## Maiden JORC Exploration Target for Blina Diamond Project, WA

## HIGHLIGHTS

- POZ Minerals Limited (ASX: POZ) has estimated a maiden JORC compliant Exploration Target for alluvial diamonds at the Blina Diamond Project in WA which contains rare fancy yellow diamonds eroded from the Ellendale lamproite field.
- The Terrace 5 JORC (2012) Exploration Target is from 700,000 to 1,000,000 cubic metres at a grade range of 2.3 to 4.1 carats per cubic metre, for contained diamonds of between 1.6 to 4.1 million carats. The potential quantity and grade of this Exploration Target is conceptual in nature, there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.
- This Exploration Target will be tested during the upcoming northern dry season from April to December 2018. Activities will include Terrace 5 bulk sampling and trial mining operations on the Company's recently granted mining leases.

Figure 1: Blina Diamond Project Location \&Tenements


### 1.0 Introduction

The Blina Diamond Project in the Ellendale Diamond Province of WA's Kimberley Region is $100 \%$ owned by POZ Minerals Limited ('POZ' or the 'Company'). The project consists of four mining leases and two exploration leases within an area of $161 \mathrm{~km}^{2}$, situated 100 km east of Derby.

A diamond bearing alluvial palaeochannel named Terrace 5 (or 'T5') extends over some 40 km of the POZ project area, with channel widths from 200 m to 500 m . POZ is targeting high grade alluvial trap sites within this channel which are most likely to host the highest diamond grades, these trap sites usually occur around the sediment/bedrock interface. POZ Minerals has completed a ground geophysics survey using the latest in Ground Penetrating Radar (GPR) technology and the Company believes it now has a fast and inexpensive breakthrough technique which can discover these trap sites ${ }^{3}$.

In targeting these high grade trap sites, POZ has estimated a JORC (2012) Exploration Target from 700,000 to 1,000,000 cubic metres at a grade range of 2.3 to 4.1 carats per cubic metre, for contained diamonds of between 1.6 to 4.1 million carats.

## 2.0 'Missing Diamonds' From E9 Erosion

The Ellendale lamproite field (which includes the POZ Blina Project area) is one of the largest lamproite fields globally and many of the pipes have proven to be diamondiferous; with the Ellendale 4 (E4) and Ellendale 9 (E9) pipes having been commercially mined.

The E9 mine (currently not producing) immediately adjacent to the Blina Project was reported in 2014 to be the world's leading source of rare fancy yellow diamonds and to have contributed an estimated $50 \%$ of the global supply of these yellows. ${ }^{1}$

By combining a number of known geological factors and assumptions regarding the E9 pipe, it is possible to calculate a theoretical number for the amount of 'Missing Diamonds' that have been eroded from E9. POZ proposes that the most likely location of the majority of these 'Missing Diamonds' is within high grade trap sites in the Terrace 5 gravels, this is the basis of the JORC Exploration Target in this report.

### 2.1 Erosion: Ancient Surface Levels and Liberated Diamonds

The amount of erosion from the E9 lamproite pipe and other diamondiferous pipes from the time of their emplacement (circa 20 Ma ) to the present day is important: the more erosion which has occurred, the greater the volume of eroded lamproite and the more alluvial diamonds which could have flowed into the Terrace 5 alluvial channels.

To estimate the total amount of erosion from E9, it is necessary to assess what the level of the original land surface was at the time the pipes were emplaced, some 20 million years ago. This ancient-surface would have been the level to which the volcanic pipe erupted and would equate to the maximum volume of that pipe.

By comparing that ancient-surface level with the current ground level, the volume of diamondiferous material that is theoretically missing can be calculated. Given the grade of E9 is well known (it has been mined), the weight of the diamonds contained in that eroded material can also be calculated.

The main empirical evidence which helps to reconstruct the ancient-surface levels at the time of lamproite emplacement is the current height of some existing pipes which, due to their mineralogical composition, stand out as they are harder than other pipes and so are more resistant to erosion; Mount North is a good example of this.

Other pipes have eroded to the same height as the current ground level, but have left behind their hard-baked sandstone rims which stand out above the current surface levels, indicating a minimum height of the ancient surface; E7 and E6 lamproites are good examples of this.

The Mount North lamproite pipe (emplaced at roughly the same time as E9) which lies just ten kilometres north-west of E9. Some 20 million years ago, this lamproite intrusion would have filled a vent about three times the area of the present outcrop. The softer outer tuffs have since been eroded and today only the more resistant magmatic plug remains. It is a prominent landmark and indicates the surrounding land surface has been lowered by 'at least 90 metres' according to GSWA Bulletin $132^{2}$. Figure 2 is an approximate reconstruction of the Mount North pipe at the time of its emplacement in the Miocene ${ }^{2}$.

Figure 2 Mount North Lamproite Pipe Indicating Surrounding Level of Erosion


By connecting the various outcropping lamproite pipes and rims, the approximate ancientsurface level from 20 million years ago can be modelled. Using this data, the lamproite pipes which do not outcrop (i.e. have been eroded to the same height as the current surface) can be projected upwards to this modelled ancient-surface level. This allows the calculation of the theoretical eroded volume of E9 as shown in Figures 4 and 5.

This modelling indicates the ancient-surface level 20 million years ago at E9 was between 40 metres and 76 metres above the current ground level (pre-mining).

Figure 3 Digital Elevation Model of the Ellendale Lamproite Field and Terrace 5


Figure 4 Ellendale Section Indicating Ancient-Surface Levels


### 2.2 Eroded E9 Pipe: Tonnes, Grade and 'Missing Diamonds'

By assuming an amount of erosion of between 40 and 76 metres above the E9 pipe, it is possible to project upwards the theoretical shape of E9 as it was when emplaced. The Ellendale lamproites commonly flare outwards to give a champagne glass shape ${ }^{2}$ and this has been incorporated into the E9 modelling (Figure 5).

The modelled volumes have been combined with the E9 grades (known from mining) to give the theoretical amount of diamonds liberated from E9 by erosion. From this, the number of known alluvial diamonds from defined deposits around E9 (but not POZ Terrace 5) have been subtracted.

What is left are the 'Missing Diamonds' which range from 2.0 to 5.4 million carats and these are the basis of the Exploration Target at Terrace 5. The high end of the range is based upon 76 metres of erosion from E9 and the low end is based upon 40 metres of erosion (Tables 1 and 2).

Figure 5: Section View of Eroded Lamproite from E9


This model does not include the likely tephra rim which would have surrounded the E9 diatreme and would have consisted of diamondiferous tuff

The number of alluvial diamonds (presumably) derived from E9 on areas currently not held by POZ was calculated by Gem Diamonds Limited in December 2008. This included the E9 North Channel and other alluvials within the original M04/372 Mining Lease.

Table 1: $\quad 76$ metres of Erosion from E9

| Unit | Bulk <br> Density | Volume <br> $\left(\mathbf{m}^{\mathbf{3}}\right)$ | Tonnes (t) | Grade <br> (carats per <br> hundred tonnes) | Diamonds <br> Carats |
| :--- | ---: | ---: | ---: | ---: | ---: |
| E9 Tuffs | 2.21 | $38,763,240$ | $85,666,760$ | $5.4^{\text {B }}$ | $4,626,005$ |
| E9 magmatics east | 2.76 | $24,281,884$ | $67,018,000$ | $0.65^{\mathrm{C}}$ | 435,617 |
| E9 Fine magmatics west | 2.76 | $5,160,626$ | $14,243,328$ | $2.3^{\mathrm{C}}$ | 327,597 |
| E9 Coarse magmatics west | 2.76 | $1,744,066$ | $4,813,622$ | $1.0^{\mathrm{C}}$ | 48,136 |
| E9 Sub Total eroded | - | $69,949,816$ | $171,741,710$ | - | $5,437,355$ |
| Less E9 alluvials on M04/372 | - | - | - | -D | $-53,500$ |
| Total Missing Diamonds |  |  |  |  |  |

Table 2: $\quad 40$ metres of Erosion from E9

| Unit | Bulk <br> Density | Volume <br> $\left(\mathbf{m}^{3}\right)$ | Tonnes (t) | Grade <br> $($ carats per <br> hundred tonnes) | Diamonds <br> Carats |
| :--- | ---: | ---: | ---: | ---: | ---: |
| E9 Tuffs | 2.21 | $14,257,183$ | $31,508,374$ | $5.4^{\mathrm{B}}$ | $1,701,452$ |
| E9 magmatics east | 2.76 | $11,898,520$ | $32,839,915$ | $0.6^{\mathrm{C}}$ | 213,459 |
| E9 Fine magmatics west | 2.76 | $2,378,239$ | $6,563,940$ | $2.3^{\mathrm{C}}$ | 150,971 |
| E9 Coarse magmatics west | 2.76 | 740,220 | $2,043,007$ | $1.0^{\mathrm{C}}$ | 20,430 |
| E9 Sub Total eroded | - | $29,274,162$ | $72,955,236$ | 2.9 | $2,086,312$ |
| Less E9 alluvials on M04/372 | - | - | - | -D | $-\quad 53,500$ |
| Total Missing Diamonds |  |  |  |  |  |

${ }^{\text {A }}$ Kimberley Diamonds Limited ASX Release Dates 13 November 2013
${ }^{\text {B Kimberley Diamonds Limited ASX Release Dates } 3 \text { July } 2007}$
${ }^{\text {C }}$ Jacques et al., 1986: "The Kimberlites and Lamproites of WA," p. 121. GSWA Bulletin 132
${ }^{D}$ Gem Diamonds Limited, December 2008. Internal Technical Statement, Venmyn Consulting These calculations are not rounded as they represent input data only. The Exploration Target is rounded

### 3.0 E9 as a Source of the Terrace 5 Diamonds

There are two main sets of evidence that the E9 pipe is the main source of the Terrace 5 diamonds:

- Previous trial mining of the Blina Project Terrace 5 alluvial gravels at Cut 1 and Cut 2 (Figure 1) in 2005-6 showed that $7 \%$ of the diamonds recovered were fancy yellows ${ }^{3}$. This indicates that an important source of the Terrace 5 diamonds is most likely from the erosion of the E9 lamproite pipe, which has these fancy yellow diamonds as its signature stone type.
- The E9 and Terrace 5 diamond size distribution curves are strikingly similar (Figure 6) ${ }^{3}$.

Figure 6 Stone Size Distribution: Terrace 5 versus E9 Diamonds


This does not mean that all of the stones in Terrace 5 are derived from E9, only that E9 is the main source. E7 is another strongly diamondiferous pipe proximal to the headwaters of Terrace 5 (Figure 3) and this and other pipes may well have contributed diamonds to Terrace 5. Overall this is a positive as it raises the potential diamond inventory of Terrace 5.

### 4.0 Terrace 5 JORC (2012) Exploration Target

The Terrace 5 JORC (2012) Exploration Target is from 700,000 to 1,000,000 cubic metres at a grade range of 2.3 to 4.1 carats per cubic metre, for contained diamonds of between 1.6 to 4.1 million carats.

Table 3 Exploration Target Summary

| Volume Gravels |  | Grade |  | Total Diamonds |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $(\mathbf{m 3})$ |  | (carats per cubic metre) |  | (million carats) |  |
| From | To | From | To | From | To |
| 700,000 | $1,000,000$ | 2.3 | 4.1 | 1.6 | 4.1 |

These numbers are rounded from Table 4

For the purposes of calculating this Exploration Target, a number of assumptions have been made, these include:

- The total area of the Terrace 5 Channel (within POZ ground) as defined on Figure 1 is 14.1 million square metres: this assumption is taken from extensive previous exploration work as outlined in previous POZ ASX Releases and Appendix A of this report ${ }^{1,2,3 \& A p p e n d i x ~ A . ~}$
- Between $2 \%$ and $3 \%$ of the Terrace 5 gravel area will contain $80 \%$ of the diamonds: this assumption is based upon high grade trap sites forming within the ancient Terrace 5 river, and does depend upon the fluvial circumstances at the time of formation. Current diamond bearing rivers do display similar preferential sorting of alluvial diamonds e.g. the Ekereku and Mazaruni Rivers in Guyana (authors observation). Statistics outlined in para 4.1 also lend credence to this assumption.
- The 'Missing Diamonds' of E9 are situated within the Terrace 5 gravels: the Digital Elevation Model (Figure 3) and previous exploration defining E9 type yellow diamonds and E9 diamond size distribution (Figure 6) within Terrace 5 would indicate this.
- The average thickness of gravels quoted in Tables 3 and 4 are estimated at 2.5 metres: this assumption is taken from extensive previous exploration work including trial mining ${ }^{1,283}$.
- There are small quantities of E9 eroded diamonds in other deposits proximal to E9 (accounted for in Tables 1 and 2), however the evidence indicates that these are more recent and smaller accumulations (they are topographically higher and have been assessed and partly mined).

Table 4 Exploration Target Calculations

| Total Area of T5 Gravels $\left(m^{2}\right)$ | Area of High Grade T5 Gravels (\% of Total) | Area of High Grade T5 Gravels ( $\mathrm{m}^{2}$ ) | Volume High Grade Gravels ${ }^{\text {G }}$ ( $\mathrm{m}^{3}$ ) | Amount of E9 Erosion (metres) | Diamonds From E9 Erosion <br> Total ${ }^{H}$ <br> (carats) | Diamonds in T5 High Grade Gravels' (carats) | Grade ${ }^{\text {J }}$ (carats per cubic metre) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14,111,121 | 2 | 282,222 E | 705,556 | 40 | 2,032,812 | 1,626,250 | 2.30 |
| 14,111,121 | 3 | 423,334 F | 1,058,334 | 76 | 5,383,855 | 4,307,084 | 4.07 |

${ }^{E}$ The minimum volume of gravel has been linked to the minimum area of High Grade Gravels within T5 (2\%)
${ }^{\mathrm{F}}$ The maximum volume of gravel has been linked to the maximum area of High Grade Gravels within T 5 (3\%)
${ }^{G}$ The volume of the High Grade Gravels is calculated by multiplying the Total Area of T5 Gravels by the \% Area of High Grade
${ }^{H}$ From Tables 1 and 2
${ }^{\text {' }}$ Assuming $80 \%$ of total E9 missing diamonds are within the high grade trap sites, as per the exploration model
${ }^{J}$ Volume of Gravel multiplied by $80 \%$ of missing diamonds from Tables 1 and 2 (diamonds in T 5 High Grade Gravels)
These calculations are not rounded as they represent input data only. The Exploration Target is rounded.
This Exploration Target is quoted in cubic metres. To convert cubic metres to tonnes, multiply using an SG of between 1.70 and 1.84 .

### 4.1 Terrace 5 Low Grade Area

The Exploration Target assumes 2 to $3 \%$ of the Terrace 5 area accounts for $80 \%$ of the 'Missing Diamonds' and is the High Grade Area. It follows the remaining 97 to $98 \%$ of the area would contain the remaining $20 \%$ of the 'Missing Diamonds' and this is called the Low Grade Area and approximates to 13.7 million square metres of the POZ Terrace 5 area.

If the Low Grade Area is modelled in the same way as Table 4, and at an average gravel thickness of 1.5 metres (estimated from previous work), a theoretical grade range of between 2.0 to 5.2 carats per hundred cubic metres is obtained. (N.B. carats per hundred cubic metres is used here, carats per cubic metre is used for the Exploration Target).

This theoretical grade range for the Low Grade Area is close to the actual measured grades from the previous trial mining of Terrace 5 at Cuts 1 and 2 which ranged from 2.7 to 4.4 carats per hundred cubic metres ${ }^{1}$. This gives some credence to the assumption (upon which the Exploration Target model is partly based) that between $2 \%$ and $3 \%$ of the Terrace 5 gravel area will contain $80 \%$ of the diamonds.

### 5.0 POZ versus Previous Explorers

The total area of the Terrace 5 Channel within POZ ground as defined on Figure 1 is 14.1 million square metres. There have been 58 previous bulk sample pits and two trial mining cuts over this part of Terrace 5 which cover a total sampled area to date of $71,200 \mathrm{~m}^{2}$. This equates to just $0.5 \%$ of the total Terrace 5 gravel area as having been sampled and indicates the difficulty faced by previous explorers in finding the type of high grade trap sites which POZ estimates could cover only 2 to $3 \%$ of the Terrace 5 area.

This amount of random sampling coverage would generate only a $0.15 \%$ chance of discovering a high grade trap site using ( $(0.005 \times 0.03) \times 100=0.15 \%)$. It is clear that a tool is required to find the high grade areas, and POZ believes the latest GPR geophysics technology ${ }^{3}$ could well be that tool.

Although previous explorers did attempt to find these high grade targets using various methods, and worked in a thorough and professional manner, the latest GPR methods existing today were not previously available to them. This is a major point of difference which POZ sees as the gamechanger in Blina exploration which could deliver success using new technology over old ground.

### 6.0 Valuation of Terrace 5 Diamonds

This is a JORC compliant Exploration Target and as such, In Situ or In Ground valuations are not permitted. However, to ensure full disclosure, POZ's recently published valuation of Terrace 5 diamonds is included.

An independent appraisal on the data from a 1,497.57 carat parcel of diamonds previously mined from Terrace 5 gives a price of US\$389 per carat (A\$505 per carat). See POZ ASX Release dated 6 November $2017^{4}$.

### 7.0 Blina Project Summary

This maiden JORC Exploration Target demonstrates the potential of Terrace 5 to deliver very high grades on what would be a relatively simple, shallow, low capital cost and low operating cost alluvial mining process.

Previous explorers were constrained by lacking of a method of indirectly mapping the prospective bedrock-cover contact. The highly successful recent POZ geophysics survey using Ground Penetrating Radar may well prove to be a gamechanger for this project by quickly and inexpensively defining the highest quality diamond targets at this contact. The potential for discovering bonanza grades within these newly defined trap site targets presents an exciting and significant upside.

With mining leases now granted, the Company looks forward to testing this Exploration Target during the northern dry season from April to December 2018. Activities will include Terrace 5 bulk sampling and trial mining operations.
${ }^{1}$ Further detailed information including the Table 1 (JORC Code, 2012 Edition) and references are available on the POZ ASX Release dated 9 October 2015 click here
${ }^{2}$ Bulletin 132 (Geological Survey of Western Australia); The kimberlites and lamproites of Western Australia by A.L. Jaques, J.D. Lewis and C.B. Smith.
${ }^{3}$ Blina Diamond Project, Gamechanger GPR Survey; POZ ASX Release dated 18 October 2017 click here
${ }^{4}$ Terrace 5 Diamond Valuation POZ ASX Release dated 6 November 2017 click here

The information in this report that relates to previously reported exploration results and the JORC Exploration Target is based on information compiled by Mr. Jim Richards who is a Member of The Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. Mr. Richards is a Director of POZ Minerals Limited. Mr. Richards 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 Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr. Richards consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.

POZ Minerals

## Appendix A

## JORC Code, 2012 Edition - Table 1

This Table 1 summarises work done between 1995-2008 on POZ Minerals' Blina Diamond Project. The companies undertaking this work were Kimberley Diamond Company NL (KDC), Blina Diamonds NL, Diamond Ventures Exploration Pty Ltd, and Kimberley Resources NL. POZ will not tabulate geochemical results as the Company deems these are not material to POZ's alluvial diamond exploration model or strategy.
The accession reports summarised in this document are a42864, a47812, a51360, a54883, a57833, a59481, a59998, a61480, a62589, a64735, a64924, a66802, a69826, a70125, a70543 (BLBS082), a72738 (Cut 1 and Cut 2), a74960, a77881, a78278, a86615, and a93271.

Section 5 data is referenced as follows:
Ellendale 9 bulk densities (KDC): http://media.abnnewswire.net/media/en/docs/76186-ASX-KDL-767638.pdf
Ellendale 9 diamond grades:
(KDC): https://www.thefreelibrary.com/KIMBERLEY+DIAMOND+COMPANY+NL+-+41\%+Increase+in+Ellendale+9+Resource-a0165957041 and;
(Ashton JV) Jacques et al., 1986: "The Kimberlites and Lamproites of Western Australia," p. 121. Geological Survey of Western Australia Bulletin 132
Terrace 5 ore blocks (not on POZ ground): Gem Diamonds Limited, December 2008. Internal Technical Statement, Venmyn Consulting

## Section 1 Sampling Techniques and Data

## Sampling

Techniques

A72738 (Cut 1 and Cut 2): The overlying dune sand was removed using scrapers and stockpiled at the sides of the pit. Two rows of test pits were dug at 20 m intervals, using a 30t excavator, along each side of the pit to establish the depth to the gravel sequence, and the quality and thickness of the gravels. The barren sandy clay sequence was then removed down to the top of the gravel sequence.

The depth of the Pindan sand in Cut 1 was extrapolated from Bauer drilling data approximately 75 metres to the east and west of Cut 1. The Pindan Sand depth data was checked against earlier adjacent exploration pit data, however the Bauer data was used as the logging appeared more consistent. The depth of the Pindan sand in Cut 2 was extrapolated from earlier exploration pitting in the area of the cut.

The large-scale bulk sample was split into blocks based on gravel thickness and quality, and the gravels removed as sub-samples. This method was used to enable controls on grade correlations and to provide the plant with individual samples of around 2,000 tonnes. The samples were excavated using a $65 t$ machine and hauled to the ROM using D400 moxys. Once the 65t excavator had removed the gravels, a 30t machine with a blade on the bucket scraped the floor of the block and cleaned out any potholes of gravel remaining. This material was then hauled to the ROM and added to the main sample pile. About 10 cm of overlying barren material, and 20 cm of bedrock waste, was factored into the ore horizon removed.

A70543 (bulk sample BLBS082): Gravel samples were collected using a bulldozer and a 35t excavator
Bulk Samples: Sample sizes range from 68 tonnes to 476 tonnes. All pits were dug to just below the bedrock/gravel interface. A small Heavy Media Separation (HMS) plant was used to process samples; samples were initially (1995-1998) transported off site for processing, and later (1999 onwards) processed in an on-site laboratory before being transported off site. HMS plant performance was monitored using density tracers with a specific gravity equivalent to diamond.

During the 1996 season concentrate was screened into a number of size fractions ( $-1 \mathrm{~mm},+1-2 \mathrm{~mm},+2-3.5 \mathrm{~mm},+3.5-7 \mathrm{~mm}$ and $+7-10 \mathrm{~mm}$ ). All fractions were passed over a high intensity magnetic separator and the more magnetic ironstone removed and discarded.


## Commentary

In the 1995-1999 seasons the non-magnetic, +1 mm fractions were crated and trucked to Remote Systems in Malaga for x -ray sorting. The non-magnetic, $+0.8-1 \mathrm{~mm}$ fraction was passed through heavy liquid (tetrabromoethane) and diamonds recovered under a binocular microscope. The +1 mm non-magnetic fractions were through an X-ray Sorting machine (Sortex) and the resulting concentrates visually checked for diamonds.

A72738: All samples were processed through Blina's 50 tonne per hour Dense Media Separation (DMS) processing plant. This plant was built by Mine Plant Constructions in May 2005, and commissioned in early July. Concentrate from the samples was processed at KDC's Recovery section using Flowsort X-ray machines, with hand-sorting of the final product.

A70543: Gravel samples were collected using a bulldozer or a 35 t excavator. The sample was processed with a screen size from 1.2 mm lower cut-off to 14 mm top cutoff. Sample was then passed through a Heavy Media Separation (HMS) and processed as per Bulk Samples below.

Bulk Samples: Gravel samples were collected using a bulldozer or a 35 t excavator. The sample was processed at +1.0 mm to 10.0 mm (1996), +1.2 mm to 10.0 mm (1997) or +1.5 mm to 14.0 mm (1999 onwards) screens. Sample was then passed through a Heavy Media Separation (HMS) plant to produce a concentrate, the nonmagnetic proportion of which was placed through an X-ray Sortex machine and the resulting concentrate examined using binocular microscopes to identify diamonds.

Diamond Ventures bulk samples BS1 to BS11 were screened at +1.4 mm to -12.0 mm .
From the 1999 season onwards the HMS plant operated with a screen size from 1.5 mm lower cut-off to 16 mm top cut-off.
A72738 and A70543: not applicable.
Other reports: Drill techniques used at the Blina Diamond Project include: aircore (AC), rotary air blast (RAB), and Bauer (wide diameter) drilling. Samples were geologically logged and the geology recorded. In some drillholes an HMS sample or a geochemical sample was collected from the interpreted basal contact. POZ does not deem these geochemical or HMS samples as being material to the Company's diamond exploration model or strategy, and as such is not collating or reporting on these data.
Although not a drilling technique, 677 Bedrock Interface Samples and 710 exploration pits were completed by previous operators at the Blina Diamond Project. These were dug with a 35 tonne excavator and ranged in depth from 0.5 m to 12 m . All pits were geologically logged, with particular attention paid to alluvial gravels overlying the basal contact. In selected pits the geologist collected an HMS sample to test for diamonds and diamond indicator minerals.
A72738 and A70543: not applicable.
Other reports: Logged by on-site geologist and recorded on paper drill logs
A72738: Bulk samples were taken to assist sample representivity. To maximise bulk sample recoveries of diamonds, about 10 cm of overlying barren material, and 20 cm of bedrock waste, was factored into the ore horizon removed.
Other reports: not recorded
A72738: Not applicable to a bulk sample mining operation where all of the material is removed.
Other reports: not recorded
A72738: Sample pits were geologically logged prior to the bulk sampling operation. Logs are shown in section within this report.
Other reports: not applicable
All reports: Logging was quantitative in nature. Information collected includes sedimentology, lithology, mineralogy, colour, comments. Photos of some bulk sample sites were collected and are available to POZ .

A72738: Both cuts were logged in full and the gravel intersections logged (Figures 3 and 4).
Other reports: All drillholes and test pits were geologically logged in full. Geological logs or face maps exist for some bulk samples.

| Criteria |
| :--- |
| Sub Sampling |
| Techniques and |
| Sample |
| Preparation |
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data and laboratory tests

## Verification of

 sampling and assaying
## Commentary

A72738 and A70543: Not applicable to bulk sampling operations where the whole sample is treated from 1.5 mm to 16 mm . Other reports: Not applicable
A72738 and A70543: All samples were processed through either Blina's 50 tonne per hour or 10 tonne per hour DMS processing plant. Concentrate from the samples was processed at KDC's Recovery section using Flowsort X-ray machines, with hand-sorting of the final product.
All reports: POZ believes size screening, HMS mineral separation, and X-ray Sortex processing of samples is an industry-appropriate sample preparation technique for alluvial diamonds.
All reports: Not applicable to alluvial bulk sampling operations.
A72738 and A70543: Samples were geologically logged prior to sampling to ensure alluvial gravels were sampled with a minimum of overburden or bedrock. Other reports: not recorded.
A72738: These large bulk samples are deemed appropriate for the grades and sizes of the diamonds being sampled.
Other reports: POZ believes the sizes of the bulk samples are appropriate for the material being sampled, but the number of samples for the style of mineralisation (alluvial diamonds) is inappropriate, as diamond distribution can be highly inhomogeneous in alluvial gravels.
All reports: Dense Media Separation and Flowsort X-ray diamond processing are deemed appropriate procedures for assessing Ellendale diamondiferous ore.

## A66802: KDC Ground Penetrating Radar (GPR) study

In July 2002 a GPR survey was conducted by SenseOre Services at KDC's Ellendale project to determine whether the technique could be used to rapidly obtain detailed information on palaeochannel locations. The surveys were conducted using a GSSI SIR-20 GPR data acquisition system together with a 200 MHz GSSI antenna and 35 MHz and 70 MHz Radarteam antennas.
Data acquisition was triggered by a survey wheel, and a Garmin e-map GPS was connected to the SIR-20 to record position on some lines. Background removal was via a 501 trace median filter and automatic gain control was applied.

## POZ Minerals GPR survey

In May 2017 POZ Minerals contracted Core Geophysics to undertake an UltraGPR system survey of the Blina diamondiferous palaeogravels. 25 MHz to 80 MHz transmitters and real time receivers with a 32,000 stacking rate were used.
The UltraGPR system comprises a 6 m 'snake' towing a radar receiver in front of a radar transmitter, connected by dipole antennae. Data is transmitted via Bluetooth to a handheld DPA device, and location is obtained via backpack DGPS.
Data processing involves: zero time correction; gaining; dewowing; removal of signal ring down; band pass filtering; velocity analysis (depth); and migration. Tree interference was removed using a 2 SFFT filter.
A72738: Density bead testing is the standard technique for DMS treatment plants. Records of density bead testing results have not yet been found by POZ, although pers comm (Jim Richards to BLD field crew in 2005 to 2007) did confirm density bead testing took place.
Other reports: HMS plant performance was monitored using density tracers with a specific gravity equivalent to diamond. Tracer recoveries are not tabulated in accession reports, however accession report a51360 (Kimberley Diamond Company Combined Annual Report C420/1995 for the period 24/2/1996-23/2/1997) states "tracer recovery rarely fell below 100\%."

## Not applicable.

Not applicable
All data has been extracted from the WAMEX database Accession Reports and ASX Reports as referenced. These data sources from publicly listed companies complying with statutory reporting obligations are deemed appropriate.
A72738: POZ is not aware of any adjustments to the assay data other than the extrapolation of volumes for two samples from averaged SG data as referenced in Appendix A.
Other reports: Not recorded
Location of Data
points

A72738: Bulk sample locations were located by DGPS and have been verified on Google Earth.
A70543: Sample site was captured by hand-held GPS.
Other reports: Most sample sites were captured by hand-held GPS, with the exception of Bauer drillholes which were captured by DGPS. Many bulk sample sites are visible in Google Earth, and correspond well with their reported coordinates.

| Criteria | Commentary |
| :--- | :--- |
|  | Grid system is MGA94_51 |
|  | The terrain is generally flat. Topographic control is available with some of the associated data and is deemed sufficient for this level of exploration result reporting. |
|  | Sample locations are shown in attached figures. |
|  | This report pertains only to bulk sampling results for diamondiferous gravels on the Terrace 5 alluvial system. |
|  | A72738: Bulk Sample Results have been composited to provide average results for Cut 1 and Cut 2 and an overall average grade/tonnage/volume. <br> Other reports: Not applicable |
| Orientation of data <br> in relation to <br> geological <br> structure | A72738: Cut 1 and Cut 2 are perpendicular to the Terrace 5 palaeochannel. <br> A70543: BLBS082 is within the Terrace 5 palaeochannel. <br> Other reports: Not applicable |
|  | No sampling bias is known or expected. |
| Sample Security | Refer to Section 5 below. |
| Audits or reviews | No review of the sampling techniques and data was reported. |

## Section 2 Reporting of Exploration Results

## Criteria

Mineral tenement and land tenure status

## Exploration done

by other parties

Commentary
Mining Lease Applications M04/464, M04/465, M04/466 and M04/467 were applied for by POZ Minerals Limited. M04/464 and M04/465 are on the not determined Warrwa native claim. M04/466, M04/467 and 5\% of M04/465 are on the determined Bunuba 2 claim. All Mining Leases are $100 \%$ held by POZ Minerals with no encumbrances. M04/466 and M04/467 were granted on $13^{\text {th }}$ October 2017 with no conditions.

M04/467 was applied for in the name POZ Minerals Limited with no other holders. There are no known impediments to obtaining a license to operate in the area, other than Native Title.M04/466 and M04/467 were granted on 13/10/2017 pursuant to a Mining Agreement, the conditions of which are summarised in the POZ ASX Release dated 16 October 2017.

## A number of companies have previously completed exploration in the Ellendale Field. The following is a summary of this work

## Ashton Joint venture (1976-1988)

Initial regional drainage diamond exploration program discovered Ellendale 4 (E4) pipe. Follow-up geophysical surveys discovered 40 more pipes; bulk sampling revealed significant diamond grades at E4 and E9.
Stockdale Prospecting Limited (1987-1993)
Regional loam sampling; airborne multi-spectral scanning; aeromagnetics; ground magnetics; SIROTEM; drilling; bulk sampling

## Diamond Ventures/Ellendale Resources/Auridiam (1994-1997). Accession report a64924

Initial JV flew detailed low-level aeromagnetic survey, discovering five new lamproite pipes; bulk testing of pipes.
Kimberley Diamond Company Limited (KDC) (1994-2004). Accession reports a42864, a47812, a51360, a54883, a57833, a59481, a59998, a61480, a62589, a64735, a64924.
Airborne EM and magnetics with follow-up ground magnetics; gravity surveys; AC drilling to discover and delineate the Terrace 5 palaeodrainage gravels; exploration pitting and bedrock interface sampling; large-diameter drilling and bulk sampling; geochemical (termite nest and AC spoil) sampling programs; GPR trial; regional regolith mapping and Landsat imagery.
KDC-Blina Diamonds NL (2004) Accession report a69826.
Drilling of Falcon geophysical targets; heavy mineral sampling; termite mound geochemical sampling.
Blina Diamonds NL (2005-2008) Accession reports a70125, a70543, a72738, a74960, a77881, a78278, a86615, a93271.

| Criteria | Commentary |
| :---: | :---: |
|  | Cut 1 and Cut 2 bulk samples; detailed aeromagnetic and ground magnetic surveys; AC drilling; bulk sampling and trenching; 1m and 2.5m Bauer rig drilling; geochemical, microdiamond, and indicator mineral sampling; excavator exploration test pitting.. |
| Geology | The Blina Diamond Project is a diamond-bearing palaeogravel with diamonds believed to be mainly derived from the Ellendale 9 lamproite pipe. |
| Drillhole Information | Not Applicable |
| Data aggregation methods | All grades are reported as per the original results. |
|  | Not applicable |
|  | Not applicable |
| Relationship between mineralisation widths and intercept lengths | Not applicable. |
| Diagrams | Refer to Figures, References and Appendices in body of text. |
| Balanced reporting | Refer previous POZ ASX Releases ${ }^{1,3 \& 4}$ |
| Other substantive exploration data | A72738: Each sample has its own SG reported. Bulk densities were reported in tabular format, calculated from the volumes mined (measured in cubic metres) versus the volumes treated (measured in tonnes) |
| Further work | A full bulk sampling and trial mining operation is planned for Terrace 5 in 2008. Refer to POZ quarterly reports for 2017. |

## Section 5 Estimation and Reporting of Diamonds and Other Gemstones

The below data is subset as follows.

- Terrace 5 refers to work by Blina Diamonds on Terrace 5 palaeogravels. Terrace 5 Cuts 1-2 and BLBS082 are Terrace 5 bulk samples on POZ Minerals ground, and Cut 1 upstream to E12 is an ore block on POZ Minerals' tenement E04/2415 but not within M04/467.
- Ellendale 9 refers to the Ellendale 9 lamproite. Ellendale 9 tuffs, KDC is work by Kimberley Diamond Company on the Ellendale 9 lamproite, and Ellendale 9 magmatics, Ashton Joint Venture refers to work by the Ashton JV on the Ellendale 9 lamproite. Ellendale 9 gravels is work by Blina Diamonds on alluvial gravels draining north from the Ellendale 9 lamproite.

| Criteria |  |
| :--- | :--- |
| Indicator minerals |  |
| Source of diamonds |  |

Nommentary
Not applicable
Terrace 5: The diamonds were sourced from alluvial Terrace 5 palaeogravels which contain diamonds eroded from lamproites in the Ellendale lamproite field, including the E9 lamproite.
The largest diamond recovered to date from Terrace 5 is an 8.43ct fancy yellow from bulk sample BLBS082. The diamonds are generally split into two types, white and yellow. The shapes of the stones are predominantly dodecahedrons, with the occasional flat stone (not macles as the crystal structure is not twisted).
Ellendale 9: The diamonds were sourced from the Ellendale 9 (E9) lamproite pipe which was erupted through the regional Grant and Fairfield formations and which was mined by Kimberley Diamond Company (KDC) until June 2015. The diamonds were mined in situ from the E9 lamproite as part of standard mining operations by KDC.

## Commentary

The diamonds produced a range in stone sizes from +3 to +23 standard sieve sizes and are generally split into two types, white and yellow. The shapes of the stones are predominantly "dodecahedrons", with the occasional "flat" stone (not "macles", due to the crystal structure not being twisted).

Sample collection Terrace 5 Cuts 1-2, BLBS082: Diamonds were mined from diamondiferous Terrace 5 pa gravels were mined from Cut 1 and Cut 2 (combined) and 623t of gravels from BLBS082.
Ellendale 9 gravels and Cut 1 upstream to E12: diamond resources were calculated from 397 drillholes, 242 exploration pits, 37 exploration trenches, 76 bulk samples or trenches, and 646 Bauer holes.
Ellendale 9 tuffs, KDC: Diamonds were mined from tuffaceous and magmatic E9 lamproite during standard drill and blast open pit mining.
Diamond grades for E9 were derived from an in pit bulk sampling program which sampled discrete ore zones for treatment in order to determine the grade of the various pipe facies By linking the ore zone to the facies identified in the 3D geological model, grade measurements were assigned to each facies.
Grade samples at Ellendale were large scale bulk samples (2k-20k tonnes). This was in order to obtain representative grade and revenue results due to the relatively low grade of the E9 lamproite ore. Samples were marked out in the pit following interpretation of blast mark-ups.
The sample material is mined and transported to an isolated sample stockpile. In some cases minor zones of internal dilution are evident in the ore. Normal practice of sending material to low grade is followed but the number of trucks diverted is recorded. However the grade is only assigned to the material sent to the sampled ore stockpile.
Ellendale 9 magmatics, Ashton Joint Venture: Bulk sample pits were dug on a one sample per 2 ha grid to determine grade. Following this, "large samples totaling several thousand cubic metres were dug and processed to provide parcels of 5,000 CM or more for valuation of the diamonds." Aircore and diamond drilling was used to investigate vent geometry and geology at depth.
"To determine diamond concentrations at depth, bulk samples from depths of up to 200 m were taken from 1 m diameter holes drilled with a Wirth RC rig using toothed roller bits. Holes to 30 m were also sunk using a Hughes Tool Company Williams auger. Hole spacing in higher grade tuffs was $50-100 \mathrm{~m}$, and samples of about 25 m length were processed."
Terrace 5 and Ellendale 9 gravels: Cut 1 and Cut 2 sampling was carried out through Blina Diamonds' 50tph plant located at Cut 1, with a bottom deck screen cut off of 1.5 mm and a top deck screen cut off of 16 mm . Bulk samples and Bauer drilling samples were processed through either the 50tph plant above or the 10tph exploration plant, with a bottom deck screen cut off of 1.5 mm and a top deck screen cut off of 14 mm
The production plants consisted of a grizzly and a trommel, feeding into a scrubber, feeding to a dense media separation (DMS) unit. Concentrate produced from the DMS units was transferred to a final recovery where the concentrate was screened into +1.5 mm to -16 mm ( 50 tph ) or +1.5 mm to -14 mm ( 10 tph ). Concentrate was then processed through a Flowsort unit at the KDC diamond screening facility at the Ellendale 9 diamond mine where it was hand sorted within a glove box. The diamonds recovered were weighed within the glove box before being taken to be acidized and cleaned, and then sieved, counted and weighed.
Ellendale 9 tuffs, KDC: Surface bulk samples from discrete lithological facies were transported to the E9 plant as a single source feed. Sample material was run through the plant for 30 minutes prior to the concentrate bins being changed and the start of the sample recorded, in order to minimize contamination. The sample was then run until the tonnage target was achieved. The concentrate was processed separately at the final recovery plant, and valued as a discreet parcel in Perth. Sampling was carried out through the main production facility at Ellendale, with a bottom deck screen cut off of 1.5 mm and a top deck screen cut off of 14 mm . The production plant consisted of two primary crushing units feeding to three scrubbers, feeding to three dense media separation (DMS) units. Concentrate produced from the DMS units was transferred to a final recovery where the concentrate was screened into two size fractions ( +3 mm and -3 mm ) and then processed through three Flowsort units. The -3mm Flowsort concentrate was put through an attritioner before being hand sorted, while the +3 mm concentrate went straight to being hand sorted within a glove box. The diamonds recovered were weighed within the glove box before being taken to be acidized and cleaned, and then sieved, counted and weighed. Ellendale 9 magmatics, Ashton Joint Venture: The AJV established a central washing plant consisting of hammer mill, scrubber, and HMS plant with a 20 t/hr cyclone operating on a +0.8 mm to -13 mm feed. HMS plant concentrates were passed to an adjacent sorthouse where they were upgraded by electromagnetic separation, and ball milling if required, before final hand picking of the diamonds.
One fifth (0.2) of a gram (often defined as a metric carat or MC). All reporting of diamond weight is in carats
All Blina, KDC and AJV resource and sample grades were expressed as carats per hundred tonnes (cpht). No adjustment were made for moisture content within the samples.

## Criteria

Reporting of
Exploration Results

Grade estimation
for reporting Mineral Resources and Ore Reserves

Value estimation

## Security and

integrity

## Commentary

Terrace 5 Cuts 1-2, BLBS082: Cut 1 - Cut 2 gravels were screened at +1.5 mm to -16 mm and BLBS082 gravels were screened at +1.5 mm to -14 mm . The total weight of diamonds recovered from Cut 1, Cut 2 and BLBS082 is 1497.57 carats. Other data is not recorded.
Ellendale 9 gravels and Cut 1 upstream to E12: Gravels were screened at +1.5 mm to -14 mm .
Ellendale 9: Not applicable

Terrace 5 Cuts 1-2: Aeolian sand overburden and fine grained fluvial sediment was removed from above the gravels and stockpiled. Gravels were divided into subblocks of approximately 2 kt for grade correlation and ease of processing. Sample was not crushed, and no diamonds larger than the upper cut-off screen size or smaller than the lower cut-off screen size were recovered.
Ellendale 9 gravels and Cut 1 upstream to E12: Aeolian sand and barren sediments were stripped from above bulk samples and trenches before gravel was mined. Bauer drillholes were drilled from surface and only basal gravels (where present) were processed. Sample was not crushed, and no diamonds larger than the upper cutoff screen size or smaller than the lower cut-off screen size were recovered.
Ellendale 9 tuffs, KDC: Bulk samples were separated into their appropriate pit zones and a zonal average grade was calculated for input into the resource model. Each sample within a given pit zone was proportionally split based on its vertical distance from the current mining surface RL. West pit and Far East pit zones were calculated using a $2 \%$ proportional reduction of each sample per metre, so that any sample more than 50 m from the current pit surface had no influence on the calculated resource grade and the most proximal samples had the most influence.
East pit zones used a $1.33 \%$ proportional reduction per metre, so that samples more than 75 m from the current pit surface had no influence on the resource grade. Ellendale 9 magmatics, Ashton Joint Venture: Pits were dug on a one sample per 2ha grid.
Ellendale 9: All valuations used in the calculation of resource values were of diamonds recovered from the grade samples processed through the E9 production plant. Ellendale 9 and Terrace 5: All valuations were done to the "220 price book", which was a standardised price book of Ellendale production based around end of 2008 prices. The final calculated zone values were then adjusted to current market prices.
Ellendale production was split into Tiffany Quality (TQ) diamonds and Commercial Goods (CG) diamonds, as a contract agreement existed with Tiffany and Co for KDC to exclusively sell diamonds of specific quality, colour and size to them at an agreed price. All CG diamonds were sold separately by electronic auction.
Due to the Ellendale production being split into TQ stones and CG stones, each portion within the grade samples were valued separately, so that the appropriate market increase could be applied and the most accurate valuation achieved.
All valuations were carried out by IDV (Independent Diamond Valuers Pty Ltd, now Independent Diamond Valuers International Pty Ltd), which was a contracted company working for KDC to value and sell Ellendale diamond production.
The final valuations were calculated by grouping all samples together and averaging out the value of the total recovered diamonds, to achieve a diamond value for TQ and CG stones for each zone. The current market conditions relative to the 220PB were then applied to the TQ and CG value separately, as they were often different due to the Tiffany uptake agreement.

Terrace 5 and Ellendale 9 gravels: Cut 1 and Cut 2 samples were treated through the Blina 50tph production plant. BLBS082, other BLBS* bulk samples, and the Bauer drill samples were treated through the Blina 10tph exploration plant.
Ellendale 9: All bulk samples were treated through the main production plant and final recovery and thus processed under the same level of security as normal production.
All samples were processed using a flush period of sample material prior to the start of the sample and distinct start and finish time, so that DMS concentrate could be collected discretely from normal production. All samples were processed separate from normal production through the final recovery Flowsort machines and then hand sorted separately
Terrace 5 and Ellendale 9: All diamond acidisation was carried out on site, along with the final sieving, weighing, and photographing of the diamonds recovered from each sample.
All diamond transport was carried out by a contracted security company between the mine and the Perth valuation office.
Ellendale 9: Each diamond sample was packaged and sealed separately from normal ROM production, so that the diamonds were kept separate during transport from the mine to the Perth valuation office.

POZ Minerals

| Criteria | Commentary |
| :--- | :--- |
|  | Terrace 5 and Ellendale 9: All diamonds were weighed in at Perth and reconciled with the recorded weights on site, to make sure no diamond losses occurred. <br> Once each sample had been valued in Perth by IDV, the diamonds were combined with production for sale, excepting some exploration and other special samples <br> which were retained. <br> All diamond processing and valuation was carried out in secure areas with multiple 24 hour observation cameras. Trained security personnel were always present at <br> any time on site when direct interaction was needed between personnel and diamonds, or high grade concentrate, or in areas where they could be found. |
| Classification | Terrace 5: Not recorded. <br> Ellendale 9: E9 diamond value estimations resulted in an Indicated classification due to: <br> - Predicted values being formulated from accumulated diamond samples of more than 1,000 carats for each deposit and zone, which was recognised asbeing <br> representative of run of mine production at Ellendale. <br> - Predicted values plotting consistently within a 10\% error margin of run of mine actual production values. <br> - Diamond values remaining consistent within all separate resource deposits and zones relative to the "220 price book", over the history of themine. <br> - Sample diamond values being provided by IDV, using the same categories and processes used to value Ellendale's normal production. <br> The diamond valuation in this ASX Release was provided by IDV, using the same categories and processes used to value the Ellendale 9 normal production. |

