



Production re-start plan for Merlin Diamond Project in NT

The proposal is based on a small-scale, low-cost development with first diamonds produced next year

- ❖ **Two-stage production re-start plan for Merlin**
- ❖ **Phase 1 requires A\$15m in funding with A\$9m as pre-production capital**
- ❖ **Phase 2 requires A\$10m in funding for a proposed 5-year mine life with extension potential**
- ❖ **Forecast Pre-tax NPV _(10%) of A\$40 m and Pre-tax IRR of 75%**
- ❖ **Project level funding discussions are underway with several parties**

Lucapa Diamond Company Limited (ASX:LOM) (“Lucapa” or the “Company”) is pleased to release details of its plan to re-start production at its 100% owned Merlin Diamond Mine in the Northern Territory (“Merlin” or the “Project”).

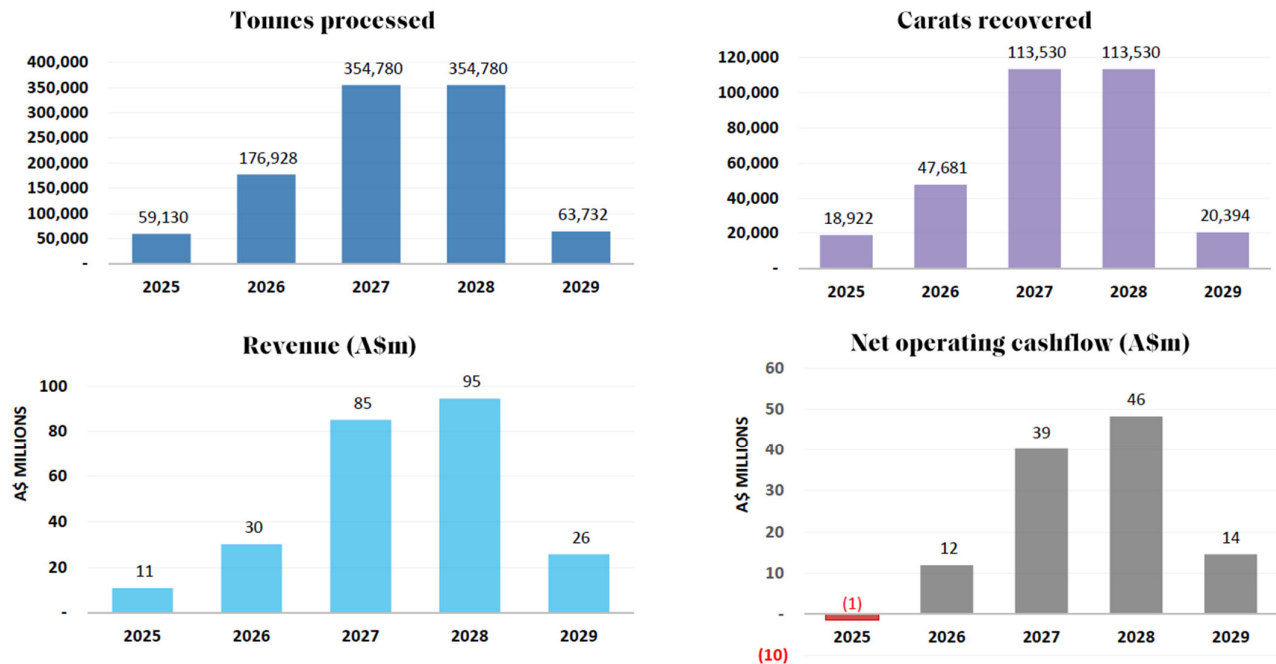
The new plan comprises two phases. Phase 1 will use excavator dredging to mine to a depth of 15 metres from the base of five existing open pits. Phase 2 will use Vertical Pit Mining to extract ore from the Gawain pit. Phase 1 will occur over 18 months, with Phase 2 following for 27 months. A summary of the key outcomes from this new optimised approach are below:

	Units	Phase 1	Phase 2	Total Project
Pits to be mined		Gawain, Ywain, Palomides, Sacramore, Excalibur	Gawain	
Ore mined	t	213,000	773,000	1,000,000
Carats expected to be recovered	ct	67,000	247,000	314,000
Average price per carat	US\$	415	545	517
Total expected revenue	A\$	42 million	204 million	246 million
Funding requirement	A\$	15 million	10 million	25 million
Net operating cashflow	A\$	11 million	99 million	110 million
Pre-tax NPV _(10%)	A\$			40 million
Pre-tax IRR	%			75

The Company is in discussions with several parties for project level funding. These funding sources are through offtake agreements, project level debt, project equity and government facilities. Lucapa will focus on increasing the current Merlin JORC compliant Mineral Resource through further exploration in the near term, due to the prospectivity for further kimberlites and base metal deposits given the proximity to the McArthur River Mine.



The following graphs show the key outcomes of phases 1 and 2 over the 5 year production period:



Background

The Merlin Kimberlite Field was discovered by Ashton Mining between 1985-1995. Of the 13 diamondiferous pipes discovered, eight pipes were mined by Ashton and subsequently Rio Tinto between 1999 and 2003. Approximately 2.2 million tonnes (Mt) of ore was treated resulting in the recovery of >500,000 carats of predominately gemstone diamonds including a 104 Carat Type IIa diamond, the largest diamond ever found in Australia. Other gemstones recovered included 43 ct, 32 ct and 28 ct diamonds. A number of yellow, pink and blue coloured diamonds were also recovered. The Merlin Mine has an unusually high proportion of gem and near-gem quality diamonds, with 75% of historical production falling into these categories.

Rio Tinto closed the mine at the end of the initial open pit cuts as the Project from there did not meet its investment thresholds at the time and Merlin was sold to Striker Resources which was eventually renamed Merlin Diamonds.

The mine was acquired in 2021, by Lucapa Diamond Company Ltd for \$8.5 million; equivalent to about A\$2 per resource carat based on the current JORC compliant Resource of 4.4 million carats.

The Project highlights include:

- 100% ownership
- Tier 1 jurisdiction
- All-weather 2.4 km airstrip, 35-person camp, offices, workshop, road network, plant equipment, borefield and tailings dams.
- Substantial exploration potential for both additional kimberlite pipes and base metals
- Historically high value and predominately gem quality diamonds.

In March 2022, Lucapa published its updated Scoping Study based on treating 14 Mt over a 14 year mine life which required an estimated pre-production capital of \$96 million. A Feasibility Study on this scenario ended in November 2023, due to escalating capital costs, softening diamond prices and a tightening of capital markets. In



November 2023, Lucapa announced it would pause the full Feasibility Study to pivot to a study focused on lower capital cost options (*ASX announcement, 23 November 2023*).

Geology

The Merlin diamond project comprises 13 kimberlite pipes arranged in 3 clusters and extending over an area of approximately 8km x 2 km. Kimberlites are ancient explosive volcanoes which are sourced at depths of 150 to 450km in the earth and bring diamonds from those depths to the surface during eruptions. The Merlin kimberlite pipes are relatively small, ranging from 20 to 250m in diameter but contain good grades of high quality diamonds and while generally slightly funnel shaped, largely maintain their cross-sectional area with depth. The Palomides and Sacramore pipes coalesce at around 120 m below surface to form the PalSac pipe.

The pipes are estimated to have erupted approximately 380 million years ago (ma), through the Cambrian Bukkalara sandstone formation which overlies the Proterozoic McArthur group sediments deposited between 1800 and 1575 ma.

Proposed Mining Techniques

Phase 1

Mining will initially be executed by dredge pumping the upper 15m of the Gawain, Ywain, Excalibur and PalSac pipes to lower the pit lake level. Following this, an excavator fitted with a dredge slurry pump and cutter head attachment will be operated from a pontoon. The slurry will be pumped to the surface to a screen located adjacent to the pit, where the solids will be separated into plant feed and -1mm fine tailings.



Pictures: Pontoon operated excavator (left) and cutter head attachment

Phase 2

The proposed second phase of the planned development will be vertical pit mining of the Gawain pipe using in-wall haulage to access ore between the base of the open pit and the base of the vertical pit.

To prepare for the vertical pit, the existing open pit will be widened by a waste cutback to allow for a platform to be established around the kimberlite pipe at the base of the open pit.

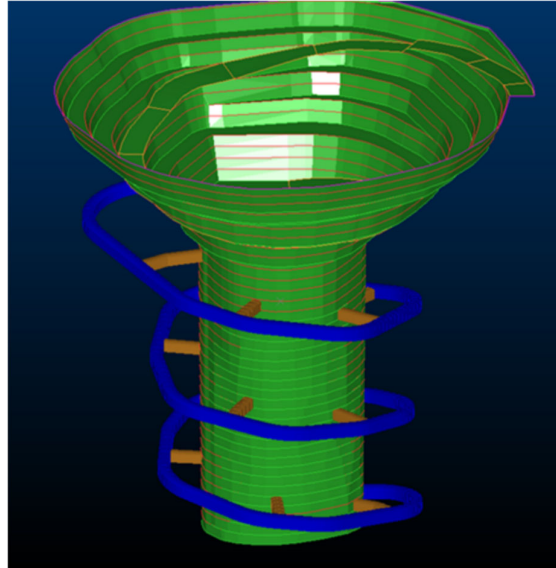
A decline will be developed in the country rock, offset 25m from the pipe contact, with horizontal crosscuts developed to the contact at 10m vertical intervals. The ore will be transported to the plant by articulated dump truck haulage via the decline.

Drill and blast methods will be used for mining of the open pit waste. Mechanical mining utilising a surface miner will be used for ore mining in the open pit and all vertical pit mining. The development of the decline and crosscuts will be carried out by conventional drill and blast.



The walls of the vertical pit will be supported by a combination of cable anchors, grouted rock dowels, shotcrete and mesh. The surrounding rock will be dewatered by inclined dewatering and weep holes.

Waste rock will be placed on the existing waste dump adjacent to the Gawain pipe.



Graphics: 3D view of the Gawain vertical pit and decline

Processing

A 50 tph process plant will be constructed on the existing plant site, primarily using equipment already available at Merlin and will consist of the following modules:

- 1. Scrubbing and screening (Existing Vanture 150 tph scrubber and double deck screen acquired in 2023)**
 - Ore from the ROM stockpiles will be scrubbed and screened into different size fractions for further processing. -1mm material from all process steps will be pumped to the Launfal pit.
 - +40mm material will be recirculated through the scrubber or stockpiled for future treatment
- 2. Primary XRT sorting (Existing Tomra Com 1200 XRT)**
 - Used to process the 8 – 40mm material.
 - XRT concentrate will be conveyed to the final recovery to be hand sorted. The XRT tailings will go to secondary crushing.
 - The XRT will be batch fed in two size fractions (8 – 18mm and 18 – 40mm).
- 3. Dense media separation (Existing Bateman 15 tph modular DMS)**
 - Will process the 1.0-8mm material, with the DMS concentrate going to the Tomra Com 300 XRT for final processing and the DMS tailings going to the coarse tailings dump.
- 4. Secondary crushing (Existing HPGR)**
 - The HPGR will be utilised to crush the primary XRT tailings and will feed back into the primary scrubber.

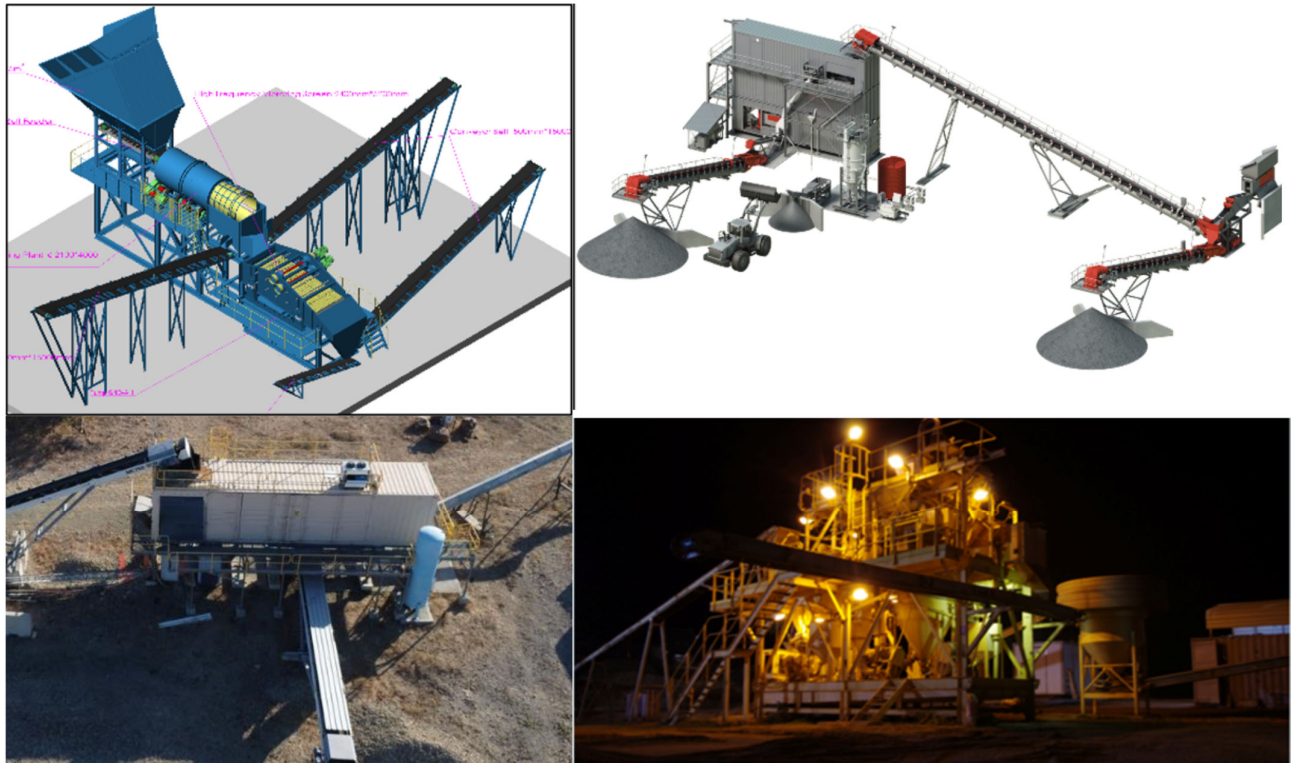


5. Final recovery (Existing modular Tomra Com 300 XRT package acquired in 2023)

- Will process the DMS concentrate with Com 300 XRT concentrate going to hand sorting and tailings going to the recovery tailings dump.

6. Final recovery - hand sorting

- All Primary XRT and Com 300 XRT concentrate will be hand sorted inside glove boxes. Diamonds will be extracted, weighed, sieved and recorded before they are stored in a safe ready for export and sale.



Pictures: 150 tph Scrubbing and screening module acquired in 2023 (top left) Tomra Com 300 XRT module acquired in 2023 (top right) existing Tomra Com 1200 XRT module (bottom left) and the existing Bateman 15 tph DMS (bottom right)

Coarse and fine tailings

Dry coarse tailings (+1.0 mm) will be hauled to and placed on the existing ROM platform to raise it for future operations.

Wet fine tailings (-1.0 mm) will be pumped to the Launfal open pit and clear process water recycled. Flocculant will be added with an in-line flocculant plant to aid settling if required.

Recovery tailings will be stored in a secure area adjacent to the final recovery.

During excavator dredging operations wet fine tailings and water will be separated from the ore slurry at the pit surface by screening and pumped direct to Launfal. The oversize solids will be loaded and hauled to the plant stockpiles.



Infrastructure

Access and site roads - Only minor maintenance is required on the existing access road to the Carpentaria highway and the existing site roads. No new roads are required.

Airstrip - The airstrip is operational and requires no upgrade for this plan.

Camp - The camp is operational but will be expanded from the current 24 usable rooms to 100 rooms and the kitchen and mess hall refurbished.

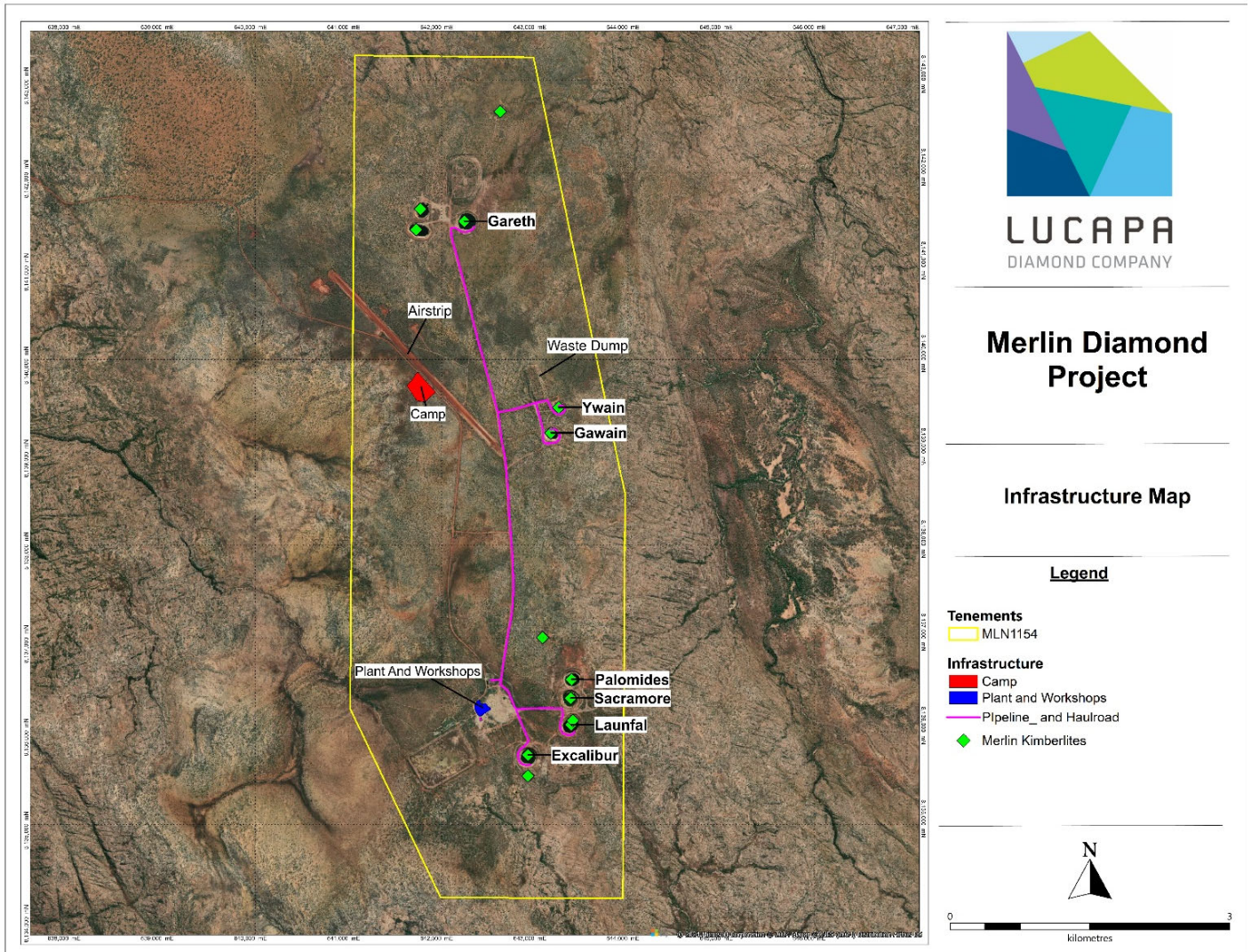
Water - A spine pipeline will be installed, running along the haul roads from the southern pipe cluster to the northern cluster for pit water transfer. The pits to be mined will be dewatered by transferring the water to the other pits not being mined at the time. Apart from when it is scheduled for mining, process water will be sourced from the Excalibur pit and recycled from the fine tailings pumped to the Launfal pit.

Potable water will be sourced from existing boreholes near the camp and plant.

Power - Diesel generators will be used to power the process plant, mining underground operations, workshops and offices, water transfer pumps and the camp.



Pictures: Merlin camp and associated buildings (top left) Maintenance workshop (top right) Merlin airstrip (bottom left) and Tailings Storage Facility



Map: Existing and proposed infrastructure on the Merlin Mineral Lease

Mineral Resource Estimate

The production target and forecast financial information included is based solely on the 986 kt of Indicated Resource to be mined from the Gawain, Ywain, Excalibur and PalSac pipes over a 5 year period, and the treating of this material plus 23 kt of stockpiled Kaye ore, which was also classified as Indicated Resource.

The Merlin Mineral Resource estimate underpinning the production target and financial forecast has been prepared by Competent Person’s in accordance with the JORC 2012 Code. The Merlin JORC Mineral Resource estimate was updated and published in the Company’s 2023 Annual Report (page 21) which was released to the ASX on 24 April 2024. No Ore Reserve has been declared.



Merlin Classified Mineral Resource JORC Code (2012)⁴

Cluster	Pipe	Indicated			Inferred			Total Resource		
		Mt	kcts	cpht	Mt	kcts	cpht	Mt	kcts	cpht
North	Bedevere ^{1,3}	0	0	0	0.4	87	22	0.4	87	22
	Kaye ²	1.1	134	12	1.7	158	9	2.9	293	10
	Ector ¹	2.0	209	10	2.8	248	9	4.9	457	9
	Gareth ¹	0.1	22	18	0.1	10	17	0.2	32	18
	Sub-Total	3.3	366	11	5.0	504	10	8.3	869	10
Centre	Ywain ²	0.1	47	65	0.1	37	55	0.1	83	60
	Gawain ²	1.0	314	32	0.6	180	30	1.6	493	31
	Sub-Total	1.1	360	34	0.7	216	32	1.7	576	33
South	Excalibur ¹	0.3	109	31	0.2	60	26	0.6	169	29
	Launfal ¹	1.5	199	14	1.5	200	14	2.9	399	14
	Palsac ¹	7.2	1,248	17	6.4	1,057	16	13.7	2,305	17
	Tristram ^{2,3}	0	0	0	0.6	36	6	0.6	36	6
	Sub-Total	9.0	1,556	17	8.7	1,352	15	17.8	2,908	16
Total		13.4	2,282	17	14.4	2,072	14	27.8	4,354	16

1. Mineral Resource grades based on previous mining operations recovery using a +0.95mm slotted bottom screen and +5DTC cut-off;
2. Mineral Resource grades based on bulk sample test work using a +0.8mm slotted bottom screen and +5DTC cut-off;
3. Insufficient grade data available to determine +5DTC cut-off grade for Tristram and Bedevere pipes therefore full-cut-off grades are used;
4. Rounding of tonnage and carats may result in computational inaccuracies.

Environmental

A Mining Management Plan (“MMP”) application was submitted to the NT Department of Industry, Tourism and Trade (“DITT”) in Q2/2024 for the Vertical Pit Mining of Gawain.

Following a restructuring of NT Government departments, the MMP is currently being reviewed by the Department of Lands, Planning and Environment (DLPE) and the Company is in contact with the team carrying out the review. The current submission may need to be amended in order to include the approval of Phase 1 and allow the completion of the groundwater modelling currently being undertaken that may be needed for Phase 2 approval. The DLPE have given no indication that this approach will not be accepted and that the approvals will not be granted in due course.

Two key areas were identified in 2022 as significant environmental workstreams for the mining plan envisaged in the 175 tph Feasibility Study. These were relating to groundwater modelling and geochemical testing of the various rock types to be mined. These workstreams have been progressing in 2023 and 2024.

A network of 18 additional groundwater monitoring bores have been drilled and equipped over and adjacent to the Mineral Lease, to enable improved groundwater modelling to be done and predict what the impact will be of mining dewatering activities over the life of mine and thereafter on groundwater levels, groundwater dependent ecosystems and Aboriginal Heritage sites off the Mineral Lease. Sufficient data will have been collected for modelling to take place in 2025.

Geochemical testing of kimberlite and waste rocks has been carried out by EGI. Static testing and follow up kinetic testing has been completed in Q3/24 which confirmed that the small amount of acid forming waste rock expected to be mined, can be effectively neutralised by co-disposal with the kimberlite fine tailings.



Social

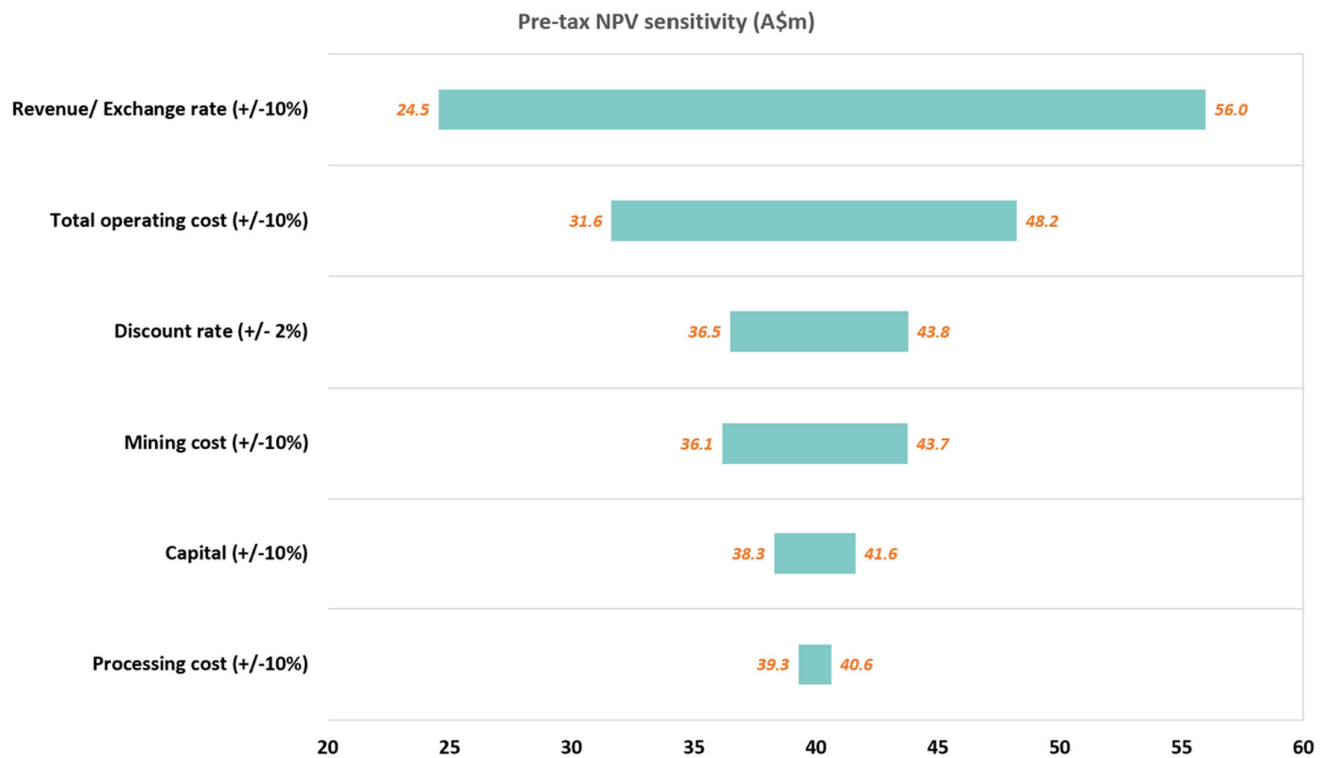
- Native title agreements are in place with the local Aboriginal groups through the Northern Land Council.
- A Sacred Site survey was completed on the Mineral Lease in 2023, following the change in ownership.
- Local employment will be a priority for future recruitment.
- Engagement with sponsorship of local social events, such as the Borroloola rodeo has commenced.
- A positive working relationship has been established with neighbouring pastoralists.

Legal

- Mining Lease granted – expires 2046.
- Mining Management Plan for vertical pit mining submitted and under review
- A water discharge permit is not required, as water will be moved between the open pits as required, rather than discharging into the local environment.
- All other permits (for X-ray equipment, explosives, etc) will be acquired when needed.

Project Financial Sensitivities

The chart below highlights the sensitivity of pre-tax NPV to the modelled inputs on a +/- 10% basis (except for the discount rate at +/- 2%).





Funding

The company is currently investigating several funding solutions and is in discussions with several interested parties. The funding options are all at project level. These options include offtake agreements for the purchase of Merlin production, direct project financing through debt and or equity in Australian Natural Diamonds Pty Ltd (Lucapa's 100% owned subsidiary that owns the Merlin tenements), selling a royalty on production, joint venture partnerships and government debt financing.

Key Risks

Funding: While the Company is confident that it will be able to obtain funding at a project level, there is the risk that this does not happen, and the Project does not proceed.

Diamond Price: The estimated diamond prices are based on current rough diamond prices and there is a risk that global rough diamond prices fall in the future or that diamond recoveries do not meet the estimated quality profile and are therefore of lower value. This risk is mitigated by the approximately 500,000 carats recovered and sold by the previous operators of the mine enabling a detailed understanding of the expected quality profile of the diamonds and with global production of natural diamonds falling over the coming years due to expected mine closures, together with current rough diamond prices being at an already historically low base, means that global rough diamond prices are expected to rise in the short term.

Skilled labour shortage: Specialist skills are at a premium in Australia, especially the skills needed to complete the vertical pit mining and decline in Phase 2. It is planned to use experienced contractors for these activities to reduce this risk which could lead to delays to the Project if they are not available timeously.

Weather events impacting construction and production: The mine is located in an area known to be impacted by tropical cyclones and storms, as well as having a regular wet monsoon season that cuts off road access during certain times of the year. The lack of road access during the wet season can be mitigated by stockpiling sufficient diesel and other heavy materials and spares, that are not suited to being flown into the sites. Tropical cyclones and storms cannot be predicted and may interrupt and delay construction and or production, the total effect of these types of events has been mitigated by having cyclone readiness plans, cyclone rated infrastructure on site and large-scale pumping equipment to control water inundation.

Phase 1 ore mined: There is a risk that the quantity of Phase 1 ore planned to be mined is not fully achieved due to geotechnical or access issues that it will not be possible to fully ascertain until the pits have been dewatered to allow inspection.

Phase 2 mining costs: The Phase 2 mining costs are based on studies conducted for the larger Project (175 tph) Feasibility Study where multiple pipes were planned to be mined simultaneously, whereas only one pipe is planned for Phase 2 mining under this plan. The fixed costs have been increased to take account this, but the interaction between the various mining activities may impact on the productivity and costs beyond the level allowed for.

Key Opportunities

1. Potential for additional resources at Gawain, to be established with infill drilling.
2. Potential for increased resource grade at PalSac through the confirmation and delineation of a high-grade zone, which needs to be drilled and tested to understand its full extent and overall effect on the resource grade.
3. Purchasing used camp units instead of the new ones costed into the production target's capital plan, which could reduce the overall pre-production capital expenditure.
4. Life of mine extension through the addition of PalSac and increased throughput rates, should the increased resource grade be proven.



5. Branding opportunities around provenance. Merlin will be Australia’s only operating diamond mine and branding could capitalise on the diamonds being sourced from a Tier 1 ethical jurisdiction.
6. The potential to use gas from a local producing gas field, instead of the costed diesel for power generation, which would lower operating costs.
7. The potential for additional kimberlite pipes and base metal deposits on the Mineral Lease and Exploration License, to be discovered through further exploration.

Material Assumptions

Material assumptions used in the production target and the forecast financial information are detailed below:

Capital		Phase 1: A\$15m applied to processing plant construction, infrastructure & accommodation upgrades and working capital Phase 2: A\$10m applied to waste mining and decline construction for vertical pit mining Sustaining capital provided @ 2% of process operating costs
Mining	Method	Phase 1: - Excavator dredge mining Phase 2: Vertical pit mining
	Open pit mining cost per tonne (mined)	A\$7.00
	Vertical pit mining cost per tonne (mined)	A\$50.00
	Surface haulage cost per tonne (mined)	A\$3.36
Treatment	Rate per hour/ annum	~50tph/ ~355ktpa
	Method	Ore preparation and concentration by crushing, scrubbing, screening and DMS (dense medium separation)
	Bottom cut off screen size	1.0mm
	Cost per tonne (treated)	A\$9.25



Recovery	Method	Diamond recovery and sorting by XRT (x-ray transmission)
	Factor	100% (resource grades primarily based on actual historical production grades per pipe)
Site and off mine services	Cost per tonne (treated)	A\$22.26
Owner labour	Cost per tonne (treated)	A\$30.67
Royalty	As a % of net revenue	Government - 5%
		Biddlecombe - 0.75%
		Native Title - 1.56%
Marketing	As a % of gross revenue	1.0%
	Rough sales value	Rough market value through offtake, tender and/ or auction
Exchange rate	Australian Dollar	A\$0.66:US\$1.00 (current exchange rate) A\$0.65:US\$1.00)
Diamond prices	Basis	Diamond prices based on actual production sales from Rio Tinto/Ashton 1999-2003, analysed by Z-star (an independent diamond resource analyst) and escalated to current day pricing using the GTD rough diamond index
	Gawain 2025 price	US\$503 per carat
	Ywain 2025 price	US\$335 per carat
	PaISac 2025 price	US\$347 per carat
	Kaye 2025 price	US\$385 per carat
	Excalibur 2025 price	US\$344 per carat
	Overall price (escalated)	US\$517 per carat
	Cash flow receipt timing	Under an offtake partnership and/ or tender/ auction arrangement, rough revenue is modelled to be received 10 times a year to allow for the reporting, exporting, cleaning, valuation, sale and receipt of rough proceeds



	Real price escalation	2025: 5%; 2026: 3%; 2027: 3%;2028: 3%; 2029: 3%
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For and on behalf of the board

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ABOUT LUCAPA

Lucapa is an ASX listed diamond miner and explorer with assets in Angola and Australia. It has an interest in the Lulo Diamond Mine in Angola which has been in commercial production since 2015, (conducted by Sociedade Mineira Do Lulo, Lda (“SML”) Lucapa 40%, Endiama 32%, Rosas & Petalas 28%).

The large, high-value diamonds produced from Lulo attracts the highest prices per carat for alluvial diamonds globally.

Lucapa also has a 39% interest in the Lulo Kimberlite Exploration Joint-Venture (Endiama 51%, Rosas & Petalas 10%), which is exploring for the potential primary source kimberlites at the prolific Lulo concession in Angola.

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

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

Competent Person’s Statement

Information included in this announcement that relates to exploration results and resource estimates is based on and fairly represents information and supporting documentation prepared and compiled by Richard Price MAusIMM who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Price is an employee of Lucapa Diamond Company Limited. Mr Price has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as



a Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting Exploration Results, Mineral Resources and Ore Reserves. Mr Price consents to the inclusion in the announcement of the matters based on this information in the form and context in which it appears.

No New Information

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

Forward-Looking Statements

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

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