

## **LUCAPA DIAMOND COMPANY LTD**

## Significant diamondiferous kimberlite potential

Lucapa Diamond Company is an Angolan-focused alluvial diamond miner and diamond-bearing kimberlite explorer. The Company holds a diamond concession (Lulo) in joint venture (JV) with Angolan government's Endiama and local partner Rosas and Petalas in the Lunda Norte province.

We continue to be impressed by the quality of the diamonds recovered from the alluvial operation, which reports higher than average per carat prices, testament to the regular recovery of "special diamonds", which are large in size, and exceptional in colour and clarity. The alluvial operation is expected to generate free cash which can be reinvested into the search for the ultimate prize, diamond-bearing kimberlites. The exceptional quality of alluvial diamonds and coarse kimberlitic indicator minerals now being reported from mining block 8, in particular, has our attention, potentially indicating a proximal primary source with the E259 kimberlite target, <500m north now being tested (trenching underway with drilling planned).

We initiate coverage with a Speculative Buy recommendation. Our preliminary price target of 49cps is derived from a highly speculative discounted cashflow analysis of the current alluvial operation and perception of exploration value in the search of primary diamond sources (which we regard as high). With no reported resources/reserves and limited production history there are some large assumptions and risks to our estimates.

### Alluvial mining ramping up towards targeted production rates

In late 2014, Lucapa and its JV partners signed a 35 year mining licence agreement to mine the alluvial diamonds at Lulo which includes the main Cacuilo, and Lulo Rivers, associated tributaries, and terraces.

The Company commenced alluvial mining in January 2015, and continues to scale up towards the initial target of 20,000bcm of gravels per month, which could deliver in the order of 2,000 carats (ct) of diamond per month. The Company has a funding deal with a heavy-equipment Caterpillar dealer to increase the earth-moving fleet to further increase the mining rate to up to 40,000bcm per month, which on the currently anticipated grade could double diamond production. No JORC-compliant resources are currently reported, but we envisage an exploration target in the immediate mining areas of a few years, which will increase considerably as additional gravel terraces are uncovered and introduced into the mine plan.

The alluvial operation has rather consistent grade and regular recovery of special diamonds, which provides good average per carat prices. The alluvial operation to date has generated over A\$10m in gross revenues. We estimate once producing at and above the 20,000bcm of gravels per month, free cash flows should be generated. We forecast a small EBITDA loss for CY15.

### Opportunities to increase stake in both alluvials and kimberlites

The southern African nation of Angola has a stable government and is promining, having established a new mining code in 2012 to increase and attract foreign investment. Under the current JV framework, Lucapa is the operator with a 40% interest in the alluvials and holds a 39% interest in kimberlites. Lucapa's interest in both alluvials and kimberlites has the potential to be increased through pre-emptive rights with the local partner and through recently announced government initiatives. Any increase(s) in ownership is seen as value-add opportunities, appealing to a wider investor base.

# LOM.asx Speculative Buy

	29 Sep 2015
Share Price (last):	\$0.400
Price Target:	\$0.49

### Brief Business Description

Diamond producer and explorer

#### Hartleys Brief Investment Conclusion

Alluvial diamond mining in Angola, continues to recover exceptional value stones. Significant diamond-bearing kimberlite potential. Highly experienced management, with a strong diamond skillset

Issued Capital	247.8m
- fully diluted	296.7m
- ITM diluted	296.7m
Market Cap	\$99.1m
- fully diluted	\$118.7m
- ITM diluted	\$118.7m
Cash -est	\$3.5m
Debt -est	\$0.0m
EV	\$95.6m
- fully diluted	\$115.2m

### **Projects**

Lulo, Angola Diamonds

#### **Board & Management**

Miles Kennedy (Non-Exec Chairman)
Stephen Wetherall (CEO/MD)
Gordon Gilchrist (Non-Exec Director)
Albert Thamm (Non-Exec Director)
Nick Selby (COO)

### **Top Shareholders**

Board and Management 0.5%

### Company Address 34 Bagot Road

34 Bagot Road Subiaco WA 6008



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**Share Price** 

## **SUMMARY MODEL**

**Lucapa Diamond Company Ltd** 

LOM		\$0.400
Key Market Information		
Share Price		\$0.400
Market Capitalisation		\$99.1m
Cash		\$3.5m
Debt		\$0.0m
Net Debt (Cash)		-\$3.5m
Issued Capital * includes new equity		247.8m
Issued Capital (fully diluted ITM options)		296.7m
Options		48.89m @ A\$0.21
Issued Capital (fully diluted all options)		296.7m
EV		\$95.6m
Valuation		\$0.38
12Mth Price Target		\$0.49
Projects Interest L	ocation	Commodity

Projects	Interest	Location	Commodity	
Lulo - Alluvial *	40%	Angola	Diamonds	
Lulo - Kimberlite **	39%	Angola	Diamonds	

<sup>\*</sup> JV Partners interest: Endiama 32% and Rosas & Petalas 28%

<sup>\*\*</sup> JV Partners interest: Endiama 51% and Rosas & Petalas 10%

Resources	Mt	Grade	Metal	Attr.

### Diamonds

No JORC resources

P&L	FY2013A	FY2014A	FY2015F
	·		
Net Revenue	-	-	11.7
Total Costs	(1.2)	(2.6)	(13.6)
EBITDA	(1.2)	(2.6)	(1.9)
Deprec/Amort	(0.0)	(0.0)	(0.1)
EBIT	(1.2)	(2.6)	(1.9)
Net Interest	0.0	0.0	0.0
Pre-Tax Profit	(1.2)	(2.6)	(1.9)
Tax Expense	-	-	-
NPAT	(1.2)	(2.6)	(1.9)
Abnormal Items	-	-	-
Reported Profit	(1.2)	(2.6)	(1.9)

### Sep-15 **Speculative Buy**

Directors	Company Details
MI (	04.5 4.5 4
Miles Kennedy (Non-Exec Chairman)	34 Bagot Road
Stephen Wetherall (CEO/MD)	Subiaco WA 6008
Gordon Gilchrist (Non-Exec Director)	+61 8 9381 5995
Albert Thamm (Non-Exec Director)	
Nick Selby (COO)	www.lucapa.com.au

Top Shareholders (est)	m sns	%
Board and Management	1.29	0.5%

### Investment Summary

Alluvial diamond mining in Angola, continues to recover exceptional value stones. Significant diamond-bearing kimberlite potential. Highly experienced management, with strong diamond skillsets. Ramping up alluvial production and increasing kimberlite exploration.

key milestones		Project
Alluvial Mining Commenced	Q1 CY15	Lulo
Ramp-up 10,000bcm to 20,000bcm	Q3 CY15	Lulo
E259 kimberlite target testing	Q3 CY15	Lulo
Mining Block 8 - over 30 specials	Q3 CY15	Lulo
Ramp-up 20,000bcm to 40,000bcm	Q2 CY16	Lulo
Ongoing kimberlite testing	CY15/16	Lulo
Potential listing on LSE	CY16	LOM

Unpaid Capital	No (m)	\$ (m)	Ave Pr	% Ord
Options				
30-Jun-16	0.00	0.00	0.00	0%
30-Jun-17	7.00	2.10	0.30	3%
30-Jun-18	41.89	8.38	0.20	17%
Total	48.89	10.48	0.21	16%

Alluvial operation to generate cashflows to fund kimberlite exploration. Exceptional quality diamonds and indicator minerals from mining block  $\ensuremath{\mathbf{8}}$ indicative of a proximal (high value) primary source.

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Sources: IRESS, Company Information, Hartleys Research

Last Updated: 29/09/2015

## **COMPANY OVERVIEW**

LOM is an ASX and FWB listed diamond miner and explorer Lucapa Diamond Company Ltd is a dual listed diamond producer and miner, listed on the Australian Stock Exchange (ASX) under the code "LOM" and on the Frankfurt Stock Exchange (FWB).

Angolan focused, with a diamond concession in Lunda Norte

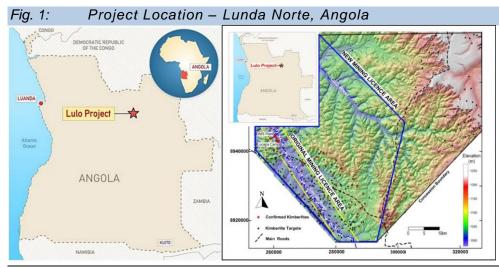
Lucapa listed on the ASX as Nare Diamonds Limited ("NDM") back in December 2006, at the time having ownership of a producing alluvial diamond mine and a number of advanced exploration projects within South Africa. In October 2007, the Company changed its name to Lonrho Mining ("LOM"), sold some of its South African diamond prospecting rights to concentrate efforts on the Lulo Diamond Project in Angola, which was acquired through joint venture (JV) in August 2007. The Company changed its name to Lucapa Diamond Company Ltd in October 2012.

Alluvial mining commenced at Lulo in January 2015 Lucapa remains focused on diamond activities in the Lunda Norte province of Angola, holding a 3,000km² diamond concession (Lulo) and alluvial diamond mining licence over 1,500km² (over half of the Lulo concession) in JV with Angolan government's Endiama and local partner Rosas and Petalas. Under the current JV, Lucapa is the operator with a 40% interest in alluvials and holds a 39% interest in kimberlites. Alluvial mining commenced at Lulo in January 2015, and Lucapa continues to scale up towards the initial target of 20,000bcm of gravels per month, which could deliver in the order of 2,000 carats (ct) of diamond per month. The Company has a funding deal with a local Caterpillar dealer (Barloworld) to increase the earth-moving fleet to further increase the mining rate to up to 40,000bcm per month, which on the currently anticipated grade could double diamond production. The alluvial operation has rather consistent grade and high average price per carat. The higher than average per carat value is testament to the regular recovery of "special diamonds", which are both large in size and of exceptional colour and clarity.

Currently ramping up alluvial production and accelerating kimberlite exploration

The alluvial mine (to date) has generated over A\$10m in gross revenues, and we would estimate once producing at and above the 20,000bcm of gravels per months, could start generating free cash flows. The ultimate prize, however, is the location of the primary kimberlitic source(s) for the alluvial diamonds. Exploration is underway testing some kimberlite targets in close proximity to mining block 8, which reported large quality diamonds and abundant kimberlitic indicator minerals (in particular garnets, ilmenites). Kimberlite target E259, located less than 500m from mining block 8 is a high-priority target and is currently being trench-sampled. Results are anticipated in the coming weeks, with potential to add significant value.

The Company has already identified and confirmed multiple kimberlite pipes, some of which are diamondiferous, which bodes well for ongoing exploration



The Lulo diamond

concession is located in the Lunda Norte

province of Angola,

over 500km east of

Luanda

### LULO DIAMOND PROJECT

Fig. 2: Lulo Diamond Project Snap Shot

Lulo

Interest: 40% of alluvials (secondary); 39% of kimberlites (primary)

Location: Lunda Norte diamond field, ~520kms east of Luanda, Angola

Tenement coverage: 1,500km² mining licence part of larger ~3,000km² concession

1,000km mining notice part of larger 0,000km outle

Project stage: Alluvial production; kimberlite exploration

Reserves/Resources: Non JORC

Scale: ~20,000bcm of gravels/month for ~2,000 carats (ramping up)

Mine Life: na
Operating costs: na

Source: Lucapa Diamond Company Limited; Hartleys Estimates

## Background

The Lulo diamond concession is located in the Lunda Norte province of Angola, over 500km to the east of Luanda (the capital city of Angola). Access to the project area is via sealed roads with the vast majority of the current workforce sourced from local communities.

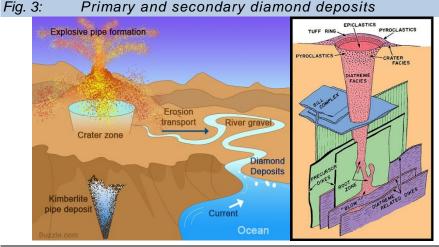
Lucapa successfully acquired the Lulo concession in August 2007, and have been active with exploration since 2008. The concession covers an area of ~3,000km² and is held under joint venture (JV) with Angola's state-run diamond company Endiama and local partner Rosas and Petalas. Under the current JV, Lucapa is the operator with a 40% interest in alluvials (Endiama 32%, and Rosas & Petalas 28%) and holds a 39% interest in kimberlites (Endiama 51%, and Rosas & Petalas 10%).

The Lulo concession is well located within a tectonic setting where the Lucapa Graben intersects the Cuango basin. The Lucapa Graben is the same geological belt which hosts most of Angola's kimberlite diamond mines including the Catoca mine, which is one of the world's largest diamond mines. The project occurs within flat-lying sediments of the Congo Basin which overlies the Archaean-aged Congo Craton. The concession contains extensive artisanal diamond mining activity and contains multiple kimberlitic intrusions, some of which are diamond-bearing.

Under the current JV, LOM is the operator with a 40% interest in alluvials (Endiama 32%, Rosas & Petalas 28%) and holds a 39% interest in kimberlites (Endiama 51%, Rosas & Petalas 10%)

The large concession contains extensive artisanal diamond mining activity and contains multiple kimberlitic intrusions, some of which are

diamond-bearing



Source: After Buzzle.com and After Mitchell, 1986

### **Definition: Alluvials**

Alluvial diamonds were first discovered in the Lunda Norte province of Angola in 1913

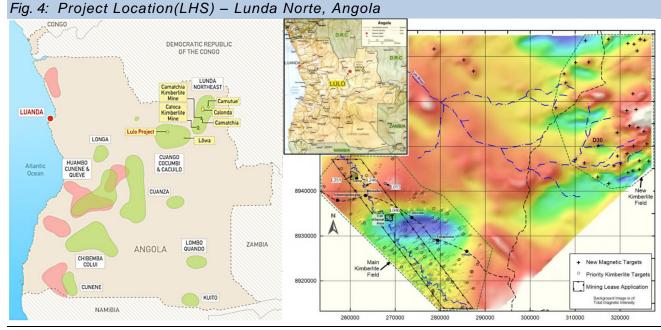
Lucapa continues to recovered high-value alluvial diamonds

## Lulo alluvial diamond operation – for cash flow

Alluvial diamonds is the term used to describe diamonds that have been eroded from its primary source (ie from a kimberlite or lamproite intrusive host) and over time (millions of years) deposited in a new secondary environment such as gravels in a river bed, or off-shore. It is estimated that just over 15% of the world's rough diamonds are sourced from alluvial mining and they are generally higher-quality stones which can command higher prices.

Alluvial diamonds were first discovered in the Lunda Norte province of Angola in 1913. Alluvial diamond operations in Angola still contribute to the country's production profile, though kimberlite mining (ie Catoca diamond mine) dominant production. In 2014, Angola produced ~8.8 million carats, worth ~US\$1.3 billion. The alluvial diamond fields on the Cuango River remain some of the largest and most active mining areas within Angola.

Upon being awarded the Lulo diamond concession, Lucapa commenced with early stage exploration in the search of diamond-bearing deposits. Primary sources of diamonds (kimberlites) were the ultimate aim but in the process of searching for kimberlites, Lucapa recovered some high-value alluvial diamonds.



Source: Lucapa Diamond Company Limited

Bulk sampling and mapping by the Company identified three different aged gravel horizons within the project area:

- <u>Calonda Formation</u>: a fluvial sedimentary sequence of Late Cretaceous age, largely accumulated as fan deposits and braided stream washes which formed around the time of the kimberlite eruptions in the area. Poorly-sorted diamondbearing basal gravel (0.3 - 4m in thickness) overlain by gritty sands and silts.
- <u>Kalahari Formation</u>: a gravel horizon at or near the base of the Kalahari Formation, largely wind-blown sand unit with fluvial components near the base. The gravel units contain abundant kimberlitic indicator minerals and diamonds.
- Recent River Terraces: significant diamondiferous gravel deposits associated with the current river system. Both active diamond-bearing gravels and older terraces largely the focus for artisanal miners within the area.

Three different aged gravel horizons

Type IIa diamonds are considered some of the rarest and most sought after in the world, accounting for less than 1% of global diamond production and have a tendency towards better quality white stone because of little to no impurities

Some high value colour diamonds (fancy pinks and yellows), and rare Type IIa diamonds (white diamonds) were also recovered from the bulk sampling test work. In addition, Lucapa recovered a significant number of diamonds greater than 10 carats, with the average size of stones recovered at the site larger than 1-carat, providing average per carat prices much higher than the industry average.

The mining of alluvial diamonds were seen as a way to generate early cash flows to fund ongoing kimberlite exploration. Lucapa and JV partners, Endiama, Rosas & Petalas were granted an alluvial diamond mining licence over 1,500km² (over half of the Lulo concession) in late 2014, with alluvial mining at Lulo commencing in January 2015. The alluvial operation is processing gravels through a 150tph diamond plant, with mining and processing scaled up to 10,000bcm/month by the end of June 2015.

Fig. 5: Bulk sampling of gravels at Lulo





Source: Lucapa Diamond Company Limited

Lucapa expects at the mining rate of 20,000bcm of gravels per month could deliver 2,000cts per month and generate positive cash flows

Alluvial mining continues to scale up towards the initial target of 20,000 bulk cubic metres (bcm) of gravels per month (by the end of the September quarter 2015), which could deliver in the order of 2,000 carats (ct) of diamond per month. At this mining rate and diamond production the operations are expected to be cash flow positive.

First half production (actual) for 2015 was a total of 3,135 diamonds, weighing 2,765 carats for an average stone size of 0.9 carats. The grades achieved to date have been largely in-line with the preliminary bulk samples collected as part of test-work for the mining areas. Mining block 8 is a high priority mining area, as previous results from the original bulk sampling phase produced high-grade, quality diamonds.

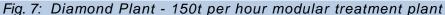
Production continues to ramp-up

Fig. 6: Diamond Production for H1 CY15				
	Q1 2015	Q2 2015	H1 2015	
Stripping Ratio	8.1	4.3	5.8	
Treated bcm	12,912	17,264	30,176	
Carats	1,335	1,430	2,765	
Grade (cts/100bcm)	10.3	8.3	9.2	
Stones No.	1,317	1,818	3,135	
Ave stone size	1.0	0.8	0.9	

Doubling production to 40,000bcm per month could place the operation on a runrate of 50,000 carats per annum The Company has a current funding deal (12-months, for A\$4.5m) with Caterpillar dealer Barloworld, which provides the heavy-earth moving equipment for the operation. The financing deal also provides Lucapa and its partners options to further grow the earth-moving fleet to increase the mining rate to up to 40,000bcm per month, which on the currently anticipated grade could double diamond production to close to 50,000 carats per annum.

No JORC-compliant resources are currently reported, but we envisage an exploration target in the immediate mining areas of a few years, which will increase considerably as additional gravel terraces are uncovered and introduced into the mine plan. The mine life of the operation is difficult to estimate at this stage but based on the diamonds found within the area (confirmed through bulk sampling), the large extent of the river gravels and terraces (+50km river) a +10 year mine life could easily be assumed.

No JORC-compliant resources





Source: Lucapa Diamond Company Limited

The higher than average per carat value is testament to the regular recovery of "special diamonds", which are both large in size and of exceptional colour and clarity

All diamond sales are through the state-owned diamond marketing company SODIAM, which under Angolan law has exclusive right to market all rough diamonds in country. On a normal sale SODIAM collects a 5% marketing commission and Angolan government receives a 5% diamond royalty.

Once at steady-state production, Lucapa expects to hold 10 sales a year, which should see the offering of over 1,500 carats of good quality diamonds per sale. To date Lucapa has sold over 6,400 carats, generating gross revenues of over A\$10.7m, which provides a very high average price per carat of A\$1,668/ct.

Fig. 8: Diamond Sales since 2013 Sales No. 3 5 Total 1 31-Jul-13 Sales Date 27-May-14 22-Apr-15 19-May-15 14-Sep-15 496 6,415 Parcel (cts) 371 1,450 1,539 2,559 Gross Revenue (A\$m) 3.1 2.9 Ave Sale price (A\$/ct) 6,280 7.873 544 1.870 400 1,668 131.4ct, Type 11a 95.45ct, Type 2a, D na 63.05ct, Type 11a, D Special (size, type, colour) րուկումնակումնակումնաև

Mining Block 8 continues to recover large value diamonds

Diamonds of these size, colour and clarity attract premium prices

Large diamonds continue to be recovered from mining block 8, with 31 specials (>10 carats) diamonds mined since early August 2015. The Company recently announced the recovery of a 90.32 carat gem, which is the largest diamond recovered since mining commenced and second only in size to the 131.4 carat stone recovered as part of bulk sampling. The large 90.32 carat stone is D colour and classified as Type IIa (rare and highly sought after diamonds). We believe a diamond of this colour, clarity and size could attract a premium price, so we would not be surprised to see this diamond sold for a price above US\$2m, though very much subject to independent valuation and ultimately the sales outcome (both pending).

In addition to large diamonds, Lucapa continues to report significant coarse kimberlitic indicator minerals (garnets and ilmenites) from the mining block, indicating a primary source for the large diamonds may be proximal.

Fig. 9: Mining Block 8 Diamonds - Large Type IIa stones (LHS); Listed specials (RHS)



131.4 carat, Type IIa - worth +\$3.8m



90.32 carat, Type IIa- worth +\$2.2m



57.76 carat (L) and 50.08 carat (R)

	` '		` '
90.32	29.94	17.16	11.17
57.76	28.13	17.06	11.11
56.52	23.32	15.00	11.00
53.52	21.65	14.69	10.80
50.08	21.20	14.16	131.40*
40.59	21.16	13.83	38.10*
37.26	18.83	12.99	
36.61	18.71	11.92	
31.40	17.95	11.30	

List of >10 carat stones recovered from mining block 8

Source: Lucapa Diamond Company Limited

Kimberlitic indicator minerals have also been recovered that may indicate that the primary source for the large stones may be proximal

New injection of project funds to increase alluvial mining scale and for ongoing kimberlite exploration

Recently Lucapa secured long-term funding support for up to A\$12m, whereby investors subscribed for A\$3.5m equity placement (19.4m LOM shares at 18cps and one for one option -2 years, exercisable at 20cps) and an additional A\$8.5m future funding, if so required. The placement is subject to shareholder approval at the end of September 2015. The proceeds will be used to scale up the Lulo alluvial operation and kimberlite exploration program.

Once the first tranche of funds are received the Company expects to source additional earth-moving equipment to increase alluvial mining beyond 20,000bcm per month and will enable continuous mining of two separate mining areas, optimising ore feeds to the plant. Mining is currently concentrated on mining block 8 and with the new mining fleet will open-up mining block 31, located close to the processing plant. Lucapa has already recovered 25 specials from mining block 31, including an exceptional 63.05 carat (Type IIa) D-colour gem, which bodes well for maintaining the high average price per carat.

<sup>\*</sup> denotes recovered pre-mining during bulk sampling

Definition: Kimberlite

Primary sources of diamonds (kimberlites) are the ultimate aim of exploration

Diamond exploration
has a low probability
of success, generally
10% of the kimberlites
contained within a
cluster will be
diamond-bearing and
less than 1% will be
economically viable
deposits

Kimberlite exploration program is underway

Two kimberlite provinces identified in the project concession

The Western
Kimberlite Province is
the main field and is
currently receiving the
most attention

## Lulo diamond-bearing kimberlites - remains the prize

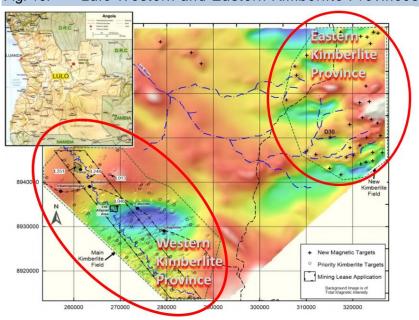
Kimberlites (and lamproites) are magmatic rocks that form deep within the mantle of the Earth and are brought to the surface by volcanic eruptions. On their ascent to surface these magmas collect other types of minerals, collectively referred to as xenoliths. The xenoliths found in kimberlite include diamonds, and the vast majority of the diamonds mined globally are found in kimberlite ores (accounting for over 85% of the world's diamond deposits).

In February 2008, Lucapa flew a detailed airborne geophysical (magnetic and radiometric) survey over ~1,000km² (~33% of the total project area) in the search of kimberlite intrusions. Over 220 targets were identified and several of the larger magnetic targets were visited and sampled in late 2008. Exploration in search of diamondiferous kimberlites followed in the preceding years, with numerous kimberlites confirmed with a few found to be diamond-bearing but as of yet none economically viable. It should be noted that diamond exploration has a low probability of success, generally 10% of the kimberlites contained within a field will be diamond-bearing and less than 1% will be economically viable deposits.

So far Lucapa has identified close to 300 kimberlite targets within the project area, a third of these targets have already been confirmed as probable kimberlites and four (4) have proven to be diamond-bearing kimberlites. The Lulo kimberlite field clusters in two provinces (western and eastern province) and lie within a highly favourable tectonic setting in the same geological belt that hosts a vast majority of Angola's producing kimberlite mines including Catoca (the world's fourth largest diamond mine).

The Company and its JV partners commenced with a new kimberlite exploration program in Q2 CY15. Work completed involved further analysis of existing drill core from nine kimberlites, bulk sampling of the L46 kimberlite which is considered the likely source for the E46 alluvial diamonds and further evaluation of the known diamond-bearing kimberlite pipes. A lot of the kimberlites at Lulo are either outcroppings or are close to the surface, which are more cost-effective to explore and develop, should one be deemed to be economically viable.

Fig. 10: Lulo Western and Eastern Kimberlite Provinces



The industry average for the development of a kimberlite mine is 8-10 years but Lucapa and its partners could do it quicker due to established processing and mining equipment already in operation

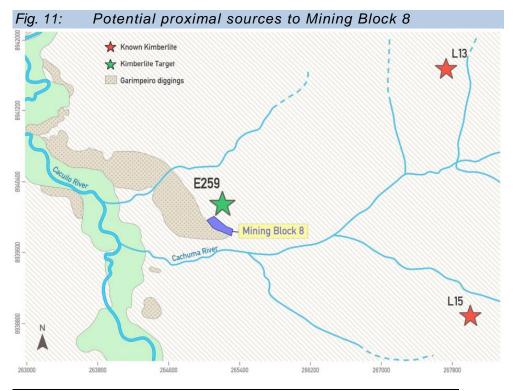
Alluvial mining block 8
contains high-quality
diamonds and
abundant coarse
kimberlitic indicator
minerals indicative of
a proximal primary
source

Significant upside if E259 can be confirmed as the primary source for mining block 8 The industry average for the development of a kimberlite mine is about 8-10 years from discovery. Lucapa due to its company size and site infrastructure already in place could speed up the process and have commented that they could bring a mining operation to scale within 3 years from the time of identifying the source.

### Primary source for mining block 8 diamonds a hidden gem

As previously mentioned, alluvial mining block 8 contains high-quality diamonds and abundant coarse kimberlitic indicator minerals indicative of a proximal primary source. The large diamonds that continue to be recovered from this area, are irregular in shape with jagged edges indicating short travel distance from source. The Company and its expert consultants are of the opinion that the primary source is likely within 1.5km and they are now in the process of testing priority targets (E259, L13 and L15). Kimberlite target E259, is located within 500m and directly drains into mining block 8. Whereas known kimberlites L13 and L15 are located upstream within a 3km radius.

Lucapa has mobilised earth moving equipment to test kimberlite target E259 with trenching and sampling to evaluate the target. If confirmed to be of interest, the Company will collect bulk samples to confirm if the pipe is diamond-bearing and the source for mining block 8. If E259 is a diamond-bearing kimberlite producing these special stones then we see significant value and anticipate strong share price appreciation. The Company has already re-rated off the back of anticipated further encouraging results.







Source: Google Maps

Angola continues to rebuild following a prolonged (+25 years) civil war which finally ended in 2002

Diamonds account for 5% of Angola's GDP

90% of the prospective diamond regions of Angola are considered unexplored

New mining code 2012 could provide opportunities for LOM to increase its project interests

## **ANGOLA**

### PROSPECTIVE, STABLE AND PRO-INVESTMENT

The southern African country of Angola continues to rebuild following a prolonged (+25 years) civil war which finally ended in 2002. Today the country operates as a multiparty presidential regime which is stable, with last national elections in 2012 saw the installation of Jose Eduardo Dos Santos as president.

The Angolan government has placed a priority on diversifying the economy, with mining considered a high potential sector and is actively promoting foreign investment. Diamond production is seen as the main source of growth for the minerals sector.

The country has long been regarded as one of the best address for diamond occurrences, but due to the nation's long period of unrest has meant effective modern exploration has been limited. Diamonds were first discovered in the Lunda Norte province in 1913 and is today the world's fourth largest diamond producer by value, with current production forecast of close to 10 million carats, worth in excess of US\$1.5 billion. The countries diamond reserves are considered extensive and particularly marketable with ~70% classified as gem quality, ~20% as near gem quality and only ~10% as industrial.

Angola's potential for new diamond discoveries has been long recognised by the world's biggest diamond mining companies, Alrosa and De Beers. Alrosa operates the large Catoca mine (annual production ~6.5 million carats), while DeBeers continues to pursue and secure new exploration concessions in the country. Angola will chair the Kimberley Process Certification Scheme for 2015.

## Endiama and SODIAM continue to have key roles

Endiama (Empresa Nacional de Diamantes de Angola) is the state-owned diamond miner which holds the countries diamond mining rights. Foreign companies such as Lucapa are required to form joint ventures with Endiama, with all Lucapa's expenditure in the search and ultimate production of diamonds off-setting the distribution of future profits to JV partners until costs are repaid.

All diamonds mined in Angola must be sold through Endiama's subsidiary trading company SODIAM (Sociedade de Comercialização de Angola). The Angolan government continues to see Endiama and Sodiam as having fundamental roles in the sustainable development of the diamond sector – not least in terms of collecting and processing company and commercial information. As mentioned marketing fees are 5% of sales value.

## New Mining Code 2012

In early 2013, Angola published the Mining Code of 2012, which no longer requires the country to hold a majority stake in a primary diamond deposit (kimberlite) developments. This presents Lucapa with an opportunity to increase its interest in any potential kimberlite operation at Lulo via potential dilution of Endiama or through pre-emptive rights with its partners. Endiama is looking to further encourage international investment in Angola's diamond industry. The Lulo diamond concession was awarded under the old mining code, however, so an increase in LOM's stake will require negotiation.

The Kimberley Process has largely cleaned conflict diamonds

Angola became a participant to the KP in 2003, and was elected to chair the KPCS for 2015

No JORC-compliant reserves or resources

African focused

diamond miner and explorer

## KIMBERLEY PROCESS (KP)

Conflict diamonds was a "buzz" word of the 1990's, whereby various, largely unstable African countries had rebel groups funding violent civil disputes through the proceeds of rough diamond sales. Atrocities inflicted in these war zones were receiving widespread media attention which was damaging the reputation and image of the diamond industry.

In response, the Kimberley Process (KP) was established in 2002. The process was devised following a key meeting of southern African diamond-producing nations in 2000 in Kimberley, South Africa, whereby the participates discussed ways to stop the trade in conflict diamonds. The KP is an international process which requires the certification of all rough diamonds to guarantee that their trade does not finance rebel activities and their allies seeking to undermine legitimate governments.

The KP has 54 participants, representing 81 countries, with the European Union and its Member States counting as a single participant. KP members account for ~99.8% of the global production of rough diamonds. The Kimberley Process Certification Scheme (KPCS) outlines the set of rules each participating country must meet to be compliant. Angola became a participant to the KP in 2003, and was elected to chair the KPCS for 2015.

### RESERVES & RESOURCES

No JORC-compliant reserves or resources.

### GEOGRAPHIC EXPOSURE

Lucapa is primarily focused on diamond projects located within Angola.



## DIAMONDS

Key terms of Rough Diamonds (mined) and Polished Diamonds (cut and polished)

Polished diamonds have always been considered among the world's most precious gemstones

More than 95% of all industrial diamonds are synthetic

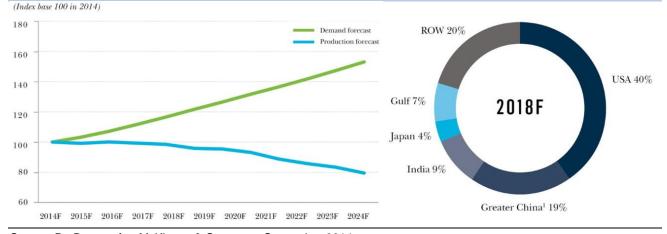
Key diamond consumers are the US and China On the Mohs scale of mineral hardness diamond is a 10, the hardest known naturally occurring substance. The formation of natural (rough) diamonds requires unique conditions, firstly exposure to carbon-bearing materials, extreme pressures and very high temperatures.

THE WORLD'S MOST PRECIOUS GEMSTONE

Diamonds have jewellery and industrial application. Generally more than 50% of the volume of rough diamonds mined are polished for jewellery consumption, accounting for more than 95% of the total value. Polished diamonds have always been considered among the world's most precious gemstones, accounting for about 40% of all jewellery manufacturing, with engagement rings being the largest category of diamond jewellery ("from mine to finger"). Diamonds not suited for jewellery, are used for industrial purposes. Key characteristics that make them valuable for industrial uses are due to the stones hardness, thermal conductivity and optical dispersion. Over 95% of all industrial diamonds are now synthetically made.

Key theme for diamonds is plateauing and then declining supply and forecast increase in demand. Polished demand, though currently depressed is expected to steady and is to grow incrementally by ~3%. It is also worth noting that the major diamond producers generally reduce sales volumes rather than drop prices, to maintain market integrity. Polished demand normally increases during the key Thanksgiving and Christmas periods, but 2015 sales levels are expected to be lower yoy.

Fig. 13: Supply and Demand -McKinsey Forecasts (LHS); Key Diamond Consumers (RHS)



Source: De Beers, after McKinsey & Company, September 2014

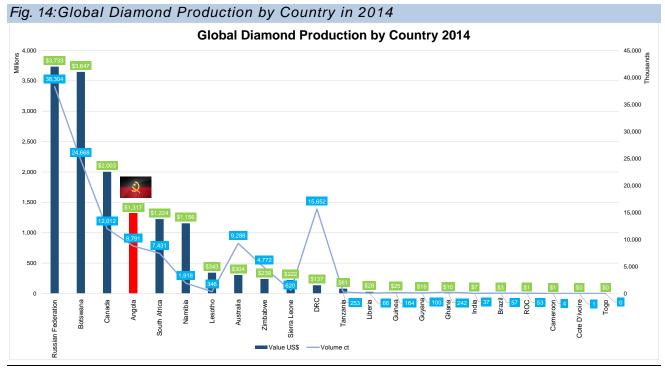
Rough diamond output in 2015 is forecast to be worth around US\$15 billion

Angola was the fourth largest diamond producer by value in 2014

### Global Production

Global diamond production is largely dominated by two major producers, Anglo American (De Beers) and Alrosa (Russian company), who account for an estimated 70% of world supply. They are then followed by Dominion Diamond Corporation, Rio Tinto Diamonds, Petra Diamonds, Gem Diamonds and Lucara Diamond Corporation.

Global diamond output for 2015 is expected to be over 135 million carats, which has an estimated value of ~US\$15 billion, a slightly lower average per carat value then 2014.



Source: Kimberley Process (KP) data, http://www.kimberleyprocess.com/

Remember the 4Cs when buying a diamond

## 4Cs for grading diamonds determines the 5th C of cost

The importance to verify polished diamonds and to bring an understanding of their unique characteristics and traits, saw the introduction of industry measures to grade diamonds back in 1939 by De Beers.

1 carat diamond is often referred to as a 100 point stone

The **4C's** of **carat** (diamond weight, 1 ct = 0.2g), **colour** (from D-Z, from colourless (D, E, F) through to increasing colour presence (ie. light yellow S to Z), **clarity** (presence of inclusions, graded from F (flawless) through to I3 (imperfect)) and **cut** ("sparkle effect" or "brilliance", graded from excellent to poor) were introduced with the balance of all four of these characteristics that determines the diamond's value.

## Type IIa diamonds really are "special"

Type IIa diamonds are very special

Type IIa diamonds are considered the rarest and most sought after in the world, accounting for less than 1% of global diamond production. All of the world's most famous large white flawless diamonds were Type IIa, including the Cullinan, Star of Sierra Leone, Centenary, Millennium and Lesotho Promise.

### Fig. 15: Some Famous Type IIa Diamonds



Cullinan I - Star of Africa

530.2ct cut (valued +US\$300m), part of the original 3,106ct rough discovered in 1905 (South Africa)



The Star of Sierra Leone

969.8ct rough, cut into 13 flawless diamonds, discovered in 1972 (Sierra Leone)



The De Beers Centenary Diamond

273.85cts cut (valued +US\$100m), from a 599ct rough discovered in 1986 (South Africa)



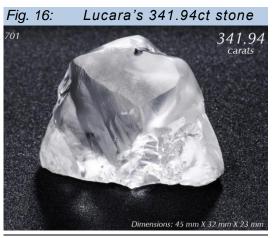
The De Beers Millennium Star

203.04ct cut (valued +US\$300m), from a 770ct rough discovered in 1992 (DRC)

Source: Company report, web searches, various

In April 2015, Lucara Diamond (LUC.tsx) recovered a 341.9 carat Type IIa diamond from its Karowe mine in Botswana which sold at auction for US\$20.6m (or US\$60,114/ct) in July 2015. In 2014, Lucara sold a 203 carat diamond for US\$8.2m, highlighting some recent high value for these types of stones (again bodes well for Lucapa).

Lucara Diamonds sold a 341.9 carat Type IIa in July 2015, for US\$20.6m



Source: Lucara Diamond Corp

### Catoca Diamond Mine

Catoca is the fourth largest diamond mine in the world The Catoca Diamond Mine is the fourth largest diamond mine in the world and is owned by Alrosa (32.8%), Endiama (32.8%), Odebrecht (16.4%) and Diamond Finance (16.8%). The kimberlite pipe was discovered in 1965 and is the largest diamondiferous kimberlite mine in Angola covering ~64Ha. The open pit operation is producing over 6.5 million carats of diamonds per annum, generating over US\$600m in sales per year. The reserve mine life is +10 years at the current production rate.



Source: Web images

## DIRECTORS, SHAREHOLDERS

Fig. 18:Director and Management Holdings * prior to latest capital raise						
Economic Exposure of Board and key management Total						
		Shares	Options	Economic		
				Exposure		
	Position				rank	
Directors						
Miles Kennedy	Non-Exec Chairman	751,668	1,000,000	1,751,668	1	
Stephen Wetherall	Managing Director	65,000	0	65,000	4	
Gordon Gilchrist	Non-Exec Director	440,291	500,000	940,291	2	
Albert Thamm	Non-Exec Director	29,470	500,000	529,470	3	
		1,286,429	2,000,000	3,286,429		
Key Management Pers	sonnel					
Nick Selby	Chief Operating Officer	Undisclosed	Undisclosed			
Mark Drummond	Investor Relations	Undisclosed	Undisclosed			
Mark Clements	Company Secretary	Undisclosed	Undisclosed			

Source:Lucapa Diamond Company Limited

### Directors and Management (as summarised from LOM's website)

### Miles Kennedy (Non-Executive Chairman)

Mr Kennedy has held directorships of Australian listed resource companies for the past 30 years. He is Chairman of RNI NL and Marine Produce Australia Ltd. Mr Kennedy was formerly the Chairman of Kimberley Diamond Co, which developed the Ellendale diamond mine in Western Australia. He lives in Perth, Western Australia.

Lucapa's board and management team has extensive diamond mining experience with companies including DeBeers, Rio Tinto and Gem Diamonds

### **Stephen Wetherall (Managing Director)**

Mr Wetherall is a qualified chartered accountant with more than 20 years experience in financial and operational management, corporate transactions and strategic planning. He has held senior financial and executive roles with global diamond giant De Beers and London-listed Gem Diamonds. In his roles at De Beers and Gem, he built an enviable understanding of the diamond industry from exploration through to retail. He resides in Perth, Western Australia.

### **Gordon Gilchrist (Non-Executive Director)**

Mr Gilchrist was previously employed by Rio Tinto from 1974 to 2005. He was CEO of Argyle Diamond Mines from 1993 to 2002 during which time Rio Tinto introduced and promoted Argyle's pink, champagne and cognac diamonds and Argyle become the largest diamond production mine, producing 30% by volume of the world's rough diamonds. He was appointed CEO of Rio Tinto Diamonds Marketing Operation from 2002 until 2005 based in Antwerp, Belgium. He resides in Perth, Western Australia.

### **Albert Thamm (Non-Executive Director)**

Mr Thamm has 28 years' experience in exploration and mining project development in Australia, Africa and South America. His background covers base metals, gold, iron ore, nickel, diamonds, uranium, coal and industrial minerals. He is a Non-Executive Director of RNI NL and was formerly Chief Geologist with the Ellendale diamond mine. He is a Fellow and Chartered Professional of the Australasian Institute of Mining and Metallurgy and a Fellow of the Society of Economic Geologists (USA). He resides in Perth, Western Australia.

### **Nick Selby (Chief Operating Officer)**

Mr Selby is an extraction metallurgist with 35 years' experience in the mining industry. He began his career with De Beers, where he spent 19 years in a range of technical roles. Mr Selby joined Gem Diamonds in 2005, where he was responsible for establishing diamond projects in various countries including Angola, Australia and DRC, the Central African Republic, Indonesia, Lesotho and Botswana.

### **Mark Drummond (Investor Relations)**

Mr Drummond has a 20 year background in business journalism in Western Australia during which time he served as WA Bureau Chief of the Australian Financial Review and Chief Reporter with The West Australian.

### Mark Clements (Company Secretary)

Mr Clements gained a Bachelor of Commerce degree from the University of Western Australia. He is a Fellow of the Institute of Chartered Accountants and a member of both the Australian Institute Company Directors and the Institute of Chartered Secretaries in Australia. Mr Clements currently holds the position of Company Secretary of a number of publically listed companies and has experience in corporate finance, accounting and administration, capital raising and ASX Compliance and regulatory requirements.

No reported substantial shareholders at the time of writing

### MAJOR SHAREHOLDERS

No substantial shareholders at the time of writing.

### OPTIONS AND UNPAID CAPITAL

The option table below includes the additional 19.4m options @ 20cps, 2 year period, which we assume will receive shareholder approval.

All options are currently in the money

Fig. 19: 0	Options on issue or to-be-issued				
Unpaid Capital	No (m)	\$ (m)	Ave Pr \$	% Ord	
Options					
FY17	7.00	2.10	0.30	3%	
FY18	41.89	8.38	0.20	17%	
Total	48.89	10.48	0.21	16%	

Source: Lucapa Diamond Company Limited

### RECENT EQUITY ISSUANCE

Lucapa has secured long-term funding support for up to A\$12m, whereby investors subscribed for A\$3.5m equity placement (19.4m LOM shares at 18cps and one for one option (2 years, exercisable at 20cps)) and an additional A\$8.5m future funding, if so required. The placement is subject to shareholder approval at the end of September 2015.

Once the first tranche of funds are received the Company expects to source additional earth-moving equipment to increase alluvial mining beyond 20,000bcm per month and will enable continuous mining of two separate mining areas, optimising ore feeds to the plant.

## PRELIMINARY VALUATION

### LULO DIAMOND PROJECT

# Alluvial operation – no resources/reserves

Our preliminary
valuation for the
alluvial operation is
based on
assumptions, some of
which are yet to be
achieved

The estimation of alluvial diamond resources and reserves are problematic due to the variable distribution of the diamonds within the gravel host. Unfortunately, Lucapa has not released a JORC-compliant resource estimate, but with a few hundred kimberlites within the immediate catchment area eroding over a long time period provides some comfort that mining can be sustained at the targeted levels over a number of years. In our preliminary modelling, which forms the basis of our price target, we simulate a lower case (LC) 3 year operation, a base case (BC) 5 year operation and an upper case (UC) 10 year operation.

When assessing diamond deposits, tonnes, grade, and the average value of the diamonds (\$/carat) must be determined. Diamonds, unlike commodities such as gold, do not have a set value, with their value (\$/carat) depending on their quality (4Cs). The project also has a higher than average price per carat which again is difficult to model, especially the recovery rate of the "special"+10 carat stones and frequency of highly prized Type IIa stones. We would estimate that the recently recovered 90.3 carat diamond could tender for over US\$3m alone, which is a full months gross revenue from an individual diamond. We anticipate that Lucapa will have a strong sales performance at the next diamond tender, given the high proportion of +10 carat stones reported from mining block 8 alone (31 specials recovered since early August). The actual average sale price received to date from five sales is A\$1,668/ct (ranging from A\$400/ct up to A\$6,280/ct).

Our basic preliminary modelling uses the following assumptions:

- Strip ratio of 6:1 (average)
- Processing rate of 20,000bcm ramping up to 40,000bcm/month (steady-state)
- Average recovered grade of 9.5cts/100bcm
- Production (annualised) of +42,000 carats (once at ramp-up)

Under the terms of JV, Lucapa is entitled to 100% of the operating cash flows until accumulated expenditure is repaid (we estimate accumulated expenditure of A\$50m).

## Capex, Mine Development and Exploration

The capex for the alluvial operation is ~\$8m, with a vast majority of the funds already sunk. The latest equity raise provides the Company to source additional earth-moving equipment to increase alluvial mining beyond 20,000bcm per month and will enable continuous mining of two separate mining areas, optimising ore feeds to the plant. We assume surplus funds will be used for working capital and kimberlite exploration.

## FX exposure

LOM has FX exposure with its operations in Angola. AUD:USD exchange moves have a positive and negative effect on cash flows.

We will continue to update our modelling from Company released information and actual production results

## PRICE TARGET

Our preliminary price target of 49cps is derived from both a discounted cashflow analysis of the current alluvial operation and perception of exploration value in the search of primary diamond sources (which we regard as high).

Preliminary price target of 49cps

Fig. 20: Hartleys LOM Price Target			
Price Target Methodology	Weighting	Spot	12 mth out
Lulo alluvials - NPV@14% - 3 year mine life (LC)	15%	\$0.16	\$0.21
Lulo alluvials - NPV@14% - 5 year mine life (BC)	25%	\$0.26	\$0.34
Lulo alluvials - NPV@14% - 10 year mine life (UC)	15%	\$0.53	\$0.68
LC + Kimberlite exploration value - "blue sky"	5%	\$0.33	\$0.42
BC + Kimberlite exploration value - "blue sky"	25%	\$0.43	\$0.56
UC + Kimberlite exploration value - "blue sky"	12%	\$0.69	\$0.90
Net Cash	3%	\$0.01	\$0.01
Risk weighted composite		\$0.38	
12 Months Price Target		\$0.49	
Shareprice - Last		\$0.400	
12 mth total return (% to 12mth target + dividend)		22%	

Source: Hartleys Research Estimates; LC = lower case; BC = base case; UC = upside case

## **RECOMMENDATION & RISKS**

### INVESTMENT THESIS & RECOMMENDATION

We are initiating coverage of LOM with a Speculative Buy recommendation.

Lucapa Diamond Company is an Angolan-focused alluvial diamond miner and diamond-bearing kimberlite explorer. The Company holds a diamond concession (Lulo) in joint venture (JV) with Angolan government's Endiama and local partner Rosas and Petalas in the Lunda Norte province.

We initiate coverage of LOM with a Speculative Buy recommendation

The Company commenced alluvial mining in January 2015, and continues to scale up towards the initial target of 20,000bcm of gravels per month, which could deliver in the order of 2,000 carats (ct) of diamond per month. The Company has a funding deal with heavy-equipment provider Caterpillar to increase the earth-moving fleet to further increase the mining rate to up to 40,000bcm per month, which on the currently anticipated grade could double diamond production. The alluvial operation has rather consistent grade and regular recovery of special diamonds, which provides good average per carat prices. The alluvial operation to date has generated over A\$10m in gross revenues, and we would estimate once producing at and above the 20,000bcm of gravels per months, could start generating free cash flows.

Lucapa and its partners have been undertaking systematic diamond exploration at Lulo continuously since 2008. During that time, the Company has discovered a major new diamond field which includes two major kimberlite provinces and extensive diamond-bearing alluvial gravels. The exceptional quality of alluvial diamonds and coarse kimberlitic indicator minerals now being reported from mining block 8, potentially indicating a proximal primary source with the E259 kimberlite target, <500m north now being tested (trenching underway with drilling planned).

We initiate coverage with a Speculative Buy recommendation. Our preliminary price target of 49cps is derived from both a discounted cashflow analysis of the current alluvial operation and perception of exploration value in the search of primary diamond sources (which we regard as high).

## High value diamond production

### SIMPLE S.W.O.T. TABLE

Strengths

- Government and local partner
- High-value large diamonds continue to be recovered
- Highly experience management
- Strong operational track record
- Low cost producer

**Exploration Upside** 

Threat of commodity

Weaknesses

No JORC reserves or resources- mine life unknown

Single commodity production

Potentially milling/concentrator constrained

Opportunities - Improved cash flows to fund exploration

Exploration upside for new kimberlite discoveries

M&A activity

price weakness \_\_\_\_

Threats

Exploration downside

- Diamond prices and market sentiment

Potential takeover

- FX

Source: Hartleys Research.

## **RISKS**

Key risks for Lucapa Diamonds include establishing resources (exploration target) which can be converted for mine life growth, improving balance sheet to fund ongoing exploration activities and managing movement in diamond prices and exchange rates.

Assumption	Risk of not realising assumption	Downside risk to share price if assumption is incorrect	Comment
Stable government and operating environment	Low-Med	Meaningful	Long history of civil unrest but has been stable for over 10 years with a freely elected government, last election in 2012.
Model parameters for our LOM valuation	Med	Meaningful	We have made a number of large assumptions in our LOM preliminary valuation, based on past Company performance, forecast production profiles and an indicative mine life. Any changes to these assumptions have both upside and downside risks.
Favourable diamond prices	Med	Meaningful	LOM remains highly sensitive to changes in commodity prices (diamond), exchange rates and market sentiment. The Company operates a high-value alluvial mine which recovers higher than normal special stones for higher than average per carat prices. The pricing of the diamond market is largely opaque and relies on supply and demand fundamentals and luxury item consumption. The Company is not immune to market sentiment.
Upside from exploration	Med	Moderate	LOM is about to complete an equity raise to rampup production, which if success see free cash flow generation. Positive cash flows from the alluvial operation is expected to be reinvested into the search for the ultimate prize diamond-bearing kimberlites. Exploration in and around mining block 8 has a number of kimberlite targets within the catchment area which could be the primary source for the high-value stones recovered in the alluvial gravels. If a diamond-bearing kimberlite can be identified as the source for these diamonds, then LOM has significant upside potential. However, the lack of exploration success would have a negative impact on the Company.

At this stage we consider the assumptions have a medium risk of not being achieved.

Source: Hartleys Research

Conclusion

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### **Hartleys Recommendation Categories**

Buv	Share price	appreciation	anticinated
Duy	Silaie pilce	appieciation	anticipateu.

Accumulate Share price appreciation anticipated but the risk/reward is

not as attractive as a "Buy". Alternatively, for the share price to rise it may be contingent on the outcome of an uncertain or distant event. Analyst will often indicate a

price level at which it may become a "Buy".

Neutral Take no action. Upside & downside risk/reward is evenly

balanced.

Reduce / It is anticipated to be unlikely that there will be gains over Take profits the investment time horizon but there is a possibility of

some price weakness over that period.

Sell Significant price depreciation anticipated.

No Rating No recommendation.

Speculative Share price could be volatile. While it is anticipated that, Buy on a risk/reward basis, an investment is attractive, there

on a risk/reward basis, an investment is attractive, there is at least one identifiable risk that has a meaningful possibility of occurring, which, if it did occur, could lead to significant share price reduction. Consequently, the

investment is considered high risk.

### **Institutional Sales**

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Chris Chong	+61 8 9268 2817
Digby Gilmour	+61 8 9268 2814
Veronika Tkacova	+61 8 9268 3053

		_		
Wealth Management				
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Nathan Bray	+61	8	9268	2874
Sven Burrell	+61	8	9268	2847
Simon Casey	+61	8	9268	2875
Tony Chien	+61	8	9268	2850
Tim Cottee	+61	8	9268	3064
David Cross	+61	8	9268	2860
Nicholas Draper	+61	8	9268	2883
John Featherby	+61	8	9268	2811
Ben Fleay	+61	8	9268	2844
James Gatti	+61	8	9268	3025
John Goodlad	+61	8	9268	2890
Andrew Gribble	+61	8	9268	2842
David Hainsworth	+61	8	9268	3040
Neil Inglis	+61	8	9268	2894
Murray Jacob	+61	8	9268	2892
Gavin Lehmann	+61	8	9268	2895
Shane Lehmann	+61	8	9268	2897
Steven Loxley	+61	8	9268	2857
Andrew Macnaughtan	+61	8	9268	2898
Scott Metcalf	+61	8	9268	2807
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Chris Munro	+61	8	9268	2858
Michael Munro	+61	8	9268	2820
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