

- Extensive 8,566 line km Time Domain Electromagnetic (TDEM) survey at Lulo identifies 11 new electromagnetic (EM) conductive kimberlite exploration targets of up to 150 hectares with little or no previous magnetic signature
- 5 of the new EM targets are located along drainage systems feeding into the high-interest Mining Block 8 area, a prolific producer of large and premium-value alluvial diamonds. Further three located near the previously-defined L165-L170 area of interest
- TDEM data, and re-interpretation of existing magnetic data, has also enabled all kimberlite targets in the Cacuilo Valley to be reclassified in order of prospectivity
- This reclassification and accessibility will guide updated 2017 drilling, laboratory analysis and sampling programs, which aim to identify the primary kimberlite sources of the exceptional Lulo alluvial diamonds. First laboratory results due this Quarter
- Lulo kimberlite exploration program now funded from Lucapa's share of distributions from the Lulo alluvial mining operations, thus achieving primary objectives



Figure 1: TDEM results highlighting three large (~150 hectare) priority one Lulo kimberlite exploration targets. G559 and G556 are new (non-magnetic) EM targets and L164 is an existing magnetic target with a strong conductive EM signature

Lucapa Diamond Company Limited (ASX: **LOM**) ("Lucapa" or "the Company") and its partners, Empresa Nacional de Diamantes E.P. ("Endiama") and Rosas & Petalas, are pleased to provide an update on the kimberlite exploration program at the Lulo Diamond Project in Angola.

The kimberlite exploration program aims to locate the primary hard rock sources of the large and premiumvalue Lulo alluvial diamonds, production from which Lulo achieved the highest per carat sale prices (US\$2,983) in the world in 2016.

The latest step in the Lulo kimberlite exploration program involved a helicopter-borne Time Domain Electromagnetic ("TDEM") survey flown over the Cacuilo River valley and its main tributaries, where Lucapa and its partners have identified extensive alluvial diamond deposits.

The SkyTEM 304M survey was flown between February and April 2017 in one block comprising 8,566km of flight lines.

The lines were spaced at a nominal 100m, flown in a north-south direction, with tie lines at 1,000m intervals flown in an east-west direction at a nominal terrain clearance of 30m. Electromagnetic ("EM") and magnetic data was collected along with terrain elevation.



TDEM survey being flown over the Cacuilo Valley area at Lulo and drilling of kimberlite targets

The TDEM survey completes the air-borne geophysical tools to be used by the Lulo partners to guide and update the ongoing kimberlite drilling program by identifying new non (or low) magnetic targets and to provide further definition of magnetic targets previously identified from aeromagnetic surveys flown over the entire 3,000km<sup>2</sup> Lulo concession by Fugro Airborne Surveys in 2008 and 2013.

### 11 New EM Targets Identified

The TDEM results identified 11 new kimberlite targets within the Cacuilo River valley area demonstrating conductive EM signatures (Figures 1-3) with little or no discernible magnetic signatures. These new mapped targets range in size up to 150 hectares.

Of the 11 new targets, five (G549, G550, G551, G552 and G553) are located along drainage systems feeding into the Mining Block 8 area (Figure 2), which has been a regular source of large and premium-value, irregular shaped and jagged edged alluvial diamonds.

Another three of the new EM targets (G556, G558 and G559) are located further south-east along the Cacuilo River near the L165-L170 kimberlite area (Figures 1 and 2). This region was previously highlighted as an area of exploration interest due to favourable mineral chemistry results, including a micro-diamond and G10 garnets (See ASX announcement 21 December 2015).



Figure 2: Map showing the 11 new EM targets identified along the Cacuilo River which had little or no previous magnetic signature. Five of the new targets are located in drainage systems feeding into the Mining Block 8 area and another three are located in the L165-L170 region to the south-east which was previously highlighted as an area of interest due to favourable mineral chemistry results

### **Reclassification of Existing Kimberlite Targets**

Analysis of the TDEM data and the re-interpretation of existing magnetic data highlighted 34 priority one kimberlite targets within the Cacuilo Valley area (Figure 3).

These targets all demonstrated strongly conductive EM signatures, supporting the existence of favourable near-surface pyroclastic kimberlite ("PK") material associated with kimberlite pipes. Many of these priority one targets are also located along topographical drainage systems feeding into the Mining Block 8 area and the L165-L170 area of interest to the south-east.

Apart from the strength of their EM signatures, the priority one kimberlite targets are also predominantly large (>10ha), ranging in size up to 150ha.



Figure 3: Map showing all reclassified kimberlite targets at Lulo. These targets will be tested in a systematic drilling, laboratory analysis and bulk sampling program

A further 28 EM/magnetic kimberlite targets were classified as priority two and three.

These targets are in addition to the seven kimberlites (L13, L14, L15, L18, L171, L242 and L252 – Figure 3) from which drill core has already been dispatched to Cape Town for laboratory analysis (See ASX announcement 18 July 2017).

### Next Steps - Systematic Drilling, Laboratory Analysis and Bulk Sampling

The TDEM results have enabled the Lulo geological team to update the ongoing kimberlite drilling program. While three drilling rigs are currently available, the Lulo partners will consider allocating additional resources to this program.

Kimberlite drilling will continue at Lulo for the remainder of 2017 with the aim of extracting core from the priority targets identified from the TDEM results. This systematic drilling program will also include a planned deep hole at the L259 target (Figure 3), when ground conditions permit.

The core from this ongoing drilling program will be dispatched to Cape Town for laboratory analysis periodically throughout the program.

As detailed in the ASX announcement of 18 July 2017, the laboratory analysis process involves crushing the drill core and extracting kimberlite indicator minerals (including garnet, ilmenite, chrome spinel, chrome diopside and zircon) from heavy liquid concentrates. These indicator minerals are then analysed using an electron microprobe to determine their mineral chemistry.

The mineral chemistry results are in turn used to prioritise likely diamondiferous kimberlite pipes for follow up geological work, including further drilling and bulk sampling to test for diamond content and grade. Future kimberlite bulk sampling programs will have to include processing of large tonnages to get meaningful data as a result of the low-grade, high-value nature of the Lulo diamond resource.

As previously advised, the Lulo partners expect to receive the results during the September 2017 Quarter from the first batch of kimberlite samples undergoing laboratory analysis in Cape Town.

### **Alluvial Channels**

Apart from defining kimberlite targets, the TDEM survey was also used to identify shallow conductive horizons along the Cacuilo River associated with alluvial channels. These areas will be tested using the Sedidrill rig to determine the presence of potential diamond-bearing gravel.

### Funding in Place

As previously advised, Lucapa will fund the kimberlite drilling program from the Company's share of prorata distributions from the Lulo alluvial mining operations. This includes the US\$1.6 million distribution million declared in May 2017.

For an on behalf of the Lucapa Board.

#### STEPHEN WETHERALL MANAGING DIRECTOR

### **ABOUT LUCAPA**

Lucapa Diamond Company Limited 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 production is designed to protect cash flows as pricing in this sector of the diamond market remains robust.

Lucapa's flagship asset is the Lulo Diamond Project in Angola, which produced the highest \$ per carat price of any run of mine diamond production in the world in 2016 and continues to produce some of the largest diamonds on record from that region. Lucapa and its Lulo partners are also well-advanced in their search for the primary source of these large and premium-value alluvial diamonds, with three rigs now available to drill priority kimberlite targets.

In keeping with the Company's growth strategy, Lucapa has secured a 70% interest in the advanced, highquality Mothae kimberlite project in Lesotho, which is located in the heart of the world's highest-value cluster of kimberlite mines. Lucapa plans to commence production at Mothae in 2018.

Lucapa has also defined drilling targets at two earlier-stage diamond projects – Orapa Area F in Botswana's Orapa diamond field and Brooking in the West Kimberley lamproite province in Western Australia.

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

Lucapa is also advancing a dual listing on London's AIM market.

#### **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 and consents 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 announcement contains references to prior exploration results 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 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. 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.

### JORC Code, 2012 Edition – Table 1 Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	No drilling and sampling results are applicable to this report, these are geophysical results only.
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face- sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<ul> <li>No drilling applies to this report.</li> </ul>
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>Drill sample recovery is not applicable to this report.</li> </ul>

Criteria	JORC Code explanation	Commentary
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Core and chip samples are not applicable to this report.</li> <li>These are not applicable concepts to geophysical logging,</li> <li>Data logging is automated.</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>Sub-sampling and sample preparation are not applicable to geophysical prospecting.</li> </ul>
Quality of assay data and laboratory tests Verification of	<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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> <li>The verification of significant</li> </ul>	<ul> <li>There is no assay data, only geophysical data.</li> <li>SkyTEM304 is a helicopter carried geophysical survey system.</li> <li>The airborne instrumentation comprising a SkyTEM 304M system includes a time domain electromagnetic system, a magnetic data acquisition system and an auxiliary data acquisition system containing two inclinometers, two altimeters and three DGPS'.</li> <li>All instruments are mounted on the frame suspended ~40 m below the helicopter, the generator used to power the transmitter is suspended between the frame and the helicopter, ~20 m below the helicopter.</li> <li>The SkyTEM 304M system has been</li> </ul>
sampling and assaying	intersections by either independent or alternative	calibrated at the Danish National Reference site.

Criteria	JORC Code explanation	Commentary
	<ul> <li>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>Calibration includes measurements of the transmitter survey data repeated at a range of altitudes at the reference site. All processed data are corrected according to the calibration parameters.</li> <li>The calibration resulted in the following parameters:         <ul> <li>Low Moment</li> <li>Shift factor: 0.9 (on the raw dB/dt data)</li> <li>Time shift: -1.8e-6</li> <li>High Moment</li> <li>Shift factor: 0.9 (on the raw dB/dt data)</li> <li>Time shift: -1.8e-6</li> </ul> </li> <li>There is no assay data.</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>	Ground base stations         The DGPS and magnetic base stations were positioned in the vicinity of the survey area.         DGPS base station         DGPS base stations were placed at a location of maximum possible view to satellites and away from metallic objects that could influence the GPS antenna.         Table showing DGPS base station location:         Area       Easting         Northing       Ellipsoidal         Namaluri       10° 49' 06.59097"       -9° 32' 44.09730"         Magnetometer base station       The base station magnetometer was placed in a location of low magnetic gradient, away from electrical transmission lines and moving metallic objects, such as motor vehicles and aircrafts.         The table below shows the location of the magnetic base station:         Magnetometer       Easting       Northing       Elevation         Base station       10°49'5'E       9°32'43'S       1030 m
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>The nominal terrain clearance was 30 m, the nominal production airspeed is 120-150 kph for a flat topography with no wind.</li> <li>The survey is comprised of one block containing 8566.3 km planned flight lines.</li> <li>Data spacing is tabulated below.</li> <li>Name Spacing (ris) (red) (ris) (ris)</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>	• This is an aerial survey.
Sample security	• The measures taken to ensure sample security.	<ul> <li>The complete dataset of the SkyTEM survey is delivered as a Geosoft database (GDB) which can be used as input for further processing and gridding and as input to inversion and interpretation software. The result of the Surface</li> </ul>

Criteria	JORC Code explanation	Commentary
		constrained inversion (SCI) is delivered as a Geosoft database (GDB) containing the modelled layer conductivity's.
Audits or reviews	<ul> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul> <li>An independent contractor, GRS Consulting has reviewed the survey outcome and interpretation independently of LOM.</li> </ul>

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul> <li>The 1994 legislation covering the Angolan diamond industry stipulates that only Endiama (Empresa Nacional de Diamantes de Angola, the State Diamond Company) or joint ventures with Endiama, can hold diamond mining rights awarded by the Council of Ministers.</li> <li>Under the terms of the Lulo Joint Venture Association Agreements, separate titles are granted for alluvial and kimberlite mining and exploration. The exploration for both alluvials and kimberlites on the Lulo Concession is a requirement under the Act.</li> <li>In May 2014, the authorization for the kimberlite exploration and mining was gazetted and equity distribution in this was Endiama 51%, Lucapa Diamond Company Ltd 39%*, Rosas e Petalas S.A. 19%.</li> <li>An application to extend Kimberlite Exploration Licence after 25 May 2016 was submitted and approved by the Angolan Ministry of Mines.</li> <li>The equity distribution in the new kimberlite exploration JV is being negotiated.</li> </ul>
Exploration done by other parties	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>Limited exploration has been undertaken by state controlled entities.</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.	<ul> <li>Significant diamond bearing alluvial systems, of Mesozoic to Recent ages overlie a major, but relatively poorly exposed, kimberlite field. The kimberlite pipes intrude flat-lying Proterozoic and Karoo age sediments within the Lucapa Graben.</li> <li>The kimberlite field is the source of the alluvial diamonds</li> </ul>
Drill hole Information	• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:	<ul> <li>No drill hole information applies to this report.</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level - elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> <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>	
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</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>Data aggregation methods of this type are not applicable to geophysical prospecting.</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 (eg 'down hole length, true width not known').</li> </ul>	<ul> <li>This is not an applicable concept in geophysical prospecting.</li> </ul>
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>	<ul> <li>Diagrams are included in the main text of this report.</li> </ul>
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>	• All results are reported.
Other substantive exploration data	<ul> <li>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: metalluraical test</li> </ul>	<ul> <li>Other material substantive exploration data has been reported.</li> </ul>

Criteria	JORC Code explanation	Commentary
	results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	
Further work	<ul> <li>The nature and scale of planned further work (eg 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>Drill testing of new targets. Ground truthing of new targets using both geophysical techniques and auger/scout drilling.</li> </ul>