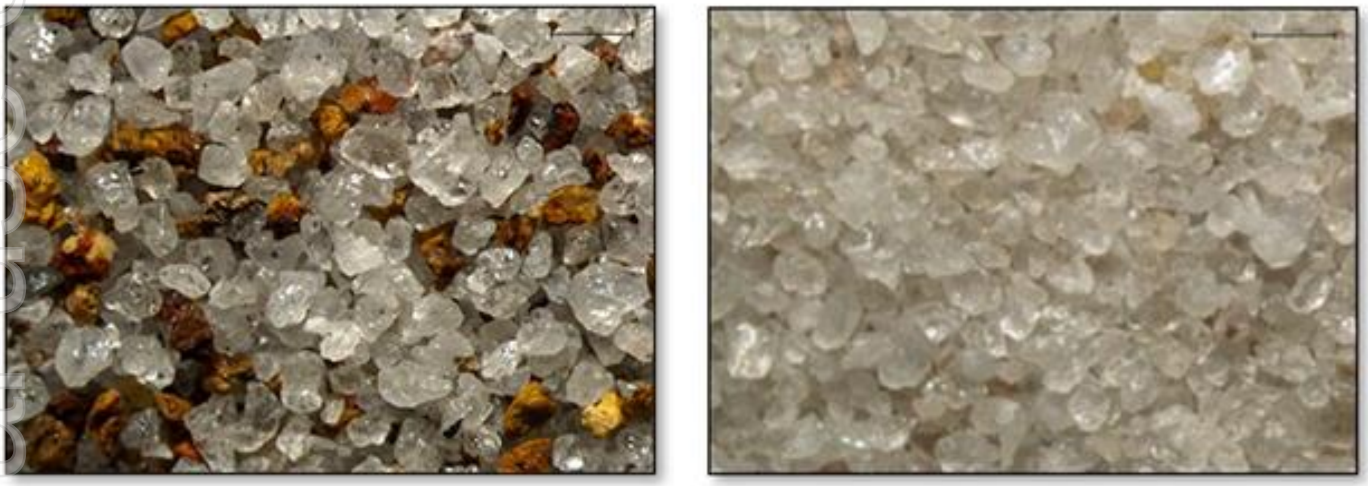

Figure 2: Micrographs indicated clean product after final magnetic separation testwork.

From the test-work, it has been shown that the finished product at a target sand fraction of 0.106mm-0.6mm is suitable for high quality glass manufacturing. Metallurgical testwork shows that the following magnetic separation samples yielded a **99.465%** to **99.774%** SiO_2 and **80ppm** to **290ppm** Fe_2O_3 across the four samples. Details can be found at Table 2.

Table 2: Magnetic separation results from metallurgical samples

Drillhole Sample	Size Fraction	Method	Yield %	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	TiO_2 %	LOI %
UAC020+021 **0-3m**	0.106mm – 0.6mm	Non-magnetics	**99.95**	99.774	0.011	**0.008**	0.067	0.05
UAC021 **12-20m**	0.106mm – 0.6mm	Non-magnetics	**99.69**	99.680	0.06	**0.011**	0.025	0.09
UAC033 **9-16m**	0.106mm – 0.6mm	Non-magnetics	**99.74**	99.709	0.028	**0.029**	0.016	0.08
UAC040 **12-20m**	0.106mm – 0.6mm	Non-magnetics	**99.75**	99.465	0.141	**0.012**	0.022	0.08
	Size Fraction	Method	Yield %	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	TiO_2 %	LOI %
Average	0.106mm – 0.6mm	Non-magnetics	**99.78**	99.66	0.06	**0.02**	0.03	0.08

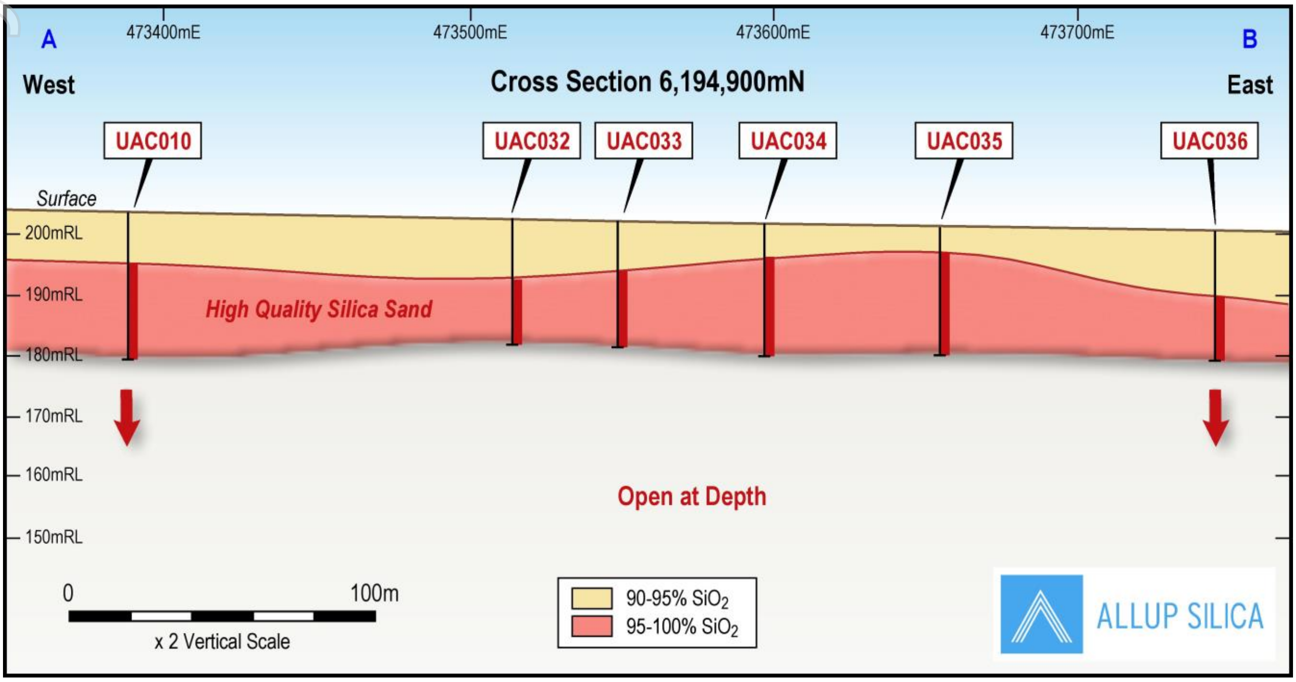

Figure 3: E70/5447 Sparkler A cross-section map. Long-section location shown in **Figure 1**.

Sparkler Silica Sands Exploration Project

The Sparkler Silica Sands Exploration Project's sites are located approximately 300km south of Perth in Western Australia's south-western region. This region has well established infrastructure being established for the benefit of local industry, agriculture and the community.

The Sparkler Project encompasses three granted exploration licenses E70/5447 (Sparkler A), E70/5527 (Sparkler B) and E70/5920 (Sparkler C).

The Sparkler location is accessible via all-weather sealed highways and major roads, while the tenement areas can be reached via some sealed and gravel/sand access roads. The local roads, some of which may need to be upgraded to support future operations, are typically accessible and suitable for exploration teams and associated equipment.

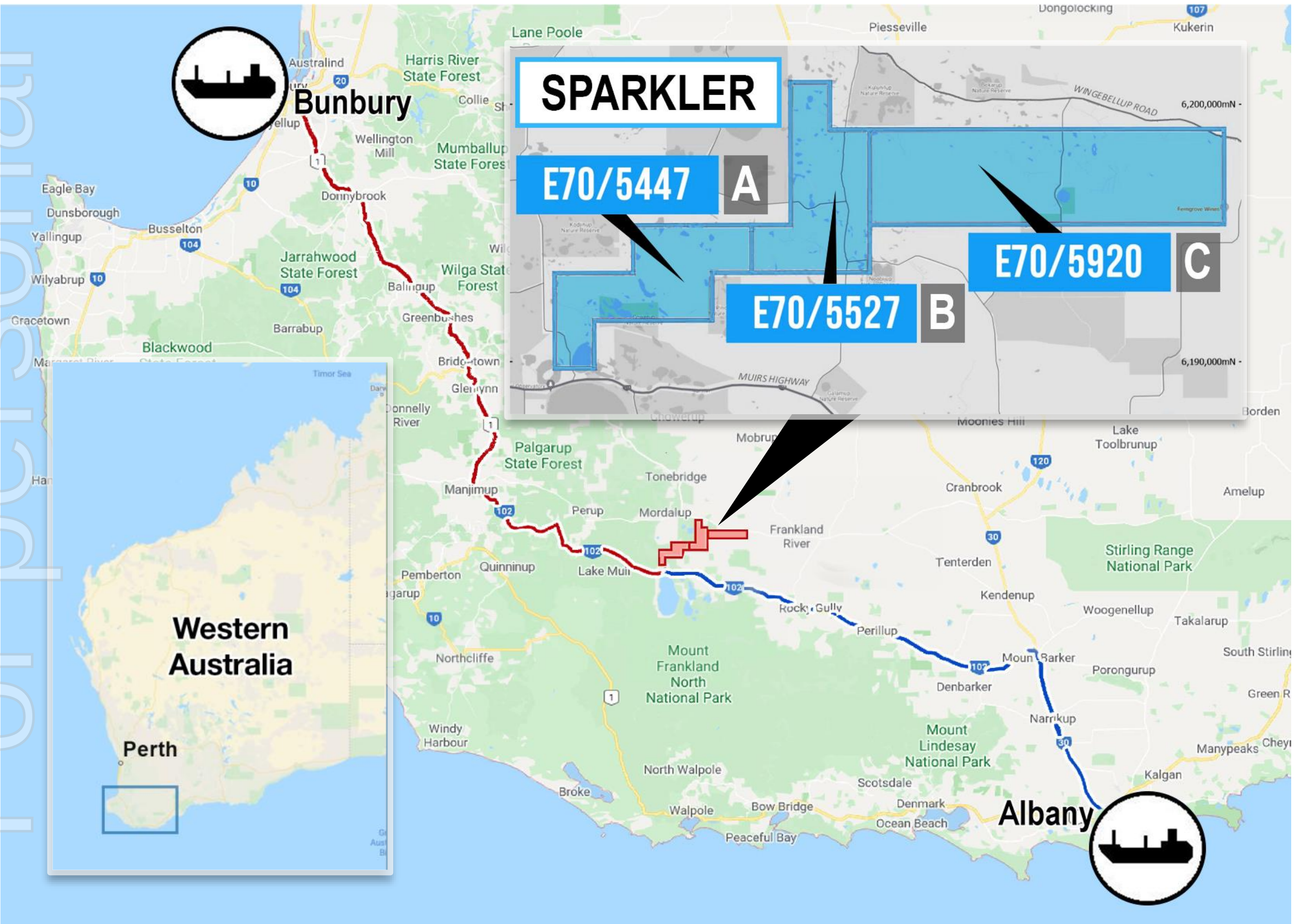

Figure 4: Map of Tenement Location

The closest ports are Bunbury Port, located approximately 200km west, and Albany Port located approximately 150km south-east of the project location.

Local Geology

The Sparkler Silica Sands Exploration Project target area are all located on private land. This land is predominantly cleared pastoral land, or land that was previously used for commercial plantation forest which has since been removed. The Company areas of interest fall within these areas.

Figure 5: Tenement E70/5447 (Sparkler A) – cleared pastoral land or cleared plantation forestry land.

Geology and geological interpretation

The Sparkler tenements, E70/5447 (Sparkler A), E70/5527 (Sparkler B) and E70/5920 (Sparkler C) are located on poorly drained flats with lakes and low dune and undulating low hills and rises. The sediments of the area are part of the Werillup formation consisting of either carbonaceous clays and silts interbedded with fine to coarse grained quartz sands or thick beds of carbonaceous clay through to carbonaceous sandy silts.
There is a sharp bedding contact between quartz sands and underlying clays or clayey silts. Quartz sands are poorly to moderately sorted, fine to coarse grained, with grains being angular to subangular.

Sampling and sub-sampling techniques

Air-core drilling obtained 1m samples dispensed onto the ground. Samples were then collected from the spoil pile with 1m samples taken for hole UAC005 and then 2m composites taken from UAC006 to UAC040.

Drilling techniques

Drilling was air-core, utilising a Hydco 25 rig (400cfm at 200psi air pressure). Holes drilled on existing tracks.

Hole ID	Easting	Northing	Depth	Dip	Azi	Drill Type
UAC005	472313	6195101	24	-90	0	Aircore
UAC006	472416	6195122	21	-90	0	Aircore
UAC007	472595	6195194	18	-90	0	Aircore
UAC008	473236	6195256	20	-90	0	Aircore
UAC009	473414	6195200	15	-90	0	Aircore
UAC010	473388	6194998	24	-90	0	Aircore
UAC011	473290	6194792	21	-90	0	Aircore
UAC012	473450	6193950	18	-90	0	Aircore
UAC013	473842	6193878	21	-90	0	Aircore
UAC014	473991	6193723	13	-90	0	Aircore
UAC015	473420	6193555	12	-90	0	Aircore
UAC016	473076	6193600	24	-90	0	Aircore
UAC017	473075	6193458	21	-90	0	Aircore
UAC018	473162	6193452	15	-90	0	Aircore
UAC019	473777	6194695	23	-90	0	Aircore
UAC020	473754	6194747	27	-90	0	Aircore
UAC021	473762	6194808	24	-90	0	Aircore
UAC022	473703	6194814	24	-90	0	Aircore
UAC023	473708	6194765	19	-90	0	Aircore
UAC024	473714	6194722	11	-90	0	Aircore
UAC025	473684	6194724	19	-90	0	Aircore
UAC026	473625	6194734	12	-90	0	Aircore
UAC027	473561	6194746	13	-90	0	Aircore
UAC028	473499	6194762	21	-90	0	Aircore
UAC029	473452	6194822	21	-90	0	Aircore
UAC030	473450	6194881	20	-90	0	Aircore
UAC031	473486	6194921	21	-89	0	Aircore
UAC032	473514	6194951	21	-88	0	Aircore
UAC033	473549	6194994	21	-87	0	Aircore
UAC034	473597	6194991	21	-86	0	Aircore
UAC035	473655	6194984	21	-85	0	Aircore
UAC036	473745	6194962	21	-84	0	Aircore
UAC037	473589	6194950	21	-83	0	Aircore
UAC038	473583	6194899	18	-82	0	Aircore
UAC039	473571	6194847	18	-81	0	Aircore
UAC040	473373	6194780	30	-80	0	Aircore

Table 3: Summary of E70/5447 Sparkler A Silica Sands Exploration Project Drilling Programs.

Criteria used for classification

The Mineral Resource Estimates at Sparkler has been classified as Inferred. The wide spaced drilling was the primary consideration used in determining the classification and the lack of dry bulk density measurements was also taken into account.

Sample analysis method

Samples were sent to Nagrom in Kelmscott, Perth. A suite of 29 elements were assayed with XRF analytical techniques. In addition, Loss on Ignition (LOI) was assayed by thermogravimetric (TGA) analysis

Estimation methodology

A solid wireframe shape representing the sand channel was modelled based on drill logs and assays. The boundaries of this wireframe were considered hard boundaries for the purposes of grade estimation. The drill data was composited into 2m intervals based on the predominant sampling interval.

Inverse distance squared grade interpolation was used. The search orientation was based on the geometry of the sand channel with a bearing of 330° and a dip and plunge of 0° applied. The grade estimation was completed in two passes. Pass 1 was on dimensions of 200mX, 100mY, 6mZ and pass 2, 1,600mX, 1,000mY, 30mZ. The pass 1 dimensions were based on drill spacings in the central and northern part of the sand channel. Pass 2 ensured that all blocks were informed with grades.

The parent block size is 100mX 200mY, 2mZ with a sub-block size of 20mX, 20mY, 2mZ.

Cut-off grade

A cut-off grade has not been applied to the Mineral Resource Estimate. All sand within the modelled shape has been reported at the average in-situ silica grade. This has then had modifying metallurgical parameters applied to arrive at the final mineral resource for different sand size fractions.

Mining and metallurgical methods and parameters

Metallurgical test-work was carried out by Nagrom Laboratories, Perth. Composite sample from four drillholes (UAC020, UAC021, UAC033 and UAC040) were submitted for test-work. Test-work consisted of a sizing analysis followed by wet screening. Additional test-work was conducted on the sand fraction 0.106mm - 0.6mm. This consisted of attrition analysis, heavy liquid separation (HLS) and magnetic separation. The attrition analysis was conducted with a Denver D12 cell using Perth water with 50% solids, the residence time was 30min with a double agitator propellor running at 800rpm. Heavy liquid separation was done on the 0.106mm to 0.6mm fraction at a density of 2.96. Magnetic separation was done using Rapid LOG14 Magnetic Disc Separator at 14,100 gauss. The magnetic separation was done using the float material from the HLS test. The resource model did not incorporate metallurgical factors in the modelling process. The metallurgical factors from test-work were applied to the bulk, in-situ sand as modelled. The target sand fraction of 0.106mm to 0.6mm is suitable for high quality glass manufacturing.

Competent Person Statement

Auranmore Consulting were engaged by the Company to undertake a Mineral Resource Estimate (MRE) for the Sparkler Silica Sand Exploration Project. The Mineral Resource Estimate complies with the recommendations in the Australasian Code for Reporting of Mineral Resources and Ore Reserves (2012) by the Joint Ore Reserves Committee (JORC). The Minerals Resource Estimate was compiled by Richard Maddocks, MSc (Mineral Economics), BAppSc (Applied Geology) and Grad Dip (Applied Finance and Investment). Mr Maddocks is an employee of Auranmore Consulting and is a Fellow of the Australasian Institute of Mining and Metallurgy (111714) with over 30 years of experience. Mr Maddocks 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 JORC Code.

This Announcement has been approved for release by the Board of Directors.

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ABOUT ALLUP SILICA LIMITED

Allup Silica is a public silica exploration company focused on the future development of our silica sand tenements located in several Western Australian exploration project locations. These project sites are in the South-West; the North-East near Wyndham, and the Southern Goldfields near Esperance. The Company's plan is to work towards development of a commercial silica sand product that meets the industry specifications of the sector we are aiming for. Silica is a critical commodity, particularly in the production of photovoltaic (solar) panels and other critical industrial applications.

Table 4: Summary of significant in-situ drilling intersections E70/5447 Sparkler A Silica Exploration Project.

Hole	From (m)	To (m)	Length (m)	SiO_2 %	Al_2O_3 %	Fe_2O_3 %	TiO_2 %	LOI_{1000} %
UAC005	18	22	4	97.27	1.18	0.19	0.22	0.58
UAC006	12	20	8	96.98	1.32	0.25	0.25	0.63
UAC007	4	14	10	98.55	0.50	0.11	0.16	0.34
UAC008	4	20	16	97.35	0.99	0.20	0.29	0.67
UAC009	NSI							
UAC010	8	24	16	98.00	0.66	0.20	0.26	0.42
UAC011	6	18	12	97.88	0.67	0.29	0.41	0.38
UAC012	10	18	8	97.77	0.77	0.26	0.24	0.46
UAC013	6	18	12	97.10	1.30	0.24	0.45	0.57
UAC014	6	13	7	97.56	1.06	0.21	0.40	0.48
UAC015	NSI							
UAC016	6	20	14	95.97	1.22	0.59	0.51	0.78
UAC017	8	21	13	97.06	0.90	0.36	0.22	0.66
UAC018	6	15	9	97.74	1.05	0.16	0.15	0.53
UAC019	0	4	4	97.73	0.80	0.20	0.33	0.52
	14	23	9	97.55	0.77	0.31	0.36	0.49
UAC020	**0**	**4**	**4**	**99.15**	**0.06**	**0.04**	**0.20**	**0.16**
	12	27	15	98.00	0.69	0.21	0.18	0.55
UAC021	**0**	**4**	**4**	**98.08**	**0.68**	**0.17**	**0.26**	**0.49**
	10	24	14	97.36	1.15	0.21	0.28	0.62
UAC022	4	24	20	97.72	0.87	0.25	0.29	0.53
UAC023	6	18	12	95.32	2.13	0.53	0.62	0.93
UAC024	0	2	2	98.66	0.11	0.32	0.43	0.12
UAC025	0	6	6	98.39	0.42	0.22	0.34	0.29
	12	19	7	97.94	0.80	0.18	0.26	0.46
UAC026	0	2	2	97.51	0.67	0.37	0.37	0.59
UAC027	6	10	4	97.50	1.18	0.13	0.22	0.55
UAC028	10	20	10	97.10	1.29	0.26	0.30	0.65
UAC029	10	21	11	96.97	1.25	0.27	0.56	0.60
UAC030	12	20	8	97.64	1.03	0.18	0.29	0.47
UAC031	10	21	11	96.79	1.27	0.34	0.74	0.57
UAC032	10	21	11	97.57	1.01	0.21	0.36	0.52
UAC033	**8**	**21**	**13**	**98.65**	**0.42**	**0.14**	**0.20**	**0.25**
UAC034	4	21	17	98.13	0.57	0.26	0.37	0.29
UAC035	4	21	17	97.93	0.75	0.25	0.31	0.40
UAC036	10	21	11	97.33	1.04	0.31	0.46	0.53
UAC037	10	21	11	97.91	0.92	0.15	0.24	0.45
UAC038	8	18	10	97.78	0.72	0.25	0.49	0.38
UAC039	16	21	5	96.93	1.00	0.36	0.75	0.48
UAC040	**10**	**22**	**12**	**97.43**	**1.12**	**0.23**	**0.37**	**0.55**

Section 1 Sampling Techniques and Data

Criteria	JORC Code Explanation	Commentary
Sampling techniques	*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.* *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 (e.g. submarine nodules) may warrant disclosure of detailed information.*	Drill holes were sampled on two meter intervals. Sampling was with grab samples from one meter spoil piles from drillhole. Samples weighed about 3-5kg each
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).*	Holes are air-core holes drilled with a Hydco 25 rig with 400cfm and 200psi air pressure.
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.*	Material drilled was generally fine to medium grained sand with some clay content. Sample recovery was not recorded but is considered to be good with no significant bias.
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.*	Logging is quantitative in nature with sand grain size and colour recorded, in addition the presence of clay and/or lignite is also recorded.
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.*	Allup Silica took an approximate 1-2kg sub sample from air-core drill spoil pile. Duplicate samples were taken at varying intervals It will also provide material used in trial beneficiation processing analysis/testing to further identify the specification of the silica product after it has been processed.
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.*	Samples were assayed at Nagrom laboratory in Kelmscott, Perth. Analysis was by XRF analysis for 23 elements. LOI was assayed by

	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 (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	Thermogravimetric analysis (TGA). The laboratory included a suite of duplicates, blanks and standards in the assaying process with no significant issues revealed.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.* *The verification of significant intersections by either independent or alternative company personnel.* *Discuss any adjustment to assay data.*	The drilling has been preliminary in nature with no independent verification completed. There has been no adjustment to assay data.
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.*	Hole collars have been surveyed with a hand held GPS with accuracy +/- 3m. Topography was surveyed with a drone supported 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.*	Drilling has not been conducted on regular grid spacing but on available tracks. The spacing is sufficient to enable the estimation of Inferred Mineral Resources.
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.*	The sand horizons are essentially horizontal in nature. The sand deposits have been deposited in a riverine/estuarine environment and display deposition features of these environments.
Sample security	*The measures taken to ensure sample security.*	Allup Silica transported the samples directly to the assay laboratory in Perth WA.

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.*	The Sparkler Silica Sand deposit is located on E70/5447. This tenement is 100% owned by Allup Silica Limited. There are some nature reserves within the tenement but generally the tenement is covered by freehold land. There are no known impediments to conducting exploration on the tenement where the Company has land access agreements with the land owner.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Previous work by Dampier Mining Company Ltd searching for lignite coal deposits has been recorded. Wide spaced drilling was completed by Dampier in 1981. Poor quality lignite was discovered within the Tertiary deposits.

Geology	*Deposit type, geological setting and style of mineralisation.*	The silica sand is contained within Tertiary deposits. These deposits are found in paleochannels representing earlier drainage features. Sequences of sand, clay with interbedded lignite units are up to 60m thick in the project area. These Tertiary (Eocene) deposits are located directly above Archaean basement granites.
Drill hole information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* *- easting and northing of the drill hole collar,* *- elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar,* *- dip and azimuth of the hole,* *- down hole length and interception depth hole length.* *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	The drillholes information is tabulated within this report. No information has been excluded.
Data aggregation methods	*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.* *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.*	There has been no data aggregation. No metal equivalents have been reported.
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 (e.g. 'down hole length, true width not known').*	The drill intersections are regarded as true widths. The holes are vertical in a horizontal geological unit.
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.*	These are included in the body of the report.
Balanced reporting	*Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	The reporting is complete and balanced.
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.*	There is no other substantive exploration data to disclose.

Further work	*The nature and scale of planned further work (e.g. tests for lateral 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.*	Additional drilling is planned to enable a better understanding of the distribution of high-grade silica sand and any possible contaminants in the project area.

Section 3 Reporting of Exploration Results

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 database has been inspected with no obvious errors discovered.
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.*	The competent person did not visit the site. Given the early stage of the project a site visit was not deemed necessary.
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 geological interpretation was based on the drill hole database and information derived from independent geological reports. The geology interpretation is based on empirical data with no alternative interpretation deemed viable. The sand horizon is continuous from hole to hole. The wide spaced nature of the drilling precludes the estimation of different quality sand horizons. Some sand has higher clay contents and higher Fe2O3 content.
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.*	The modelled sand channel is approximately 3,000 long, 1,500m wide and about 20m thick. The sand lies at a depth from 0m to up to 25m vertical depth. Some drill holes ended in high grade silica sand.
Estimation and modelling techniques	*The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domains, 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.*	The sand channel was modelled in Vulcan v2020.2 software as a solid shape. Drillhole assay data was used to interpolate grades for SiO2, Fe2O3, Al2O3, TiO2 and LOI with inverse distance squared techniques. A two pass estimation was used with pass 1 using search dimensions of 200mX, 100mY, 6mZ. Pass 2 used 1,600mX, 1,000My AND 30mZ to ensure all blocks were informed with grades. The search orientation was aligned at 330 to match the orientation of the modelled sand channel. The dip and plunge were aligned at 0 degrees, ie flat. The minimum number of 2m composites used was 2 and the maximum 25. No top cuts were applied based on data interrogation. Parent block size is 100mX, 200mY, 2mZ with sub-blocks of 20mX, 20mY, 2mZ No correlation between variables was assumed.

Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	The deposit was modelled using dry tonnes.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	No cut-offs have been reported. With additional drilling resulting in improved delineation of sand units it may be possible to report the resource at economic cut-off grades.
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.*	The Sparkler Silica Sand Project is at an early stage of development and therefore no mining factors or assumptions have been used in the model. It is however assumed that mining will be via conventional open pit mining methods.
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.*	Metallurgical test-work was carried out by Nagram Laboratories, Perth. Composite samples from four drillholes (UAC020, UAC021, UAC033 and UAC040) were submitted for test-work. Test-work consisted of a sizing analysis followed by wet screening. Additional test-work was conducted on the sand fraction 0.106mm - 0.6mm. This consisted of attrition analysis, heavy liquid separation (HLS) and magnetic separation. The attrition analysis was conducted with a Denver D12 cell using Perth water with 50% solids, the residence time was 30min with a double agitator propellor running at 800rpm. Heavy liquid separation was done on the 0.106mm to 0.6mm fraction at a density of 2.96. Magnetic separation was done using Rapid LOG14 Magnetic Disc Separator at 14,100 gauss. The magnetic separation was done using the float material from the HLS test. The resource model did not incorporate metallurgical factors in the modelling process. The metallurgical factors from test-work were applied to the bulk, in-situ sand as modelled.
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.*	Given the early stage of exploration and development no environmental factors or assumptions have been used in the model. Should future exploration indicate viable silica sand mining potential additional environmental studies are recommended.
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.*	A bulk density of 1.6t per cubic meter have been applied to the model. No bulk density data is available from Sparkler so this number has been used to represent unconsolidated fine to medium grained silica/quartz sand.

Classification	*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.*	The wide spaced drilling and the lack of empirical dry bulk density data has resulted in an Inferred classification for the Sparkler Silica Sand Project.
Audits or reviews	*Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	Metallurgical test work and the application of these results to the Mineral Resource were reviewed by independent metallurgical consultants Battery Limits.
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 competent person agrees with the classification of the Sparkler resource as Inferred. This reflects the confidence levels in the supporting data used to estimate the Mineral Resource. The resource relates to global estimates. There is no previous production data to compare the model.