

ASX Announcement 11 January 2018

## **DIAMOND-BEARING LAMPROITE DISCOVERED AT BROOKING**

Lamproite with high concentrations of macro-diamonds and micro-diamonds discovered at Little Spring Creek, within 50km of the world-class Ellendale diamond mine

## Highlights

- Near-surface lamproite intersected in drilling at the Little Spring Creek prospect at Lucapa's 80% owned Brooking diamond project in the West Kimberley
- 119 diamonds, including 7 macro-diamonds of up to 1.0mm (Figure 1), recovered from micro-diamond analysis of 86.8kg of core sample from the one hole drilled at Little Spring Creek
- Discovery of diamond-bearing lamproite validates results from previous surface sampling programs at Little Spring Creek, where 24 diamonds and highly-anomalous concentrations of lamproite indicator minerals were recovered
- Little Spring Creek located within 50km of the Ellendale diamond mine, which, when in production, produced more than 50% of the world's annual supply of fancy yellow diamonds
- Follow-up drilling and bulk sampling programs planned as soon as access is available after the northern wet season
- Little Spring Creek results also enhance the prospectivity of the other proximal targets at Brooking where diamonds and indicator minerals were also recovered in previous surface sampling programs

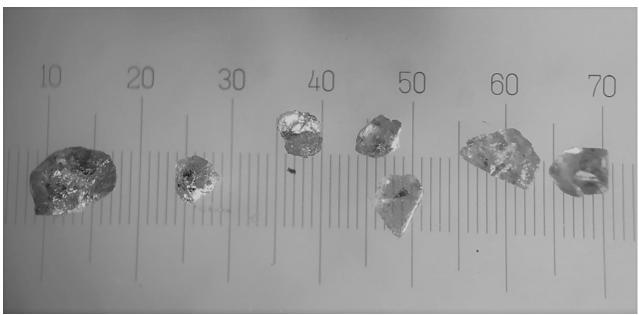


Figure 1: Macro-diamonds recovered from Little Spring Creek drill core sample (graticule gradations in 0.1mm intervals)

Lucapa Managing Director Stephen Wetherall said he was delighted with such spectacular results from the Brooking drilling program.

"The main goal of our drilling program at Brooking was to identify lamproitic material, which could be the primary source of the diamonds and indicator minerals recovered from the earlier surface sampling programs."

"The high concentrations of micro-diamonds and macro-diamonds recovered from the Little Spring Creek drill core sample is extremely encouraging and the counts are very similar to the MIDA results from the Ellendale E9 and E4 diamond pipes, 50km west in the West Kimberley lamproite field."

"We now look forward to follow-up work programs at Little Spring Creek to identify the extent of the diamondiferous lamproite body and to further assess its diamond content when conditions permit."

Lucapa Diamond Company Limited (ASX: **LOM**) ("Lucapa" or "the Company") and its partners, Leopold Diamond Company Pty Ltd, are pleased to provide an update on exploration at the 80% owned Brooking diamond project in Western Australia's West Kimberley region ("Brooking").

As announced to the ASX on 25 October 2017, Lucapa commenced a drilling program, using a diamond core rig, across a series of targets within the expanded 118km<sup>2</sup> Brooking project to identify possible lamproitic sources of the diamonds and abundant lamproite indicator minerals recovered from previous field sampling campaigns (See ASX announcement 9 January 2017).

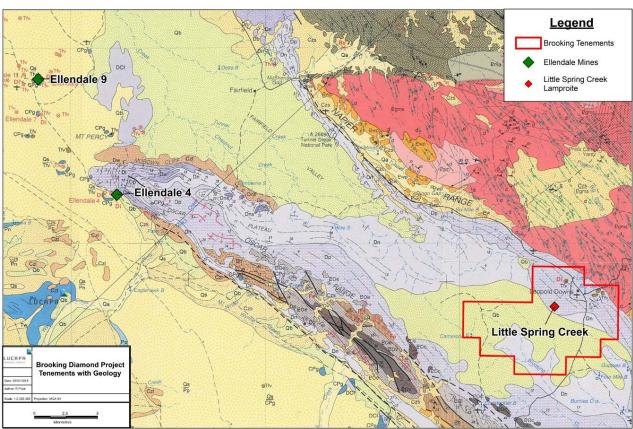


Figure 2: Location of the Little Spring Creek prospect within the Brooking project and proximity to the Ellendale E9 and E4 diamond mines

Lamproite pipes are a known host of diamonds in the West Kimberley region, most notably at the Ellendale E9 and E4 pipes located within 50km west of Brooking (Figure 2). When in operation, Ellendale was the world's leading producer of rare fancy yellow diamonds.

## **Little Spring Creek discovery**

On 18 December 2017, Lucapa announced it had completed the Brooking drilling program and transported the drill core to Perth.

Of most interest was the lamproitic material identified in the HQ (63mm) diameter core from the one hole drilled at the Little Spring Creek prospect. This lamproitic material was intersected close to surface and extended to a vertical depth of approximately 70 metres.

Significantly, previous stream and surface sampling programs had produced highly-anomalous concentrations of diamonds and lamproite indicator minerals in the creek downstream of Little Spring Creek, indicating a possible proximal source (See ASX announcement 23 November 2017). These recoveries included 24 diamonds, 3,906 chrome-spinels, nine pyropes and two picro-ilmenites<sup>1</sup>.

After initially undergoing petrographic analysis at Townend Mineral Laboratory to confirm if the core sample was lamproitic, intervals of core were selected for micro-diamond analysis from depths between 12.6m and 68.3m.

The initial sample treatment was performed by Diamond Recovery Services in Perth, where samples totalling 86.8kg were crushed and screened before undergoing heavy liquid separation and caustic fusion processing. The coarse fraction (>0.4mm) was subjected to a milling process in place of the caustic fusion.

The final concentrate was examined for micro-diamonds and macro-diamonds by Global Diamond Exploration Services Pty Ltd ("GDES") down to a bottom screen size of 0.1mm.

A total of 119 diamonds - 112 micro-diamonds and 7 macro-diamonds (>0.5mm in at least 1 dimension) (Figure 1) - were recovered from the 86.8kg sample of core, thus confirming the lamproitic material extracted from Little Spring Creek as diamond-bearing. The largest macro-diamond recovered from this process was approximately 1.0mm x 0.6mm x 0.5mm in size.

#### Follow-up work programs

Further work programs are being planned following the discovery of this diamond-bearing lamproite, including further drilling and geophysics to define the limits of the lamproite body at Little Spring Creek and sampling to further understand macro-diamond content.

Road access to the area is now prevented by the northern wet season and these follow-up work programs will commence as soon as access is available.

Lucapa believes the extremely positive results from the Little Spring Creek target also enhance the prospectivity of the other targets within the Brooking project tenements where diamonds and indicator minerals have also been recovered from previous surface sampling programs.

Lucapa plans to submit drill core recovered from the Santa Fe and North East Creek prospects for further laboratory analysis, while additional field work is planned across the broader Brooking project.

For and on behalf of the Lucapa Board.

## STEPHEN WETHERALL MANAGING DIRECTOR

<sup>1</sup> Brooking Diamond Project (Leopold Diamond Company Pty Ltd) Annual Report, December 2015, Department of Mines and Petroleum WA

#### **ABOUT LUCAPA**

Lucapa is a growing diamond company with a portfolio of high-quality production, development and exploration assets in Angola, Lesotho, Botswana and Australia. The Company's focus on high-value diamond production is designed to protect cash flows as demand and pricing in this particular sector of the diamond market remains robust.

Lucapa's flagship asset is the Lulo Diamond Project in Angola, which is a prolific producer of large and premium-value alluvial diamonds. It has produced 9 +100ct diamonds and is the highest US\$ per carat alluvial diamond production in the world. Lucapa and its Lulo partners continue to advance their search for the primary kimberlite source of these exceptional alluvial gems, with three drill rigs now available in the ongoing kimberlite exploration program.

In keeping with the Company's growth strategy, Lucapa has acquired a 70% interest in the advanced Mothae kimberlite project in diamond-rich Lesotho. The Mothae kimberlite pipe is a high-quality diamond resource located within 5km of Letšeng, the highest US\$ per carat kimberlite diamond mine in the world. Lucapa is constructing a 150 tonne per hour (90,000 tonnes per month) diamond treatment plant, complete with XRT recovery technology, under its Phase 1 development program and is scheduled to commence high-value production at Mothae in H2 2018.

Lucapa is also advancing exploration programs at two other diamond projects – Brooking in the West Kimberley lamproite province in Western Australia, where the Company has recently discovered lamproite with high concentrations of micro and macro diamonds, and Orapa Area F in Botswana's Orapa diamond field, where identified targets will be drilled in 2018.

Lucapa's Board and management team have extensive diamond industry experience across the globe with companies including De Beers, Rio Tinto and Gem Diamonds. The Company was included in the ASX All Ordinaries Index in March 2017.

#### **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 Albert Thamm MSc FAusIMM (CP), who is a Corporate Member of the Australasian Institute of Mining and Metallurgy. Mr Thamm is a Director of Lucapa Diamond Company Limited. Mr Thamm 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 Thamm consents to the inclusion in the announcement of the matters based on this information in the form and context in which it appears.

#### 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. This announcement is for information purposes only. Neither this document nor the information contained in it constitutes an offer, invitation, solicitation or recommendation in relation to the purchase or sale of shares in any jurisdiction.

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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 or any of the forward-looking statements in this document or any changes in events, conditions or circumstances on which any such forward-looking statement is based.

## Appendix 1

# Reporting of lamproite exploration results for the Brooking Project - JORC Code (2012) requirements -

## **Sampling Techniques and Data**

Criteria	JORC Code Explanation	Lucapa Commentary			
Sampling techniques	<ul> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.) These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Drilling was undertaken using a Sandvik DT712 drill rig, drilling HQ3 diameter core.</li> <li>Core was preliminary logged at the base camp.</li> <li>Selected sections of core over the entire intersected length of lamproite were submitted for microdiamond analysis.</li> </ul>			
Drilling techniques	<ul> <li>Drill type (e.g. core, reverse circulation, openhole 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.).</li> </ul>	The drilling to date has consisted of HQ sized triple tube diamond core drilling.			
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	<ul> <li>Core is recovered from the core barrel and stored in core boxes, before being transported by light vehicle to the base camp, where it is visually logged.</li> <li>Core recovery is generally high.</li> </ul>			

Criteria	JORC Code Explanation	Lucapa Commentary		
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>The core is visually logged</li> <li>No quantitative analysis of the core is reported.</li> </ul>		
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>Selected sections of whole core were submitted for microdiamond analysis. Approximately 1-1.5m of HQ core was selected for analysis from each box containing approximately 4m of core.</li> <li>The samples were crushed to &lt;2mm and screened at 0.4mm.</li> <li>The -2mm+0.4mm fraction was magnetically separated with the nonmagnetic fraction subjected to heavy liquid separation in tetrabromoethane (TBE). The sinks were visually examined for microdiamonds under a microscope. The floats were subjected to further crushing and TBE separation.</li> <li>The -0.4mm fraction was screened at 0.1mm, with the 0.4-0.1mm fraction fused with sodium peroxide at 700°C. The residue was again screened at 0.1mm and examined for microdiamonds.</li> <li>The +0.4mm non-magnetic material was subjected to a milling process in place of the caustic fusion process.</li> <li>All residues have been retained for further examination if required.</li> </ul>		
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of biss) and presision have been established.</li> </ul>	<ul> <li>The process undertaken is a common process for samples at this stage of exploration.</li> <li>No calibration or QC measures such as the use of blanks are appropriate for this type of analysis.</li> <li>The visually picked diamonds were reviewed by two separate observers before reporting.</li> <li>Synthetic diamonds generated from the drill bit were identified and removed from the final results.</li> </ul>		

bias) and precision have been established.

Criteria	JORC Code Explanation	Lucapa Commentary
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>Verification of the visual logging and microdiamond data has been undertaken by alternative personnel.</li> <li>No independent verification of samples has been undertaken.</li> </ul>
Location of data points	<ul> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Sample sites were located using a hand held GPS with a nominal accuracy of about 5m. No elevation data was captured.</li> <li>The grid system is WGS84 Zone 34L.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Only one drill hole was planned in the program to be drilled on the target.</li> <li>All of the material collected was composited into one sample for treatment.</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>The drill hole was a vertical hole in what is believed to be a vertical deposit.</li> <li>The selection of sub samples through the entire intersection will ensure reasonable representivity of the sample.</li> </ul>
Sample security	• The measures taken to ensure sample security.	<ul> <li>Security of the drilling and core storage area, processing and diamond recovery is monitored by the on-site personnel.</li> <li>Core was stored and transported in a locked container.</li> </ul>
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	<ul> <li>The sampling techniques are industry standard and no audits or reviews have been undertaken to validate the information presented at this stage.</li> </ul>

## **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 Brooking Diamond Project comprises Exploration Licences E04/1936 and E04/2317 and application E04/2502.</li> <li>The Project area is located approximately 55km NNW of Fitzroy Crossing in the West Kimberley region of Western Australia on the Lennard River 1:250,000 (SE51-08) and Leopold Downs 1:100,000 (3692) mapsheets. The Project area straddles the boundary between the Brooking Springs and Leopold Downs pastoral leases. The Exploration Licences E04/1936 and E04/2317 were originally 100% owned and operated by Leopold Diamond Company Pty Ltd.</li> <li>On 13 October 2016, Lucapa (ASX: LOM) announced that it had agreed to acquire 80% of the project tenements.</li> <li>On 6 June 2017 Brooking Diamond Company was granted E04/2471 for a period of 5 years.</li> <li>On 8 November 2017 Brooking Diamond Company applied for exploration licence E04/2502.</li> </ul>
]	Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>The project area has been continuously explored for diamonds since 1976; following the discovery by the Ashton Joint Venture, of the Big Spring Cluster of sub-economic, variably diamondiferous, dykes, pipes and sills of Miocene-aged olivine lamproite and leucite-lamproite at Big Spring, 5 km NNE of the Brooking Project area. The Ashton Joint Venture also recovered diamonds and fresh to fresh-worn kimberlitic indicator minerals suggestive of derivation from at least one local provenance; from stream-sediment and soil samples collected from the tributaries of the Brooking, Homestead and Cajuput Creeks which drain the black-soil covered Devonian limestone reef complexes forming the Oscar Plateau.</li> <li>These positive results provided the stimulus for persistent exploration between 1976 and 2002 by Stockdale Prospecting, Metana Minerals NL, Mr Manning, Moonstone Diamond Corporation, Diamond Rose NL, Thundelarra Exploration Ltd/Resource Exploration and Diamond Exploration Consultants/Alcaston Mining. Historic exploration programmes have involved the acquisition of aerial photography and Landsat/Spot imagery, airborne magnetic,</li> </ul>

magnetic traverses, regional streamsediment, soil and loam sampling and associated geochemistry, kimberlitic mineral indicator observation associated mineral geochemistry shallow percussion drilling. In 2002, following a regional HEM survey, Rio Tinto Exploration Pty Ltd discovered Leopold 1; a Miocene-aged poly-phase dyke of olivinephlogopite lamproite and olivine-leucite lamproite, approximately 1.5km east of the eastern boundary of the Brooking Project Area. This discovery, although barren of diamonds, provided impetus for continuing exploration for similar lamproites concealed under the transported Quaternary black-soils developed over the Devonian limestone karst topography forming the Oscar Plateau.

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Geology

 Deposit type, geological setting and style of mineralisation.

- The targets for this exploration program are lamproites similar to the nearby Big Springs pipes or the Ellendale bodies to the WNW.
- Like kimberlite. lamproite magma originates at upper mantle depths of 150 -200km, and may entrain diamonds and other minerals from the upper mantle during its rapid ascent to the earth's surface.
- The interaction of the hot magma with groundwater results in a highly explosive eruption that, in the case of the Ellendale Lamproite Field, has generally resulted in large flared champagne glass shaped pipes near surface with a narrow pipe stem extending to depth.
- Minerals commonly present within lamproites include olivine, clinopyroxene, phlogopite, leucite and amphibole. Xenoliths and xenocrysts, including pyrope garnets and rare diamonds (of upper mantle origin) may also be present. The presence of these xenocrysts is dictated by the mantle lithologies sampled by the lamproite magma on its ascent to surface.
- Lamproites can only be diamondiferous if the lamproite magma intersects and samples diamondiferous mantle lithologies during its ascent, and if the conditions within the lamproite magma are such that the entrained diamonds are preserved once emplaced near or on the earth's surface (by rapid cooling of the lamproite to limit diamond resorption).
- The subcrop geology of the area consists of Devonian limestones and related rocks.

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	Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth hole length.</li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul> </li> </ul>	<ul> <li>Drill hole collar information is tabulated in Table 2.</li> <li>Intercept information is currently unverified and is not presented here.</li> </ul>
	Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>No weighting, averaging, grade truncations or cut-off grades have been used.</li> <li>No short or long length aggregation applicable.</li> <li>No metal equivalent values are used.</li> </ul>
3	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>	The deposits may be regarded as massive deposits so drill hole orientation is not relevant.
	Diagrams	<ul> <li>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.</li> </ul>	Appropriate map and plans for the reported mineralisation are included with the text of the report.

Criteria	JORC Code Explanation	Lucapa Commentary		
Balanced reporting	<ul> <li>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.</li> </ul>	Results reported are complete.		
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.	<ul> <li>Stream and loam sampling have been undertaken in some of the areas surrounding the drill sites.</li> <li>Diamonds and chrome spinels have been recovered from these samples and are reported in an announcement on 23rd November 2016.</li> <li>A ground electromagnetic survey was conducted over the Little Spring Creek target.</li> </ul>		
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>	<ul> <li>Analysis of the core and sample residues will continue. This will include recovery of indicators for mineral chemistry analysis.</li> <li>A follow-up drilling program possibly accompanied by pitting and trenching is being planned.</li> <li>Further geophysics surveys to extend the coverage around the target and improve the definition of the target will be undertaken.</li> <li>A review of existing airborne geophysics and remote sensing data will be undertaken for the surrounding area to identify similar targets in the project area.</li> </ul>		

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

	<ul> <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>	<ul> <li>being planned.</li> <li>Further geophysics surveys to extend the coverage around the target and improve the definition of the target will be undertaken.</li> <li>A review of existing airborne geophysics and remote sensing data will be undertaken for the surrounding area to identify similar targets in the project area.</li> </ul>
	Estimation and Reporting of Diamonds and	Other Gemstones
Criteria	JORC Code Explanation	Lucapa Commentary
Indicator minerals	<ul> <li>Reports of indicator minerals, such as chemically/physically distinctive garnet, ilmenite, chrome spinel and chrome diopside, should be prepared by a suitably qualified laboratory.</li> </ul>	Indicator mineral recovery from the sample is underway, but full results are not available as yet.
Source of diamonds	<ul> <li>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.</li> </ul>	<ul> <li>The diamonds recovered are derived from lamproite drill core.</li> <li>No classification of diamond type has been done.</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 (eg 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 diamonds recovered are derived from lamproite drill core.</li> <li>Selected sections of whole core were submitted for microdiamond analysis. Approximately 1-1.5m of HQ core was selected for analysis from each box containing approximately 4m of core.</li> <li>A total of 86.8kg of core was treated, which was considered sufficient for the</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>	determination of whether the material is diamondiferous or not.  The sample was collected as sub samples over the entire length of lamproite intersection and is expected to be reasonably representative of the geological units intersected.  The samples were crushed to <2mm and screened at 0.4mm.  The -2mm+0.4mm fraction was magnetically separated with the nonmagnetic fraction subjected to heavy liquid separation in tetrabromoethane (TBE). The sinks were visually examined for microdiamonds under a microscope. The floats were subjected to further crushing and TBE separation.  The -0.4mm fraction was screened at 0.1mm, with the 0.4-0.1mm fraction fused with sodium peroxide at 700°C. The residue was again screened at 0.1mm and examined for microdiamonds.  The +0.4mm non-magnetic material was subjected to a milling process in place of the caustic fusion process.  All residues have been retained for further examination if required.  Sample treatment was undertaken by Diamond Recovery Services Pty Ltd.  Diamond recovery was undertaken by Global Diamond Exploration Services
Carat	• One fifth (0.2) of a gram (often defined as a metric carat or MC).	No diamond weights are reported
Sample grade	<ul> <li>Sample grade in this section of Table 1 is used in the context of carats per units of mass, area or volume.</li> <li>The sample grade above the specified lower cut-off 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.</li> <li>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).</li> </ul>	No grade is estimated from this sample result.

Criteria	JORC Code Explanation	Lucapa Commentary			
Reporting of	• Complete set of sieve data using a standard	Category	Size Range	MIDA Counts	
Exploration	progression of sieve sizes per facies. Bulk	Macro	>0.5mm	7	
Results	sampling results, global sample grade per	Micro	<0.5mm >0.1mm	112	
	facies. Spatial structure analysis and grade	Total		119	
	<ul> <li>distribution. Stone size and number distribution. Sample head feed and tailings particle granulometry.</li> <li>Sample density determination.</li> <li>Per cent concentrate and undersize per sample.</li> <li>Sample grade with change in bottom cutoff screen size.</li> <li>Adjustments made to size distribution for sample plant performance and performance on a commercial scale.</li> <li>If appropriate or employed, geostatistical techniques applied to model stone size, distribution or frequency from size distribution of exploration diamond samples.</li> <li>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</li> </ul>	er Total  Recovered stones were measured aga graticule under a microscope to dete their maximum dimensions.  No sample density has been determine No undersize is reported for microdia samples.  No grade is estimated.  No adjustments are made.  No geostatistical techniques are us this stage.  The diamonds recovered are too small of commercial significance.			
Grade estimation for reporting Mineral Resources and Ore Reserves	<ul> <li>size should be stated.</li> <li>Description of the sample type and the spatial arrangement of drilling or sampling designed for grade estimation.</li> <li>The sample crush size and its relationship to that achievable in a commercial treatment plant.</li> <li>Total number of diamonds greater than the specified and reported lower cut-off sieve size.</li> <li>Total weight of diamonds greater than the specified and reported lower cut-off sieve size.</li> <li>The sample grade above the specified lower cut off sieve size.</li> </ul>	• No resor	urces or reserves a	re estimated.	
Value	cut-off sieve size.	_ Na!:	ond value is estim	untod	
estimation	<ul> <li>Valuations should not be reported for samples of diamonds processed using total liberation method, which is commonly used for processing exploration samples.</li> <li>To the extent that such information is not deemed commercially sensitive, Public Reports should include:         <ul> <li>diamonds quantities by appropriate screen size per facies or depth.</li> <li>details of parcel valued.</li> <li>number of stones, carats, lower size cut-off per facies or depth.</li> </ul> </li> <li>The average \$/carat and \$/tonne value at the selected bottom cut-off should be reported in US Dollars. The value per carat is</li> </ul>	• NO UIdil	onu value is estilli	rateu.	

Security and integrity	of critical importance in demonstrating project value.  • The basis for the price (eg dealer buying price, dealer selling price, etc).  • An assessment of diamond breakage.  • Accredited process audit.  • Whether samples were sealed after	No process audits have been undertaken as micro-diamond results are generally not
	<ul> <li>excavation.</li> <li>Valuer location, escort, delivery, cleaning losses, reconciliation with recorded sample carats and number of stones.</li> <li>Core samples washed prior to treatment for micro diamonds.</li> <li>Audit samples treated at alternative facility.</li> <li>Results of tailings checks.</li> <li>Recovery of tracer monitors used in sampling and treatment.</li> <li>Geophysical (logged) density and particle density.</li> <li>Cross validation of sample weights, wet and dry, with hole volume and density, moisture factor.</li> </ul>	<ul> <li>repeatable due to their nature.</li> <li>Core was sealed in a container for transport to Perth, where they have been stored in a secure warehouse.</li> <li>Due to the friable nature of the core it could not be washed prior to treatment.</li> <li>Synthetic diamonds from the drill bit have been identified in the sample and have been excluded from the reported results.</li> <li>No tracers were used in the process.</li> <li>No density has been estimated for the material at this stage.</li> <li>No validation of sample weights is warranted at this stage.</li> </ul>
Classification	• 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.	No grade has been estimated from this data.

## **Table 2: Brooking Drilling Project - Drill Collar Details**

HOLE-ID	Drilling type	Easting	Northing	Azi	Dip	Total Depth
LSC/DH001	Core	749,683.3	8,033,703.0	0	-90	75.8