

#### Updated Lulo Alluvial Resource Increases Carats by 48%

JORC Classified Inferred Alluvial Diamond Resource increased 48% to 228,000 carats

- Diluted volume of gravel (ore) available for mining increased 90% to 5.02Mm³
- At planned extraction rates, the new resource volume is equal to 8 years production
- Average modelled diamond value of US\$1,897/carat
- 6<sup>th</sup> consecutive year that resource carats have increased

Lucapa Diamond Company Limited (ASX: LOM) ("Lucapa" or "the Company") and its partners Endiama and Rosas & Petalas, are pleased to provide an updated JORC Classified Inferred Alluvial Diamond Resource ("Lulo Alluvial Resource") for the Lulo diamond concession in Angola.

The diluted gravel (ore) volume in the updated Lulo Alluvial Resource is equivalent to eight years of production at TLulo's planned mining and processing capacities. Extensive resource definition work since the last update involved auger drilling and trial mining in the southern mining blocks as well as gaining additional production data from the

	with the incre			ver the last se	even years by	SML, this is	the 6 <sup>th</sup> conse	cutive year in which	
р	TABLE	1: LULO J	ORC CLASSI	FIED INFER	RRED ALLU	JVIAL DIAN	MOND RES	OURCE	
_			As	at 31 DECI	EMBER 202	23			
Ро	Data	Area	Diluted	Carats/	Stones	Carata	Diluted grade	Modelled diamond	

Date	Area (m²)	Diluted volume (m³)	Carats/ Stone	Stones	Carats	Diluted grade (cphm³)	diamond value* (US\$/ carat)
31 Dec 23	4,780,000	5,020,000	1.26	181,900	228,400	4.55	1,897
31 Dec 22	2,700,000	2,640,000	1.23	125,460	153,870	5.82	2,000

#### Notes:

- i.  $m^2$  = square metres;  $m^3$  = cubic metres; cphm<sup>3</sup> = carats per 100 cubic metres
- Diluted volumes have been estimated based on historical mining production data to better reflect recoverable volumes and grades
- iii. Bottom cut off screen size: effective 1.5mm
- Table contains rounded figures
- Special stones are not excluded in the modelling stage, either in terms of size or assortment



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The updated Lulo Alluvial Resource was independently estimated and reconciled on a depletion and addition basis to 31 December 2023 by external consultants, Z Star Mineral Resource Consultants (Pty) Ltd ("Z Star") of Cape Town, South Africa (Table 1).

The updated Lulo Alluvial Resource was estimated after taking into account:

- Mining depletion to 31 December 2023 by SML mining operations, during which time 30,585 carats of diamonds were recovered from 625,548 bulk cubic metres of gravel (ore);
- The delineation of new or additional resources and improved knowledge of existing resource areas through extensive ~11,000-hole auger drilling and ~960 hole pitting programs; and
- Sales of diamonds during 2023 totaling US\$77.3m at an average diamond price of US\$2,700/ carat.

After accounting for mining depletion of 30,585 carats during 2023 calendar year, the alluvial exploration activities undertaken during the year increased the Lulo Alluvial Resource in-situ carats by 48% to 228,400 carats.

Diamond valuations have been affected by a softening in diamond prices during 2023. The modelled diamond value has been escalated using a global rough diamond price index provided by GTD Consultants, an independent diamond valuation consultancy, up to 31st December 2023. The modelled diamond values have decreased by ~5% from US\$2,000/ carat to US\$1,897/ carat on average.

To date, ~200,000 carats of diamonds have been recovered on the Lulo concession and sold by SML for ~US\$426 million, at an average price of ~US\$2,122/ carat.

The total diluted volume of gravel (ore) available for mining in the updated Lulo Alluvial Resource increased by 90% to 5.02Mm<sup>3</sup>.

The resource grade in the updated estimate has dropped to 4.55 cphm³ from 5.82 cphm³ in 2022.

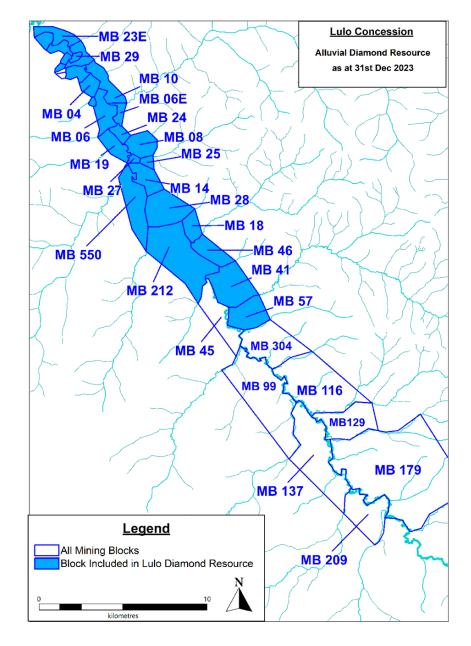




Photos: Lulo team setting up an auger drill rig (left) trial mining during resource definition work (right)



The mining blocks and those informing the Lulo Alluvial Resource estimate at 31 December 2023 are outlined in Map 1 below.



Map 1: Lulo mining blocks and those informing the Lulo Alluvial Resource estimate

For and on behalf of the Lucapa Board.

Nick Selby Managing Director



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#### For more information:

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#### **ABOUT LUCAPA**

Lucapa is an ASX listed diamond miner and explorer with assets in Africa and Australia. It has interests in two producing diamond mines in Angola (Lulo, in which LOM holds 40%) and Lesotho (Mothae, in which LOM holds 70%). The large, high-value diamonds produced from these two niche African diamond mines attract some of the highest prices/ carat globally.

The Lulo mine has been in commercial production since 2015, while the Mothae mine commenced commercial production in 2019.

In 2021, through its wholly owned subsidiary, Australian Natural Diamonds Pty Ltd, Lucapa completed the strategic and transformative acquisition of the Merlin Diamond Project, an historic Australian mine in the Northern Territory of Australia.

ULUCAPA and its project partners are also exploring for potential primary source kimberlites or lamproites at the prolific Lulo concession in Angola, the Brooking project in Australia and the Orapa Area F project in Botswana.

The Board, management and key stakeholders in Lucapa have deep global diamond industry experience and networks all through the value chain from exploration to retail.

#### Competent Person's Statement

Information included in this announcement that relates to exploration results and resource estimates is based on and fairly represents information and supporting documentation prepared and compiled by Richard Price MAusIMM who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Price is an employee of Lucapa Diamond Company Limited. Mr Price 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 Exploration Results, Mineral Resources and Ore Reserves. Mr Price consents to the inclusion in the announcement of the matters based on this information in the form and context in which it appears.

Information included in this report that relates to the stone frequency, grade and size frequency valuation and validation in the Lulo Diamond Resource estimate is based on, and fairly represents, information and supporting documentation prepared and compiled by Sean Duggan (Pri.Sci.Nat 400035/01) and David Bush (Pri.Sci.Nat 400071/00).



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Messers. Duggan and Bush are directors and employees of Z Star Mineral Resource Consultants (Pty) Ltd, of Cape Town, South Africa. Both hold qualifications and experience such that both qualify as members of a Recognised Overseas Professional Organisation (ROPO) under relevant ASX listing rules. Messers. Duggan and Bush both have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking to each qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Code. Messers. Duggan and Bush both consent to the inclusion in the announcement of the matters based on this information in the form and context in which it appears.

#### No New Information

To the extent that this announcement contains references to prior exploration results, a production target and financial information derived from a production target and Mineral Resource estimates, which have been cross referenced to previous market announcements made by the Company, unless explicitly stated, no new information is contained. The Company confirms that it is not aware of any new information or data that materially affects the information included in the relevant market announcements and, in the case of estimates of a production target and financial information derived from a production target and Mineral Resources that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

#### Forward-Looking Statements

This announcement has been prepared by the Company. This document contains background information about the Company and its related entities current at the date of this announcement. This is in summary form and does not purport to be all inclusive or complete. Recipients should conduct their own investigations and perform their own analysis in order to satisfy themselves as to the accuracy and completeness of the information, statements and opinions contained in this announcement.

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No responsibility for any errors or omissions from this document arising out of negligence or otherwise is accepted. This document does include forward-looking statements. Forward-looking statements are only predictions and are subject to risks, uncertainties and assumptions which are outside the control of the Company.



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Actual values, results, outcomes or events may be materially different to those expressed or implied in this announcement. Given these uncertainties, recipients are cautioned not to place reliance on forward-looking statements. Any forward-looking statements in this announcement speak only at the date of issue of this announcement. Subject to any continuing obligations under applicable law and ASX Listing Rules, the Company does not undertake any obligation to update or revise any information.



#### Appendix 1

Reporting of diamond exploration results and diamond resource estimates for the Lulo concession

– JORC Code (2012) requirements -

**Sampling Techniques and Data** 

<u>Table 1</u>
Lulo depleted, inferred alluvial diamond resource as at 31 December 2023

#### Criteria

## 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

**JORC Code Explanation** 

 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 (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.

#### Lucapa Commentary

- Bulk sample results were reported according to the requirements of the 2012 JORC Code. The bulk samples were collected from surface excavations using an excavator and trucks. For alluvial samples, Kalahari sand, alluvial sand and silt overburden was stripped and basal alluvial gravel exposed. The gravels together with some underlying basement material (<30cm) was excavated.
- Most data were derived from well controlled mining production areas, with material from each mining area extracted, stockpiled and treated through the production plant separately.
- The information used in the Lulo Diamond Resource estimate is from large scale mining of the deposit it represents and is believed to be representative of each gravel deposit reported.
- Diamonds occur in very low concentrations in most lithologies. They also occur as discrete crystal particles and these must be physically separated and recovered to determine grade. Individual diamonds are unique and their value depends on factors including size, shape, colour and clarity. Large samples (tens to hundreds of tonnes) are required to identify the presence of commercial diamonds. Samples in the order of tens to hundreds of thousands of tonnes are required to establish reliable grade and modelled diamond values for diamond deposits.
- All samples and production mining blocks have been treated through the Lulo Alluvial Production Plant as discrete batches.

Sampling techniques

**Drilling** 

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## 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, facesampling bit or other type, whether core is oriented and if so, by what method, etc.).

- Drilling using Sedidrill, Bohrmeister and Hotline auger drill rigs has been the dominant method used to define the location and thickness of the gravels. This has been supplemented by digging of pits using hydraulic excavators.
- The auger drills use 4" (100mm) and 6" (150mm) diameter augers.
- 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 is recovered from the auger flights and used to measure depth and thickness of the gravels.
- The drilling is used to measure gravel thickness only. No grade measurements are made from this data

Drill sample recovery

- 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.
- Drilled material is recovered from the auger flights and used to measure depth and thickness of the gravels.
- Sample pits are lithologically logged and measured to determine gravel thickness.
- Logging is semi-quantitative with edge thicknesses measured of the entire pit. Some pits have been photographed, but the photography is not systematic.
- Excavated faces of the bulk sample pits are logged. Mining production faces are not systematically logged due to safety considerations.

Logging

- 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 subsampling 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.

- Not core. No sub-samples are taken.
- Most of the bulk samples are excavated wet and all gravel is taken.
- The sampling and sample preparation are identical to those that are used for mining and are considered appropriate for this type of sampling.
- Samples are disaggregated and washed through a scrubber. The process is identical to that which would be used for commercial mining and results are considered representative.
- Most data were derived from well controlled mining production areas, with material from each mining area extracted, stockpiled and treated through the Alluvial Production Plant separately.
- The large effective sample size is appropriate for the material being sampled.

Subsampling techniques and sample preparation



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#### Quality of assay data and laboratory tests

 The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.

- For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.
- Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.
- Samples are processed through a commercial Dense Media Separation ("DMS") Alluvial Production Plant. Recovery in the size fractions is considered total.
- Samples are processed through the Company's DMS Alluvial Production Plant, with an XRT coarse recovery stream (since Dec 2016), to produce a concentrate. Diamonds are recovered from the DMS concentrate using a Flowsort X-ray sorting machine followed by hand sorting.
- DMS efficiency is monitored using density beads.
   The XRT and Flowsort X-ray sorting machines are tested with tracers.
- The verification of significant intersections by either independent or alternative company personnel.
- The use of twinned holes.
- Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.
- Discuss any adjustment to assay data.
- No verification of sample data at an independent facility has been undertaken due to the very large size of the samples and ongoing commercial mining operations.
- The majority of data used is derived from mining production. Mining areas are determined using differential GPS and geolocated drone imagery. Recovered stones are individually documented and weighed in the secure recovery building.
- No data twinning is possible due to the type of data used.
- Entry of primary data has been checked and loaded into a sampling and production spreadsheet.
- Assay data are not adjusted.

and assaying

Verification

of sampling

- 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.
- Sample and drill sites are located using a differential GPS with a horizontal accuracy of <Scm.</li>
- Production areas are measured using geolocated drone images.
- The grid system is UTM WGS84 Zone 34L.
- See Map 1 above for location of mining blocks.

Location of data points



• Data spacing for reporting of Exploration

• Whether the data spacing and distribution is

Results.

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Data used in the Lulo Diamond Resource

estimate comes from individual pits where all the material from that pit has been processed, from

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or personal use only	Data spacing and distribution  Orientation of data in relation to geological structure	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.	contiguous mining production blocks that have been processed discretely and from auger drilling and exploration pitting.  The pit spacing is currently related to exploration and is appropriate for diamond resource estimation in deposits of this type.  Sample compositing has not been applied.  Auger drill spacing has ranged typically between 10m and 50m across channels and between 50m and 100m along channels depending on the stage of drilling, the channel properties and access considerations. This has been shown to be sufficient for the classification of these resources.
		<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>	<ul> <li>The bulk samples and production areas are considered spot samples within an alluvial body.</li> <li>Close spaced drilling is located in lines across the main channel orientations.</li> <li>Insufficient data exists to determine whether sample bias is present but given the nature of the deposit, bias is considered unlikely. Independent review opines the bulk samples and production data are considered representative.</li> </ul>
	Sample security	The measures taken to ensure sample security.	<ul> <li>Sample and production stockpiles are located near SML's Alluvial Production Plant and are always guarded by armed security personnel and remote camera surveillance.</li> <li>Security of processing and diamond recovery is monitored by SML and Angolan State Diamond Security personnel.</li> </ul>
Ĕ _	Audits or reviews	The results of any audits or reviews of sampling techniques and data.	The sampling techniques are industry standard and reviews have been undertaken to validate the data used for estimating the Lulo Diamond Resource.



#### – JORC Code (2012) requirements –

kimberlite field is believed to be the source of

#### **Reporting of Exploration Results**

Criteria	JORC Code Explanation	Lucapa 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>	<ul> <li>The legislation covering the Angolan diamond industry stipulated that only Endiama (Empresa Nacional de Diamantes de Angola, the State Diamond Company) or joint ventures with Endiama (the Angolan State diamond mining company), can hold diamond mining rights awarded by the Council of Ministers.</li> <li>Under the terms of the Lulo Joint Venture agreements, separate titles are granted for alluvial and kimberlite exploration or mining. The exploration for both alluvials and kimberlites on the Lulo Concession is a requirement under the Act.</li> <li>The Angolan Government Gazette dated 24 December 2007, authorized the formation of a Joint Venture for the purpose of prospecting, evaluation and mining of secondary (alluvial) diamond deposits. These rights were granted for an initial period of five years. If the Joint Venture wished to extend the agreement beyond five years, then 50% of the Concession needed to be relinquished. The equity distribution in the alluvial joint venture was: Endiama 32%, Lucapa Diamond Company Ltd 40%, Rosas &amp; Petalas S.A. 28%.</li> <li>Following successful alluvial exploration, a 10-</li> </ul>
		year alluvial mining licence was signed in July 2015 creating "Sociedade Mineira Do Lulo, LDA.", an Angolan incorporated company in which Lucapa Diamond Company Ltd has a 40% shareholding. This Angolan entity was officially incorporated in May 2016.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>Limited exploration was undertaken by state-controlled entities and joint ventures Diamang and Condiama.</li> <li>Parts of the area have been exploited by artisanal miners – no records of this work are available.</li> </ul>
Geology	Deposit type, geological setting and style of mineralisation.	Significant diamond bearing alluvial systems, of Mesozoic to Recent ages overlie a major, but relatively poorly explored, kimberlite field. The kimberlite pipes intrude flat-lying Karoo sediments within the Lucapa Graben. The

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#### Drill hole Information

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#### 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
- o 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 alluvial diamonds.

- A large program of auger drilling and exploration pitting for gravel mapping has taken place to define the extent of the gravels and measure the gravel thickness. An additional 10,058 auger holes comprising ~89km of drilling has been used to extend the Lulo Diamond Resource during 2023, bringing the total to date to 42,739 holes (~350km of drilling). These are considered "grade-control" in nature and are therefore not presented individually.
- The sample pits are surface excavations used for identification and measurement of gravel thicknesses. A total of 960 pits were excavated during 2023. 6,009 pits have been completed in total during the project.
- Other data required in the Code is not material and its exclusion does not detract from the understanding of the Resource Report.
- Bulk sampling and production results were included in the Lulo Diamond Resource estimate.
- No material information has been excluded.

#### 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.
- ArcGIS™ is utilised to delineate gravel bodies within numerous mining blocks at Lulo. The mining blocks are defined by the current operations rather than being geological domains. The estimated gravel volumes and therefore tonnages are derived from polygons that define the gravel bodies and are used to block the deposit (50m x 50m) and estimate the associated gravel thickness. Local block estimation (Ordinary kriging and moving average methods) was used to estimate the gravel thickness of the diamond resource blocks. The estimated areal grade in stones per hundred metres squared (sphm2) and average stone size as carats per stone (cts/ stn) are determined using all available diamond data within each block These data are predominantly based on mining results.
- Leziria and Terrace gravels were estimated separately and Kriging was conducted across mining block boundaries where appropriate.
- Volume grade is generated using the estimated block gravel thickness multiplied by the areal grade.
- The modelling of appropriate size frequency distributions ("SFDs") and assortments for revenue estimation was also undertaken for the resource polygons.

Data aggregation methods



• The resource is now reported as a diluted resource, including estimates of potential

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For personal use only			<ul> <li>mining dilution, based on analysis of historical mining data. This can be compared with the previous estimate.</li> <li>No short or long length aggregation applicable.</li> <li>No metal equivalent values are used.</li> </ul>
	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>	<ul> <li>Results quoted are from surface pits and vertical auger holes. The gravel is largely horizontal in form and therefore all intersection widths are considered true widths. The data observed from the auger holes appears largely congruent with those seen in pits and mining faces.</li> </ul>
	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.	An appropriate map and plans for the reported mineralisation with scale and north points are included in Map 1 above.
	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.	Several blocks have gravel volume estimates based on thickness measurements but have not been included in the Lulo Diamond Resource due to insufficient information related to diamond content.
	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.	The data from the auger drilling and pitting programs has allowed the definition of alluvial channels, which has been followed by mining production.
	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>	Further excavation and processing of material from various sections of the Cacuilo River valley and its major tributaries is ongoing. Results will be reported on completion.

SECTION 3 (RESOURCES) DOES NOT APPLY TO THIS ANNOUNCEMENT
SECTION 4 (RESERVES) DOES NOT APPLY TO THIS ANNOUNCEMENT



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#### – JORC Code (2012) requirements –

#### **Estimation and Reporting of Mineral Resources**

Criteria	JORC Code Explanation	Lucapa 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 Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul> <li>Data, in particular diamond quantity, assortment &amp; SFD and diamond value, was cross checked between different Competent Persons.</li> <li>The bulk sampling dataset is small compared to other forms of exploration data.</li> <li>Verified production data has formed the bulk of the information used for the Lulo Diamond Resource estimate.</li> <li>Checks of auger drilling intercept data have been carried out.</li> <li>External data validation has occurred.</li> </ul>
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>	Site visits by the Lead Author of the Resource Report and Independent Competent Person were undertaken in January 2015 and August 2018.
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>	<ul> <li>Geology has been mapped in mining faces and bulk sample pits. Gravel thicknesses are estimated from separate systematically excavated pits and auger drill holes surrounding the production areas and bulk sample sites.</li> <li>Definition of the gravel deposit extents has largely been based on the auger drilling and pitting programs. Gravel extent outlines have been interpreted by the onsite geological team, based on positive gravel intersections in the auger holes and pits, combined with observed gravel intersections in mining faces.</li> <li>Geostatistical methods have been applied to the estimation of gravel thickness only.</li> <li>Gravel thickness, stones per square metre and average diamond stone size are the controlling factors in guiding the Diamond Resource estimate.</li> <li>Sedimentary gravel facies (types) and contacts affect both the grade and continuity of the diamondiferous gravel zones.</li> <li>Leziria and Terrace gravel deposits were estimated separately.</li> </ul>



#### LUCAPA DIAMOND COMPANY

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**Dimensions** 

## or personal use only Estimation and modelling techniques

The extent and variability of the Mineral Resource expressed as length (along strike or to the upper and lower limits of the Mineral

- otherwise), plan width, and depth below surface Resource.
- Each gravel zone is delineated in plan from positive gravel intersections in the auger holes, pits and mining faces to determine lateral extent. Gravel thickness is measured directly from auger holes and pits. • The Lulo gravel deposits have been defined over
- a distance of approximately 35km within the Cacuilo valley, with terrace deposits found across a maximum width of approximately 1.5km.
- The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.
- The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.
- The assumptions made regarding recovery of byproducts.
- Estimation of deleterious elements or other nongrade variables of economic significance (e.g. 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 data utilised for this estimation study include:
  - Shape files defining the area of each gravel
  - Auger drilling and pit data to enable an estimate to be made of gravel thickness in each gravel body
  - A measure of density (global)
  - Polygons defining mining areas
  - Diamond data (sourced from bulk sampling and mining) to enable an estimate of stone density, average stone size and value for each gravel body.
- Estimation of gravel thickness and variability, as well as recovered stones per square metre using ordinary kriging and moving averages, are standard industry methods for alluvial diamond estimation. Estimation was carried out using ISATISTM software.
- Once dilution estimates are included, the estimates compare well with production recoveries. Much of the data used in the estimate derived production is from information.
- There are no by-products.
- There are no deleterious by-products.
- Block model interpolation is applied to gravel thickness only, in blocks where data is sufficient to support this.
- Geology is assumed to be continuous across the separate gravel/ conglomerate horizons when demonstrated by adjacent pits.
- The pertinent variables are stones per square metre, average stone size and gravel thickness converted to a volume. These are not assumed but measured and calculated.
- The planar and vertical distribution of gravels controls the geological extent of the Lulo Diamond Resource estimate.
- Reconciliation is the primary method of validation; the bulk samples and zone estimates are reconciled against mining production. Recovered average stone size is



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		,
		reconciled against bulk sampled stone size and grade (carats/ cubic metre). In-situ volume is also reconciled.  • Gravel thicknesses were capped at 2.0m, stone grade records were capped at 14cphm² for terrace gravels and 20cphm³ for Leziria gravels. These caps had no material impact on the estimation.  • Mining dilution is a necessary part of the mining process, ensuring that all potentially diamondiferous material is recovered from the thin gravel beds making up the majority of the deposits at Lulo. This allows all the Special diamonds (valued >US\$100,000 per stone and >10.8 carats) to be recovered for processing. Production grades are based on treated volumes inclusive of the mining dilution, not insitu volumes. The quantity of dilution has been estimated by Z Star, using historical mining production data and applied to each mining block based on the estimated gravel thickness, however variations due to mining method, time of the year mined and gravel depth are apparent in the data and can only be partially accounted for.  • The Lulo Diamond Resource estimate does take account of mining production data.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Estimates are of in-situ cubic metres to negate the effect of moisture.
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	All resources are reported to a diamond bottom cut-off size of 1.5mm.
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.	<ul> <li>Mining dilution is a necessary part of the mining process, ensuring that all potentially diamondiferous material is recovered from the thin gravel beds making up the majority of the deposits at Lulo. This allows all the Special diamonds (valued &gt;US\$100,000 per stone and &gt;10.8 carats) to be recovered for processing. Production grades are based on treated volumes inclusive of the mining dilution, not insitu volumes. The quantity of dilution has been estimated by Z Star, using historical mining production data and applied to each mining block based on the estimated gravel thickness.</li> <li>Mining methods are assumed to be similar to those currently used.</li> </ul>



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#### Metallurgical factors or assumption

- 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 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
- The Alluvial Production Plant has been the sampling plant since late 2013 with the same bottom screen size, used for sampling and production. A wet front end was added in 2015 and an XRT diamond recovery unit was added in December 2016.
- A diamond bottom cut-off size of 1.5mm has been applied to all estimates.
- No metallurgical recovery factors are applied as the data has been generated using actual production results.

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.
- Mining underway, with continuous rehabilitation of mining areas taking place.
- Reasonable prospects for eventual economic extraction are based on results to date.
- The Lulo Diamond Resource is under actual extraction.

### Whether assumed or determined. If assumed,

- the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.
- The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.
- Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.

- The key resource parameters are calculated as grade per unit volume.
- Where required a global in-situ density value of 2.115 has been applied.

**Bulk density** 

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- The basis for the classification of the Mineral Resources into varying confidence categories.
- 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).
- Whether the result appropriately reflects the Competent Person's view of the deposit.
- Classification was based on numerous factors
  - Modelled assortment
  - Modelled size frequency distribution
  - Number of samples
  - Geological continuity
  - Mining reconciliation
  - The amount of carats and stones recovered so far and values obtained in commercial sales.
- resultant Diamond Resource Lulo

Classification

Audits or reviews

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	estimation reflects the Competent Person's view of the deposit and is classified as "Inferred".
The results of any audits or reviews of Mineral Resource estimates.	• The Lulo Diamond Resource has been independently estimated and reconciled by external consultants, Z Star Mineral Resource Consultants (Pty) Ltd, of Cape Town, South Africa (Z Star). It was internally reviewed by an internal second competent person, (Dr J. A. Grills, Pr.Sci. Nat.) and by the Lucapa Competent Person (Mr R Price, MAusIMM).
<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</li> </ul>	<ul> <li>The Lulo Diamond Resource estimate is based on extensive exploration and production information.</li> <li>Geostatistical methods have been applied to estimates of gravel thickness but not to any other variable. The Lulo Diamond Resource has been independently estimated and reconciled by external consultants, Z Star.</li> <li>Both recovered stone size and grade (as stones per cubic metre) reconcile well within an inferred resource classification when compared to production values.</li> <li>The Lulo Diamond Resource estimates are not global, but zonal within district gravel zones, as reported. Gravel thicknesses have been estimated into 50m x 50m local blocks.</li> </ul>

Discussion of relative accuracy /confidence

confidence of the estimate should be compared

with production data, where available.



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#### - JORC Code (2012) requirements -

#### **Estimation and Reporting of Diamonds and Other Gemstones**

Criteria	JORC Code Explanation	Lucapa Commentary
Indicator minerals	• Reports of indicator minerals, such as chemically/physically distinctive garnet, ilmenite, chrome spinel and chrome diopside, should be prepared by a suitably qualified laboratory.	Indicator grains are not relevant to alluvial grade estimates.
Source of diamonds	Details of the form, shape, size and colour of the diamonds and the nature of the source of diamonds (primary or secondary) including the rock type and geological environment.	<ul> <li>The diamonds were recovered from alluvial gravels in the Cacuilo River valley.</li> <li>The diamonds reported have a variety of sizes, shapes and colours, but contain an exceptional quantity of large, high quality Type IIa stones.</li> <li>Secondary diamonds are believed to be sourced from nearby sub-cropping kimberlite intrusions which have been eroded and have shed diamonds into elevated terraces and pediments, older than the current Cacuilo River.</li> </ul>
Sample collection	<ul> <li>Type of sample, whether outcrop, boulders, drill core, reverse circulation drill cuttings, gravel, stream sediment or soil, and purpose (e.g. large diameter drilling to establish stones per unit of volume or bulk samples to establish stone size distribution).</li> <li>Sample size, distribution and representivity.</li> </ul>	<ul> <li>The majority of the data used in the resource estimation is derived from mining production recoveries.</li> <li>The auger drilling spacing has been determined to be sufficient for defining the gravel extent at the required level of representivity for an inferred resource, and the production data is of a sufficient scale to establish all the key parameters required for the Lulo Diamond Resource estimate at the required level of representivity for an inferred resource.</li> </ul>
Sample treatment	<ul> <li>Type of facility, treatment rate, and accreditation.</li> <li>Sample size reduction. Bottom screen size, top screen size and re-crush.</li> <li>Processes (dense media separation, grease, X-ray, hand-sorting, etc.).</li> <li>Process efficiency, tailings auditing and granulometry.</li> <li>Laboratory used type of process for micro diamonds and accreditation.</li> </ul>	<ul> <li>Samples and production material are processed through a DMS Alluvial Production Plant. The Alluvial Production Plant uses a 420mm diameter cyclone and has a nominal head feed treatment rate of 150 tonnes per hour. The plant is not accredited.</li> <li>Sample and production material is washed through a scrubber. The bottom screen size is 1.2mm (slotted) (1.5mm effective cut-off) and the top size is 55mm.</li> <li>In 2021 an in-field screening plant was commissioned where gravel from more southern mining blocks was scrubbed and screened to produce a gravel which is reprocessed at the main plant.</li> <li>The recovery process involves DMS separation, X-ray sorting of the heavy concentrate and hand sorting of the X-ray concentrate. An XRT unit is</li> </ul>

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		<ul> <li>used to process the coarser 25-55mm fraction.</li> <li>Larger diamonds are characterised using a ZVI Yehuda F1000 Colorimeter.</li> <li>SML are processing the material through a DMS Alluvial Production Plant with an XRT coarse recovery stream. Processing efficiency has been demonstrated in density bead recovery tests. Tails auditing and granulometry studies have not been completed.</li> <li>Microdiamonds are not reported.</li> </ul>
at	One fifth (0.2) of a gram (often defined as a metric carat or MC)	Reported as carats.

Carat

Sample grade

- Sample grade in this section of Table 1 is used in the context of carats per units of mass, area or
- The sample grade above the specified lower cutoff sieve size should be reported as carats per dry metric tonne and/or carats per 100 dry metric tonnes. For alluvial deposits, sample grades quoted in carats per square metre or carats per cubic metre are acceptable if accompanied by a volume to weight basis for calculation.
- In addition to general requirements to assess volume and density there is a need to relate stone frequency (stones per cubic metre or tonne) to stone size (carats per stone) to derive sample grade (carats per tonne).

- Grade from production information is calculated from diamond recovery per unit area mined.
- For the purposes of estimation, stones per hundred square metres and carats per 100 cubic metres are reported.
- A nominal 2.115 tonnes per in-situ cubic metre is ascribed to the alluvial gravels. Limited density measurements have been made and the use of an "average" density is considered appropriate for the stage of estimation. Resource estimates are all reported in in-situ volumes.
- The table in the report indicates average carats per stone and carats per 100 square metres.
- Stone frequency per unit area (stones per square metre), stone size (carats per stone) and gravel thickness are used to derive resource grades (carats per 100 cubic metres).
- A factor derived from historical production records and based on gravel thickness is applied to each mining block to estimate the dilution expected to be incorporated into a production grade.
- Complete set of sieve data using a standard progression of sieve sizes per facies. Bulk sampling results, global sample grade per facies. Spatial structure analysis and grade distribution. Stone size and number distribution. Sample head feed and tailings particle granulometry.
- Sample density determination.
- Per cent concentrate and undersize per sample.
- Sample grade with change in bottom cut-off screen size.
- Adjustments made to size distribution for sample plant performance and performance on a commercial scale.
- If appropriate or employed, geostatistical techniques applied to model stone size, distribution or frequency from size distribution of exploration diamond samples.

- Sieving data is not used at Lulo. Each stone is individually weighed. Sufficient data for spatial analysis was only available for 24 of the blocks
- Granulometry data has not been measured and is not considered material to the understanding of this report.
- The in-situ density for alluvial gravels has been determined at 2.115 tonnes per cubic metre. This number was measured for previous samples and has been applied throughout.
- Percent concentrate and undersize have not been measured and are not considered material to the understanding of this report.
- Variation in grade with changes in bottom cut-off screen size has not been determined. The current 150tph plant was commissioned in November

Reporting of Exploration Results



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Grade
estimation for
reporting
Mineral
Resources and
Ore Reserves

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 The weight of diamonds may only be omitted from the report when the diamonds are considered too small to be of commercial significance. This lower cut-off size should be stated.

- 2013 and this plant is used for the commercial alluvial production as well as treatment of bulk samples.
- Geostatistical studies on diamond parameters have been undertaken on blocks where sufficient data has been recorded. In the other cases simple weighted and moving averages were applied.
- The total weight of diamonds recovered is not reported. Resource grades are quoted at a bottom cut-off size of 1.5mm and a top cut-off size of 55mm.
- Description of the sample type and the spatial arrangement of drilling or sampling designed for grade estimation.
- The sample crush size and its relationship to that achievable in a commercial treatment plant.
- Total number of diamonds greater than the specified and reported lower cut-off sieve size.
- Total weight of diamonds greater than the specified and reported lower cut-off sieve size.
- The sample grade above the specified lower cutoff sieve size.

- Diamond Resources are included in the report.
- No crushing is used at the Lulo alluvial operations.
- Resource volumes and carats are reported in-situ once appropriate dilution factors have been applied to estimated and expected production grade and volume.
- Resource grades are quoted at a lower cut-off size of 1.5mm and upper cut-off size of 55mm.
- No Diamond Reserves are reported.
- Valuations should not be reported for samples of diamonds processed using total liberation method, which is commonly used for processing exploration samples.
- To the extent that such information is not deemed commercially sensitive, Public Reports should include:
  - diamond quantities by appropriate screen size per facies or depth.
  - o details of parcel valued.
  - o number of stones, carats, lower size cutoff per facies or depth.
- The average \$/carat and \$/tonne value at the selected bottom cut-off should be reported in US Dollars. The value per carat is of critical importance in demonstrating project value.
- The basis for the price (e.g. dealer buying price, dealer selling price, etc.).
- An assessment of diamond breakage.

- Value estimates are based on recoveries from a commercial scale DMS Alluvial Production Plant.
   Total liberation methods have not been employed.
- Value has been modelled from SFD and assortments.
- The diamond value model has been escalated using a global rough diamond price index provided by GTD Consultants, an independent diamond valuation consultancy, up to 31st December 2023.
- Much of the detailed or individual diamond valuation or sales data is considered commercially sensitive from a marketing perspective and cannot be released in advance of sale.
- The bottom cut-off used is the same as the plant,
   1.5mm effective.
- Values are reported in US Dollars.
- The price quoted is the average sale price per carat.
- No significant diamond breakage was recognised.
- Average modelled value is US\$1,897/ carat.
- Average value achieved in commercial sales for diamonds sold during 2023 was US\$2,700/ carat.
- Sales prices quoted are commercial fair market trade rough buying prices.
- Stone size frequency analysis and value were

Value estimation

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	D. E. Bush Pr. Sci. N Principal Mineral Re
	David E Bush is a graduate (1990); an MSc DIC in Mine

#### by:

Nat. esource Analyst (Z\*)

David E Bush is a graduate of Ecole Nationals Supérieure des Mines de Paris, France, with a DEA in Geostatistic (1990); an MSc DIC in Mineral Exploration from Imperial College, London, England (1994) and a SSc (Hons) degree in Geology from the University of the Witwatersrand, South Africa (1996). He has in excess of treethy years overgenerie in geotestiscal mineral resource estimation and classification. A significant proposition of the sequence has been directly related to diamond deposits. He is currently a director of Z Star Mineral Resource Consultation (Party) Ltd. and a member of the Geostatical Association of South Africa. David qualities as a competent person as defined in the "South African Code for Reporting of Mineral Resources and Ore Reserves" (SAMREC) and is registered as a Geological Scientist with the South African Council for Natural Scientific Professions (Registration No. 400071/00).

P. Duggan *Pr. Sci. Nat.* incipal Mineral Resource Analyst (Z\*)

in Duggan graduated in 1964 with a BSc degree in Geology, in 1985 with a BSc thonours degree in chemistry, both from the University of Stellenbooth, South Africa and in 1994 was awarded an NSc degree in ing Enjineering (Geostatistics) from the University of the Wildmatersrand. He has been directly involved in the mation and classification of mineralised placer deposits for the last 30 years and base metal deposits clinically for eyears. He a member of the Geological Society of South Africa, the Geostatistical Society of

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

- There has been no accredited process audit.
- Samples were monitored by armed guards after excavation and the process operation was monitored by Angolan State Diamond Security personnel.
- Diamonds recovered are stored in a locked vault or once transported for sale, in vaults in Sodiam's secure offices in Luanda.
- Diamond values are modelled from actual sales results.
- Microdiamonds were not processed.
- No audit samples were collected because of the size of the bulk samples.
- Tailings have not been checked.
- Tracer monitors were used in sample treatment with tracer recovery in all tested size fractions >95% for tracers of density 3.5 g/cc.
- Geophysical densities were not determined.
- Gross validation of weights with hole volume and density is not considered appropriate for the stage of exploration.
- In addition to general requirements to assess volume and density there is a need to relate stone frequency (stones per cubic metre or tonne) to stone size (carats per stone) to derive grade (carats per tonne). The elements of uncertainty in these estimates should be considered, and classification developed accordingly.
- Sufficient diamonds have been recovered to allow Lucapa to quantify the commercial uncertainty in stone size frequency, stone size, assortment and diamond grade, at Inferred Resource level.
- In addition, SFD and stone size as modelled has been reconciled against commercial scale alluvial mining.
- The special stones are not excluded in the modelling stage, either in terms of size or
- The size frequency distribution model is based on all the stone data and is now considered robust for the main mining production areas.
- As diamond market conditions change, the modelled value and realised values will be different.

Security and integrity

Classification