



## Lucara Diamond

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### NEWS RELEASE

## LUCARA ANNOUNCES POSITIVE PRELIMINARY ECONOMIC ASSESSMENT FOR KAROWE UNDERGROUND

**NOVEMBER 2, 2017 (LUC – TSX, LUC – BSE, LUC – Nasdaq Stockholm) Lucara Diamond Corp. (“Lucara” or the “Company”)** is pleased to announce the results of a Preliminary Economic Assessment (“PEA”) prepared in accordance with National Instrument 43-101 (“NI43-101”) for the development of an underground mine to commence production, after the completion of the current open pit mine, at its Karowe Mine (“Karowe Mine”) in Botswana. All dollar amounts in this release are presented in US dollars unless otherwise stated.

Based on the positive PEA results, the Company has continued with the development of a pre-feasibility study (“PFS”), with an anticipated release in Q2, 2018.

The results of the PEA represent forward-looking information that are subject to a number of risks, uncertainties and other factors that may cause results to differ materially from those presented herein.

**PEA Highlights** (all figures apply to a stand-alone underground project and are additive to the current open pit operations):

- After-tax undiscounted net cash flow of \$820 million
- After-tax NPV (5%) of \$451 million and IRR of 38.9%
- Total Life-of Mine (“LOM”) production of 2.72 million carats
- Resource remains open at depth
- Average LOM operation costs of \$49.4 per tonne
- Pre-production capital costs (including a 25% contingency, the costs of a pre-feasibility and feasibility study and hydrogeology and geotechnical testing and modelling costs) of \$195 million

Diamond price and exchange rate assumptions include a 2.5% per annum real diamond price increase, a US\$/South Africa Rand rate of exchange of US\$/R13.00 and a Rand/Pula exchange rate of R1.3/BWP1.

William Lamb, President and CEO, stated, “*The results of the PEA demonstrate the potential economic viability for the development of an underground mine at Karowe. Underground operations are focused on the high value south lobe, which remains open at depth below the current design, and is a further indication of the potential longevity of the resource and cashflow generation at Karowe. We have seen on-going improvement in the value of diamonds from the south lobe and the development of an underground mine has the potential to add significantly to the Life of Mine at Karowe.*”

The Karowe Underground PEA presents a stand-alone scenario which does not incorporate the economics of the current Karowe operations except where taxes are affected based on capital expenditures. The Karowe Underground PEA evaluates the development of a Sub-Level Caving (“SLC”) operation to extract the AK06 kimberlite resource, with all kimberlite being processed at the existing Karowe processing plant over a 10-year period following the depletion of the current open pit operations, which is expected to occur in 2026. The PEA is preliminary in nature and includes the use of the Inferred Mineral Resource which is considered to be too speculative geologically to have the economic considerations applied to it that would enable it to be categorized as a Mineral Reserve. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability, therefore there is no certainty that the PEA will be realised.

**Table 1: Economic Sensitivities and Key Operational Parameters<sup>1</sup>**

Parameter	Unit	Base Case
Rough diamond price – South Lobe (2017)	US\$/carat	\$730
Rough Diamond Annual Real Diamond Price Escalator	%	2.5
After-Tax Undiscounted Net Cash Flow	US\$M	\$820
After-Tax NPV (5%)	US\$M	\$451
After-Tax NPV (8%)	US\$M	\$318
After-Tax IRR	%	38.9%
Pre-Tax Undiscounted Net Cash Flow	US\$M	\$901
Payback Period (pre-tax)	years	2.5

<sup>1</sup> Financial metrics have been calculated taking into consideration the net tax benefit which the current operations will receive as a result of capital expenditures on the development of an underground mine at Karowe

Tonnage and Grade	
Tonnes milled (Millions)	24.7
Diamond grade (cpht) based on a 1.25mm bottom cut-off size (“BCOS”) and inclusive of estimated mining dilution	12.11
Average Recoveries	
Estimated Mine Call Factor (%)	92%

Production	Average Annual
Rough Diamonds (carats)	272,000
Operating Costs	
Kimberlite (US\$/t treated)	\$49.36
Diamonds (US\$/carat recovered)	\$407.70
All-In On-site Sustaining Costs <sup>2</sup>	
Kimberlite (US\$/t treated)	\$54.18
Diamonds (US\$/carat recovered)	\$411.72

<sup>2</sup> All-in costs include ongoing underground development of the sub-level cave rim and access tunnels.

## PEA Approach and Project Overview

The PEA for the Karowe Underground project (“Karowe Underground”) and together with the Karowe Mine, the “Karowe Project”) presents a stand-alone scenario that does not factor in or modify in any way the economics of the open pit operations of the Karowe Mine, except where taxes are affected based on capital expenditures. The PEA does, however, assume that the Karowe Underground will seamlessly integrate into current operations with kimberlite sourced from underground being stockpiled in the latter years of the open cast operations to ensure sufficient availability to the processing facilities to maintain the current 2.5 million tonnes per annum (“mtpa”) throughput.

The Karowe Underground targets the South Lobe kimberlite resource below the current planned bottom of the open pit, expected to be at approximately 690 meters above mean sea level (“mamsl”) (320 meters below surface (“mbs”)), to a depth of 420mamsl (590mbs). The lower portion (200m vertical from 600 to 400mamsl is composed of Inferred Mineral Resource, which the PEA considered to be too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. The PEA is preliminary in nature and there is no certainty that the PEA will be realised.

The Karowe Underground benefits from the brownfields nature of the existing operations at the Karowe Mine. Since declaring commercial production in July 2012, the Karowe Mine has produced an average of 320,000 carats per annum from three kimberlite lobes, from the treatment of 2.5mtpa. These open pit operations are scheduled to continue until 2026 with the originally planned processing of low grade stockpiles in 2027 being moved to 2036, the end of the current planned underground operations.

The Karowe Mine process plant and other site facilities and equipment required to support an underground mining operation have recently been upgraded to accommodate the treatment of harder and higher density material at depth. Existing on-site infrastructure includes offices, warehouses, laydown areas, maintenance facilities, a crushed kimberlite stockpile and reclaim, access and service roads, an airstrip, explosives magazines, and water and electrical infrastructure.

The bulk underground mining method selected to mine the diamond kimberlite pipe measuring some 200m in diameter is SLC. Initially the pipe will be partially offset from the pit bottom, resulting in the top four sublevels being slightly offset from the pit bottom. These top levels plus two levels below the pit bottom will be mined by a derivation of Sub-Level Open Stopping (“SLOS”) daylighting into the pit bottom.

For the purpose of the PEA, SLC was considered due to its lower initial capital cost. On completion of the current PFS geotechnical program, further consideration will be given to a block caving option. This trade-off study will be completed as part of the PFS initial pre-feasibility work programme.

The mine design for both the upper levels SLOS and the following SLC mining once general caving of the host rocks commences, will be similar. The sublevel interval will be 25m, which is the international norm for the method. Owing to the reported hardness and strength of the kimberlite at 156 Mpa, the mine design is intended to evaluate increasing the sub level interval to 30m at the PFS stage. The assumed competence of the kimberlite also allows the size of the extraction crosscuts to be developed 5.0m wide and 5.0m high. The spacing of the crosscuts skin to skin are set at 8.0m to optimise the draw ellipsoids. The flexibility of the method allows adjustments to be made to the sub level intervals and crosscut spacing to suit localised geotechnical conditions. This will apply particularly to the upper level SLOS access levels.

Access and ventilation will be provided by two ramps developed from surface boxcuts. The ramps will traverse poor ground conditions over some 2000m each to reach the first underground mining levels. The mine design contemplates the development of twin 6.0m wide and 6.3m high ramps to cater to larger haul trucks. The twin ramp system will be required to facilitate the planned production rate of approximately 7,500 tonnes per day (“tpd”) of kimberlite and country rock.

Following extraction from the Karowe Underground sub-level, kimberlite will be trammed to the Karowe Mine process plant where it will be processed at an average rate of 7,000tpd (~2.5mtpa) using existing crushing, milling, XRT, DMS concentration and final recovery facilities.

## Mineral Resources

In support of the PEA an updated Mineral Resource Estimate, see Table 2: *Karowe Mine AK06 Updated Mineral Resource Statement reflecting depletion as of December 25, 2016*, was prepared by Mineral Services Canada Inc. (“MSC”) representing the remaining Mineral Resource as of 25th December 2016. Grade and tonnage estimates are based on the original geological model (as documented in the 2013 NI 43-101 Independent Technical Report on Karowe Diamond Mine, effective date 31 December 2013) and an updated recoverable grade model generated by MSC in 2016. Diamond price

estimates are based on diamonds recoverable with current process design at the Karowe Mine process plant and Lucara 2016 Rough Diamond Price Book and tender sales. .

The PEA considered an approximate 80m portion of the South Lobe Indicated Mineral Resource between the current open pit LOM base (690mamsl / 320mbs) and the top of the current Inferred Mineral Resource (600mamsl / 410mbs) and the south lobe Inferred Mineral Resource between 600 and 400mamsl (410mbs and 610mbs). Inferred Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. Mineral Resources are reported inclusive of Mineral Reserves. The intent of the PEA was not to re-state the Indicated or Inferred Mineral Resources. As previously announced, the Company is in the process of updating the current Mineral Resource estimate following the completion of a 10,000m deep drilling program to test the AK06 kimberlite at depth, below the current bottom of the Indicated Mineral Resource at 600mamsl (410mbs).

**Table 2: Karowe Mine AK06 Updated Mineral Resource Statement reflecting depletion as of December 25, 2016**

Mineral Resource					
2017 Classification	Resource	Tonnes (Mt)	Carats (Mct)	Grade (cpht)	Diamond value (US \$/ct)
Indicated (IND)	North Lobe	1.58	0.24	15.18	221
	Centre Lobe	4.30	0.70	16.38	400
	South Lobe	31.82	4.59	14.41	730
	Working Stockpiles	2.30	0.25	10.65	437
	LOM Stockpile	2.23	0.08	3.78	547
	<b>IND Total</b>	<b>42.23</b>	<b>5.86</b>	<b>13.88</b>	<b>655</b>
Inferred (INF)	Centre Lobe	0.2	0.03	14.8	400
	South Lobe	20.37	2.95	14.47	730
	<b>INF Total</b>	<b>20.57</b>	<b>2.98</b>	<b>14.48</b>	<b>727</b>

Notes

- Tonnage and grade estimates are based on updated Mineral Resource Estimate prepared by MSC under the supervision of Dr. Tom Nowicki, of Mineral Services Canada Inc. a “Qualified Person” within the meaning of NI 43-101 and independent of Lucara.
- Diamond price estimates were prepared under the supervision of Dr. J.P. Armstrong, PhD, P.Geol., an employee of the Company and a “Qualified Person” within the meaning of NI 43-101.
- Resources were generated from historic drilling at Karowe AK06 and revisions in 2013 and 2016.
- Grade estimates are based on a recoverable grade model at a Bottom Cut-Off Size (BCOS) of 1.25mm.
- Working stockpiles are available for blending and supplementing feed to the process plant.
- Mineral Resources are reported inclusive of Mineral Reserves.
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
- The AK06 mining licence ([ML2008/6L](#)) expires in May 2023. The mining licence will have to be renewed for the underground development to progress.
- An Environmental Impact Assessment will have to be completed and approved by the Department of Environmental Affairs, Republic of Botswana.

## **Geotechnical**

Geotechnical assessments of caveability, fragmentation, subsidence and ground support requirements were carried out based on geotechnical characterizations developed from geological assessments and core logging data from the Karowe underground resource extension drilling program, completed in Q1, 2017, and prior geomechanical studies of the Karowe AK06 deposit.

## **Hydrogeology**

In order to de-water the underground areas, an extension to the existing pit dewatering systems is required. As the kimberlite penetrates the Ntane sand stones at a depth of ~880mamsl and the Mosolotsane sand stones at ~800mamsl, both of which are significant aquifers, deeper dewatering holes will be drilled and equipped to ensure the stability of the mudstones and sandstones. An update to the local and regional hydrogeological model as well as a review of the structural geology will be completed during the pre-feasibility phase of the project. This will include the drilling of test dewatering and monitoring boreholes which will feed into the final dewatering system design.

Current water resources from the existing dewatering system are sufficient to supply the process plant. Discharge permits will possibly be required when considering the full underground dewatering system.

## **Mining and Processing**

The Karowe Underground SLOS and SLC design and schedule were derived using Datamine's Studio 5D Planner software. The main development ends were sequenced in 5D Planner and this information was sent to the EPS Scheduler for the mine schedule. The design was also evaluated against the geological block model to determine the grade, tonnes and dollar per tonne. Total LOM development requirements are estimated to be 43,700m lateral and 2,635m vertical development. Appendix 1 shows the Karowe underground mine design. The graphic shows the twin declines, rim tunnels access cross-cuts and SLOS and SLC areas.

Processing mined kimberlite at a rate of approximately 2.5mtpa will be achieved using the existing milling and diamond recovery circuit. The existing crushing, milling, XRT, DMS concentration and final recovery facilities will be used and confirmatory metallurgical testwork will be conducted to confirm the applicability of the existing comminution circuit for the processing of the harder kimberlite from depth.

Existing coarse and fine tailings facilities will need to be expanded to accommodate the additional volume of material generated from the mining and processing of underground mined kimberlite.

## **Capital and Operating Costs**

Due to the benefit of having existing infrastructure and processing facilities in place, additional capital requirements are predominantly required for the purchase of underground equipment, the underground mine development and dewatering systems. While the outright purchase of underground mine equipment is assumed for this study, the Company will also be evaluating leasing alternatives during the PFS.

Pre-production capital expenditures are estimated to total \$195 million, including the costs associated with the pre-feasibility and feasibility studies, the required hydro and geotechnical testing and modelling work and a 25% contingency. This front-end engineering design work is estimated at \$26 million. The development period is approximately 5 years to first production.

Ongoing development capital requirements are estimated at \$178M.

**Table 3: Karowe Underground Capital Distribution**

Area	Capital (2018-2025) (\$000's)	Capital (2026-2037) (\$000's)	Area Totals (\$000's)
Development Capital	\$86,256	\$77,416	\$163,672
Engineering Capital	\$48,530	\$14,474	\$63,004
Tailings	\$20,920	\$6,781	\$27,701
Closure Costs	\$0	\$20,400	\$20,400
Capital Provisions	\$0	\$27,000	\$27,000
<b>Sub Total</b>	<b>\$155,706</b>	<b>\$146,071</b>	<b>\$301,777</b>
Contingency	\$38,926	\$31,418	\$70,344
<b>Total Capital Costs</b>	<b>\$194,632</b>	<b>\$177,489</b>	<b>\$372,121</b>

The total all-in on-site unit operating costs after the commencement of commercial production are estimated at \$54.18/t treated, comprising mining costs of \$31.00/t, processing costs of \$11.82/t and engineering costs of \$2.05/t. A 10% contingency was applied to the mining, processing and engineering costs. Ongoing underground development is estimated at \$4.82 per tonne processed.

**Table 4: Summary of Underground Operating Costs**

Description	Total Operating Costs LOM (\$000's)	Average Cost per Tonne (\$/t processed)
Mining <sup>1</sup>	\$766,532	\$31.00
Processing	\$292,271	\$11.82
Engineering	\$46,492	\$2.05
Contingency (10%)	\$110,530	\$4.49
<b>Subtotal</b>	<b>\$1,215,825</b>	<b>\$49.36</b>
Sustaining Development Capital <sup>2</sup>	\$114,184	\$4.82
<b>All-in Sustaining Costs</b>	<b>\$1,550,927</b>	<b>\$54.18</b>

<sup>1</sup>Note that the underground operating costs will commence in 2023

<sup>2</sup>Contingency of 10% applied only to underground mining, processing and engineering

### Project Enhancement Opportunities

The following opportunities have been identified as a result of carrying out the Karowe Underground PEA. However, these opportunities require technical and economic evaluation and should therefore be considered speculative until the related evaluation work has been completed as part of the PFS.

- consideration will be given to other mining methods (eg. block caving) to reduce operating costs, and reduce dilution and tramp steel reporting to the plant.
- the potential exists to develop early access to the underground to de-risk mine dewatering, geotechnical work and remove constraints to future production ramp-up.

- Underground mining optimization opportunities exist at higher throughputs which are expected, if realized, to have a positive impact on operating costs. Increased mined kimberlite delivery and plant upgrade requirements will be investigated. Typical outputs for this type of mining method may be as high as 10,000 tpd
- Rim tunnel spacing is currently set at 25m vertical spacing. Should the geotechnical data show improved stability, the distance between the rim tunnels may be increased to up to 30m, reducing ongoing development costs.
- The PEA assumes purchasing all mobile equipment. It is possible that this equipment may be leased resulting in lowered costs.
- It may be possible to decrease the mine operating costs through the use of automated production load-haul-dump equipment.

### **Next Steps and Expected Timing**

Q4 2017: Updated resource statement for the Karowe AK06 kimberlite to support PFS

Q1 2018: Initiate hydrological and geotechnical drilling with updates to the structural and hydrological models

Q2 2018: Complete a NI 43-101 compliant PFS

### **Qualified Persons (“QPs”)**

The PEA was prepared under the direction of Royal HaskoningDHV and by leading independent industry consultants, all Qualified Persons under National Instrument 43-101. In addition to Dr. J.P. Armstrong, the Company's VP Mineral Resource and a Qualified Person under National Instrument 43-101, the following independent Qualified Persons have prepared or supervised the preparation of the technical information relating to the PEA:

- Dr. Tom Nowicki – Mineral Services Canada
- Mr. Jody John Thompson – Royal HaskoningDHV
- Dr. Kym Lesley Morton – KLM Consulting
- Mr. John Anthony Cox – Royal HaskoningDHV
- Mr. Norman George Carroll Blackham – Royal HaskoningDHV
- Mr. Guillaume Johannes Oberholzer – Royal HaskoningDHV

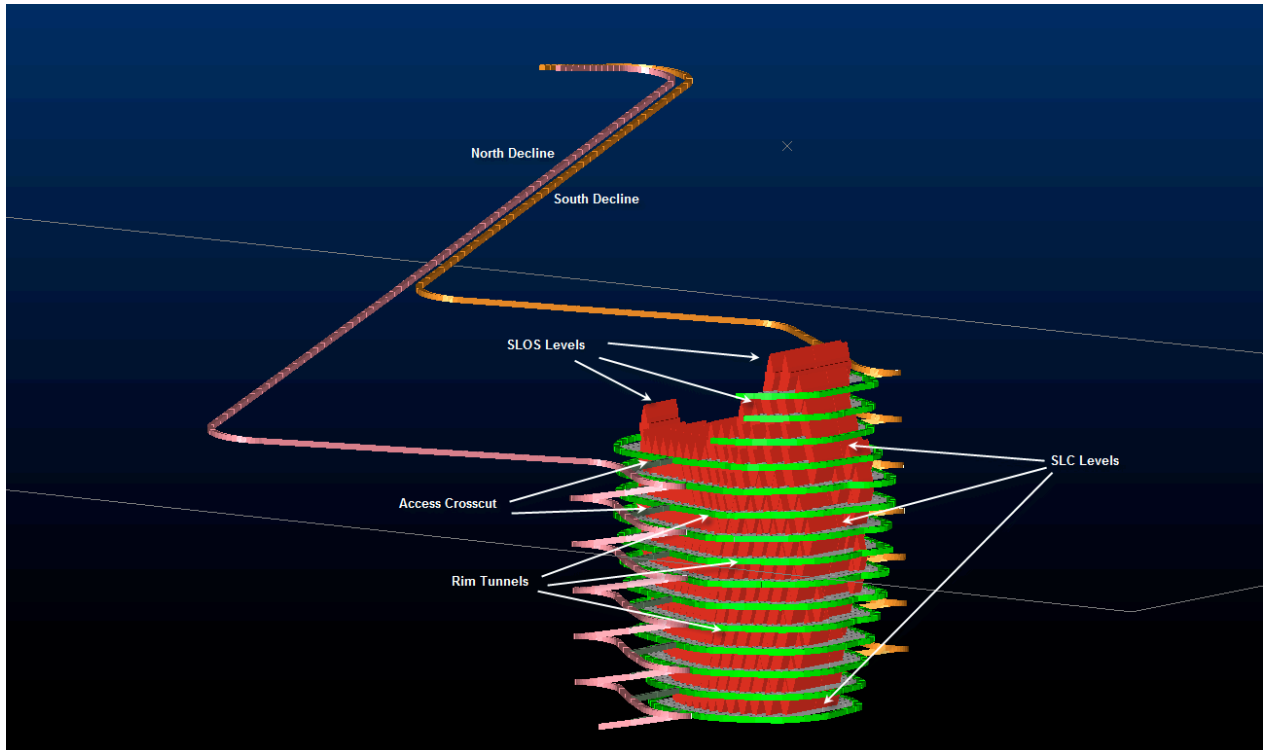
The results of the Karowe Underground PEA will be summarized in a Technical Report prepared pursuant to Canadian Securities Administrators' National Instrument 43-101 that will be filed on SEDAR ([www.sedar.com](http://www.sedar.com)) within 45 days of this press release and will also be available on the Company's website ([www.lucaradiamond.com](http://www.lucaradiamond.com)).

Technical information in the press release has also been reviewed and approved by Mr Guillaume Johannes Oberholzer, Pr. Eng., Manager Engineering of Royal HaskoningDHV, who is a Qualified Person for the Karowe Underground Project under the definitions established by NI 43-101.

This press release has been reviewed and approved by Dr. John Armstrong, PhD, P.Geol., VP Mineral Resource of the Company and a “Qualified Person” for the purposes of NI 43-101.

The reader is advised that the PEA summarized in this press release is intended to provide only an initial, high-level review of the Karowe Underground potential and design options. The PEA mine plan and economic model include the use of Inferred Mineral Resources. Inferred Mineral Resources are considered to be too speculative geologically to be used in an economic analysis except as allowed for by NI 43-101 in PEA studies. There is no guarantee that Inferred Mineral Resources can be converted to Indicated or Measured Mineral Resources.

**Figure 1: Isometric View of Underground Design**



On behalf of the Board,

William Lamb  
President and CEO

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### **About Lucara**

Lucara is a leading independent producer of large exceptional quality Type IIa diamonds from its 100% owned Karowe Mine in Botswana. The Company has an experienced board and management team with extensive diamond development and operations expertise. The Company operates transparently and in accordance with



international best practices in the areas of sustainability, health and safety, environment and community relations.

The information in this release is accurate at the time of distribution but may be superseded or qualified by subsequent news releases.

The information in this release is subject to the disclosure requirements of Lucara Diamond Corp. under the EU Market Abuse Regulation and the Swedish Securities Markets Act. This information was publicly communicated on November 2, 2017 at 2:30 p.m. Pacific Time.

## **CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS**

Certain of the statements made and contained herein and elsewhere constitute forward-looking statements as defined in applicable securities laws. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as "expects", "anticipates", "believes", "intends", "estimates", "potential", "possible" and similar expressions, or statements that events, conditions or results "will", "may", "could" or "should" occur or be achieved.

Forward-looking statements are based on the opinions and estimates of management as of the date such statements are made, and they are subject to a number of known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. The Company believes that expectations reflected in these forward-looking statements are reasonable, but no assurance can be given that these expectations will prove to be correct and such forward-looking statements included herein should not be unduly relied upon. In particular, this release may contain forward-looking statements pertaining to the following: the estimates of the Company's mineral reserves and resources, including the assumptions and estimates underlying such mineral reserve and resource estimates; estimates of the Company's production capabilities, processing capabilities, recovery rates, cash flows and sales volumes for the Karowe Project, including the potential effect of the development and integration of the proposed underground mine at the Karowe Project on production, sales volumes and the expected LOM of the Karowe Project; estimated costs to construct the proposed Karowe Underground development at the Karowe Project, expected start-up, exploration and development plans and mine designs at the Karowe Project, and the timelines associated therewith, and objectives, expected production costs, expected exploration and development expenditures and expected reclamation costs at the Karowe Project, including such plans, objectives and economic estimates, including cost and expenditure estimates, used in or arising from the PEA or in relation to the proposed Karowe Underground project; the expected completion date of open-pit operations at the Karowe Mine; the expected completion of an updated mineral resource estimate and a PFS at the Karowe Project; expected Karowe Project enhancement opportunities resulting from the Karowe Underground PEA; expectations regarding diamond prices and changes to foreign currency exchange rates; expectations regarding the need to raise capital; possible impacts of disputes or litigation and other risks and uncertainties described under Risks and Uncertainties disclosed in the Company's Annual Information Form.

There can be no assurance that such statements will prove to be accurate, as the Company's results and future events could differ materially from those anticipated in these forward-looking statements as a result of those factors discussed in or referred to under the heading "Risk Factors" in the Company's most recent Annual Information Form available at <http://www.sedar.com>, as well as changes in general business and economic conditions, changes in interest and foreign currency rates, the supply and demand for, deliveries of and the level and volatility of prices of rough diamonds, costs of power and diesel, acts of foreign governments and the outcome of legal proceedings, inaccurate geological, development and recoverability assumptions (including with respect to the size, grade and recoverability of mineral reserves and resources), unanticipated delays in the completion of the updated mineral resource estimate and PFS at the Karowe Project; unanticipated events relating to the development of the proposed Karowe Underground project; unanticipated operational difficulties (including the failure of plant, equipment or processes to operate in accordance with specifications or expectations, or the failure of the Company to effectively integrate the

proposed Karowe Underground with existing operations at the Karowe Project), cost escalations, unavailability of materials and equipment, government action or delays in the receipt of government approvals, industrial disturbances or other job actions, adverse weather conditions, and unanticipated events relating to health, safety and environmental matters).

Accordingly, readers are cautioned not to place undue reliance on these forward-looking statements which speak only as of the date the statements were made, and the Company does not assume any obligations to update or revise them to reflect new events or circumstances, except as required by law.

The PEA is preliminary in nature and includes Inferred Mineral Resources which are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. Therefore, there is no certainty that the PEA will be realized.