

## Kimberlite Discovery Confirmed at Lake Popei Project, Sierra Leone

ASX Code:  
**NWF**

The Company is pleased to announce the discovery of kimberlite at its Lake Popei Project (EL11/2014) in Sierra Leone. The discovery of a series of kimberlite dykes has been confirmed by surface trenching and independent petrographic analysis.

Other key aspects of the discovery include:

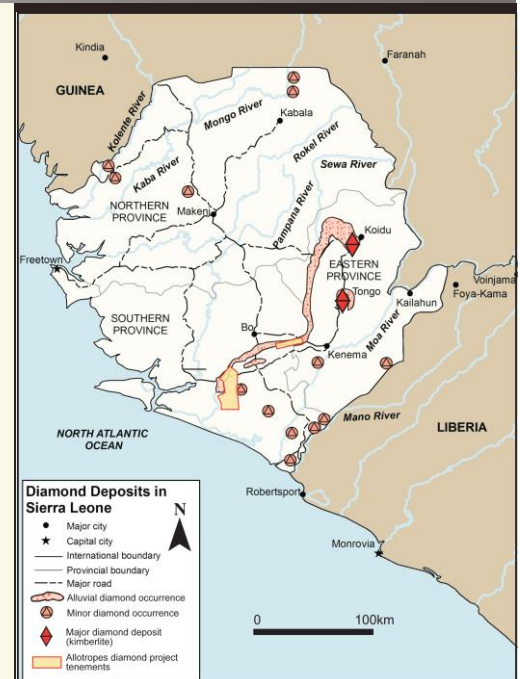
- The exposing of weathered kimberlite dykes in two separate trenches spaced approximately 600m apart;
- Petrographic analysis of historical drill cores has confirmed the dykes as being Group II hypabyssal phlogopite kimberlites; and
- A coincident kimberlite indicator mineral anomaly in historical soil and stream sediment sampling extends over a 3.6km strike length.

The Company believes this discovery is the first recorded exposure of a kimberlite dyke outside of the established diamond producing Koidu and Tongo Diamond Fields in Sierra Leone. Newfield's compilation of historical datasets suggests that the Lake Popei kimberlite discovery may be part of a more extensive kimberlite field.

The next phase of the work program will include micro-diamond analysis and bulk sampling to determine the diamondiferous potential of the kimberlite dykes.

The Company is currently commissioning a 40 tph head-feed DMS (Dense Media Separation) plant to process its alluvial gravels in its Baoma Project (EL15/2012) and the recovery of dyke material from this discovery area will be stockpiled for diamond mineralisation tests through the plant.

This discovery is a major milestone in Newfield's kimberlite exploration program which substantially underpins the Company's confidence in its objective to identify a number of diamondiferous kimberlites amongst its prioritised targets across its tenements.



ASX Release: 16 September 2014

ACN 153 219 848

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## ALLOTROPES DIAMOND PROJECT – SIERRA LEONE (NEWFIELD 100%)

### ***1. Kimberlite Exploration Update - EL 11/2014 Lake Popei Project***

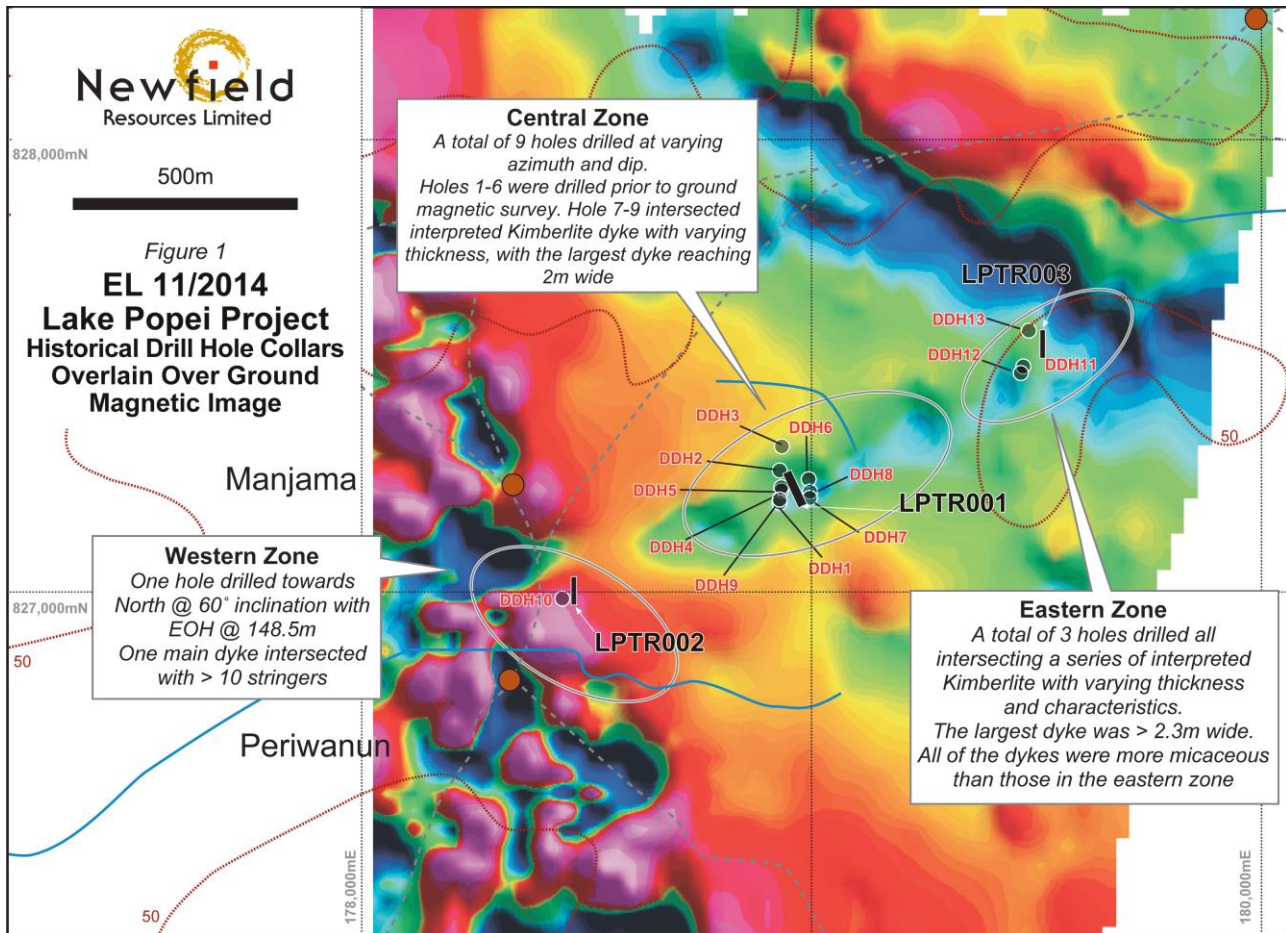
In the recent Operational Update (ASX Announcement dated 1 September, 2014) , the Company announced it had commenced the systematic excavation of a number of exploration trenches across the projected surface trace of the interpreted kimberlite dyke intersections achieved from a previous diamond drilling campaign. The objective of the trenching was a twofold approach: to expose the interpreted kimberlite dyke(s) beneath a thin veneer of lateritic alluvial cover and deeply weathered bedrock substrate (i.e. transition from mottled to pallid zones in the saprock), to achieve a visual confirmation of the dyke, and secondly; to secure enough material to test for any potential diamond mineralisation that the dyke may have, and if so, ascertain whether the mineralisation is in economically viable quantities.

In addition, it was announced that the Company would submit the recovered legacy drill core to several Perth laboratories for petrological (petrographic) work and subject it to a destructive reduction process, to test its micro-diamond content (MiDA) via caustic fusion and acid digestion (the latter is a critical step in marrying diamond occurrence/grade at depth with any macro-diamond grade data retrieved from surface trench bulk-sampling). During the reduction treatment of the core, the heavy mineral suite would initially be recovered through heavy liquid separation (TBE), prior to commencement of the fusion cycle to further aid in the identification of the diamond core material as being definitively kimberlitic in nature.

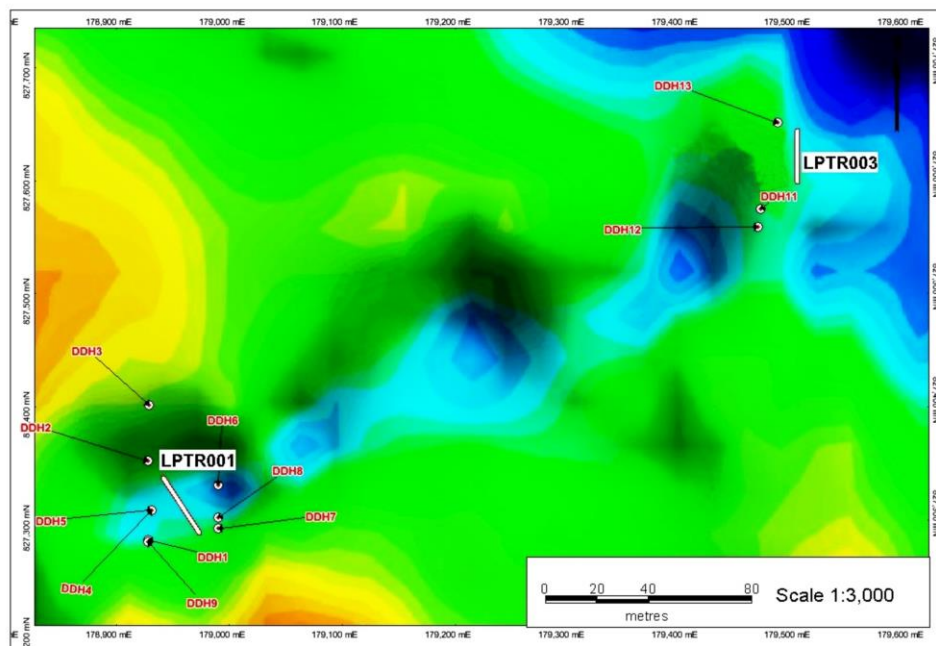
Petrographic thin sections obtained from the core were also planned to confirm the dyke's kimberlitic attributes and possibly lead to its archetypal classification in terms of its phenocrystic and macrocrystic modal mineralogy, textural assemblage and constituent groundmass (i.e. Group I or Group II kimberlite clan).

#### **1.1 Trenching Activities**

Three trenches have been initiated across the projected surface trace of the dyke intersections. The trenches (LPTR001, LTPR002 and LPTR003) were sited across the western, central and eastern borehole clusters (Figure 1 and 2). The trench locations were selected after analysis of ground magnetic imagery, reconnaissance stream sediment (RSS) sampling and soil loaming KIM grain picking results, as well as the up-dip projection of the dykes from previous drill-hole intercepts.



**Figure 1.** Locality map of the two active trenches (LPTR001 and LPTR003), each of which have intersected kimberlitic dyke material. The third trench (LPTR002) to the west was abandoned due to water ingress.



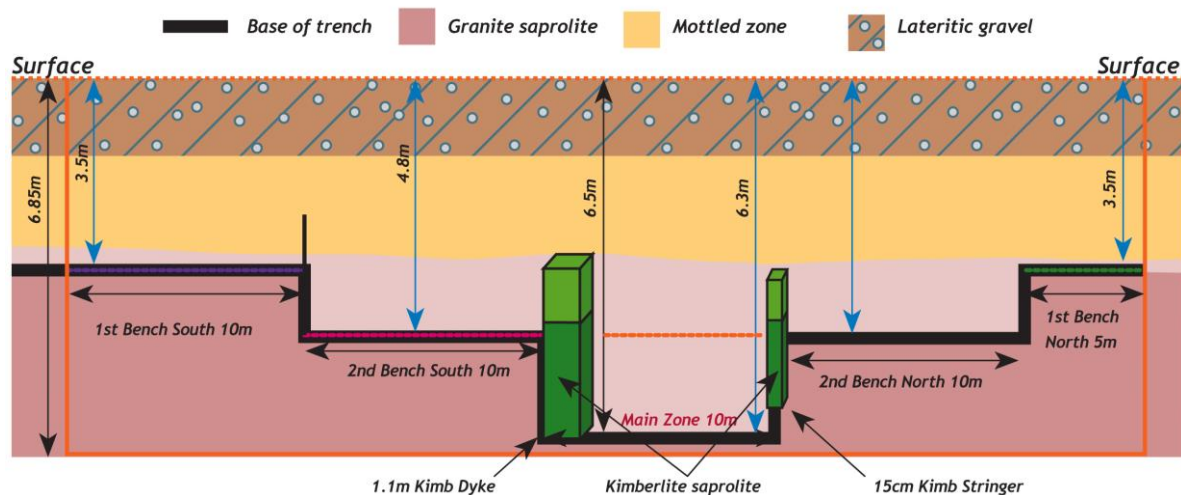
**Figure 2.** Locality map showing the location of the two active trenches overlying a ground magnetic image.



### 1.1.1 Discovery Trench (LPTR 001) - Central drill-hole Cluster

A discordant (i.e. cutting across strike) c.50m long trench has been completed over the central zone of the legacy borehole clusters. The trench was positioned so as to achieve an intersection at surface, even if there was a substantial change in orientation (dip) between the dyke borehole intercept and projected surface trace positions. Systematic excavation in 10m linear increments was initiated on the projected surface trace of the kimberlite dyke, which resulted in two suspected kimberlite dyke intersections being achieved; one a larger feature and the other a stringer (dykelet) some 10m away, but interpreted to lie within the principal fracture zone. The main dyke feature intersected is c.1.2m in average width, corroborating legacy borehole intercepts, with a variable strike (currently N75° E) with an apparent vertical dip. The dykelet is interpreted to be a c.10cm wide kimberlite, with similar strike orientation to the main body. Test-panning of both intersections returned a significant coarse-grained (3mm-10mm) ilmenite and chrome spinel component. The ilmenite panned from the main dyke also has distinct rind – possibly a leucoxene or perovskite coating, yet to be determined.

**SCHEMATIC SECTION OF LP-TR 001 LOOKING SOUTH-SOUTHWEST**

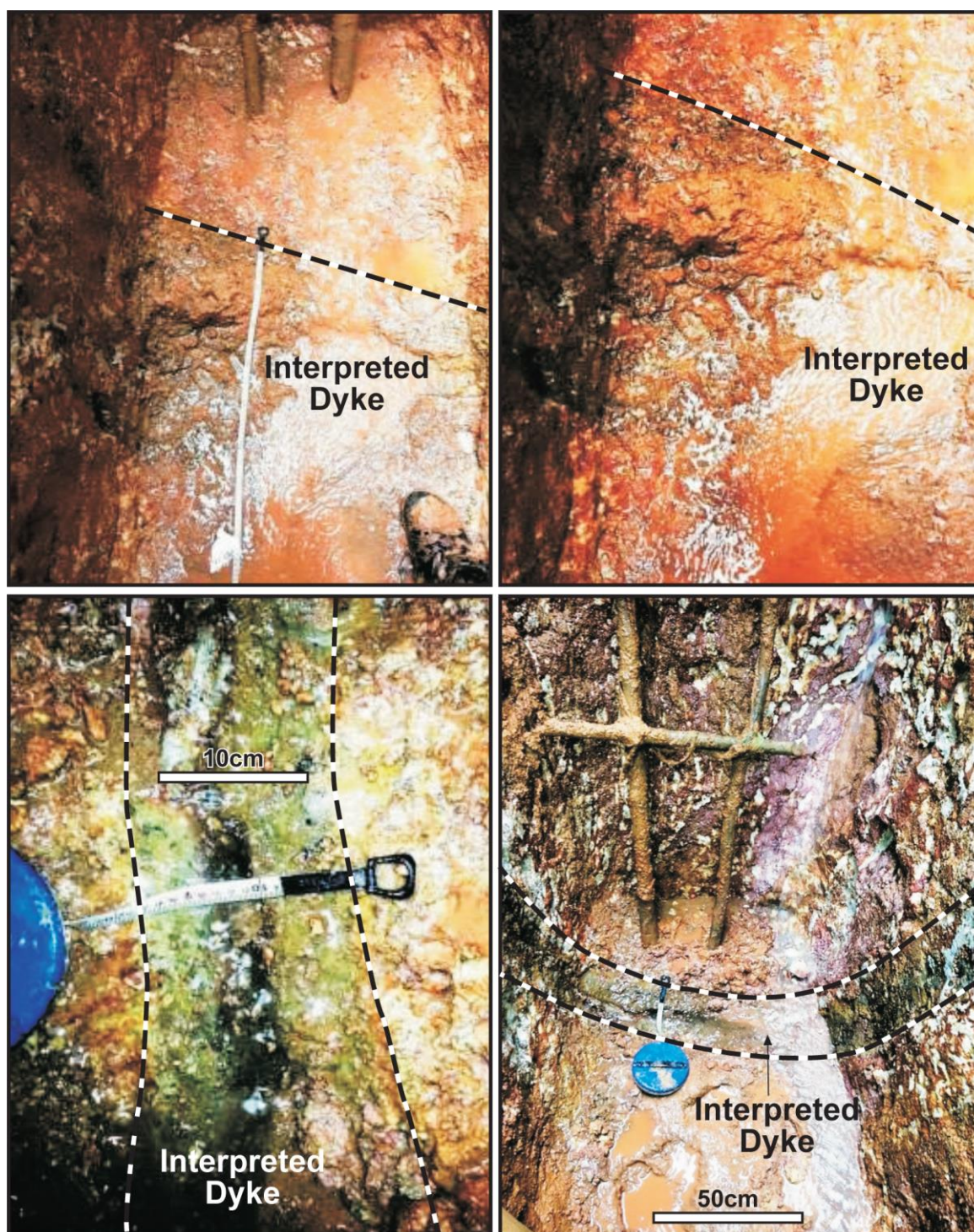


**Figure 3** Schematic Section depicting phased excavation and exposure of the kimberlite bodies in LPTR 001.

The zones containing the main dyke body and the stringer were prioritised for deeper excavation into the saprolite (cf. Figure 3), in order to increase the confidence level of the field team in the visual identification of the bodies. This was necessary as the extreme mottling effect in the upper levels of the saprolitic profile masked the characteristics of the bedrock lithologies, making it difficult to differentiate the primary bedrock lithologies within the first 3-5m of the excavation.

In the field, the main dyke appears to have a modal composition >30 vol. % mica, (predominantly phlogopitic?); >20 vol. % ilmenite (microprobe results from the colluvium suggests picroilmenite); and ~15 vol.% chrome spinel component, as well as an accessory megacryst mineral assemblage that appears to include zircon, high-iron ilmenite (as opposed to Mg-rich i.e. picroilmenite) and other oxides. Due to the high mica content in the kimberlite, the dyke is clayey even below six metres (6m), making it difficult to collect solid dry samples. As a result of the distinct ilmenite content in the dykes, this mineral has been effectively used as a pathfinder tool in selecting priority target zones in this trench and other excavations. This technique has been helpful in reducing unnecessary time spent on excavating areas in the trench with little or no potential of intersecting kimberlite.

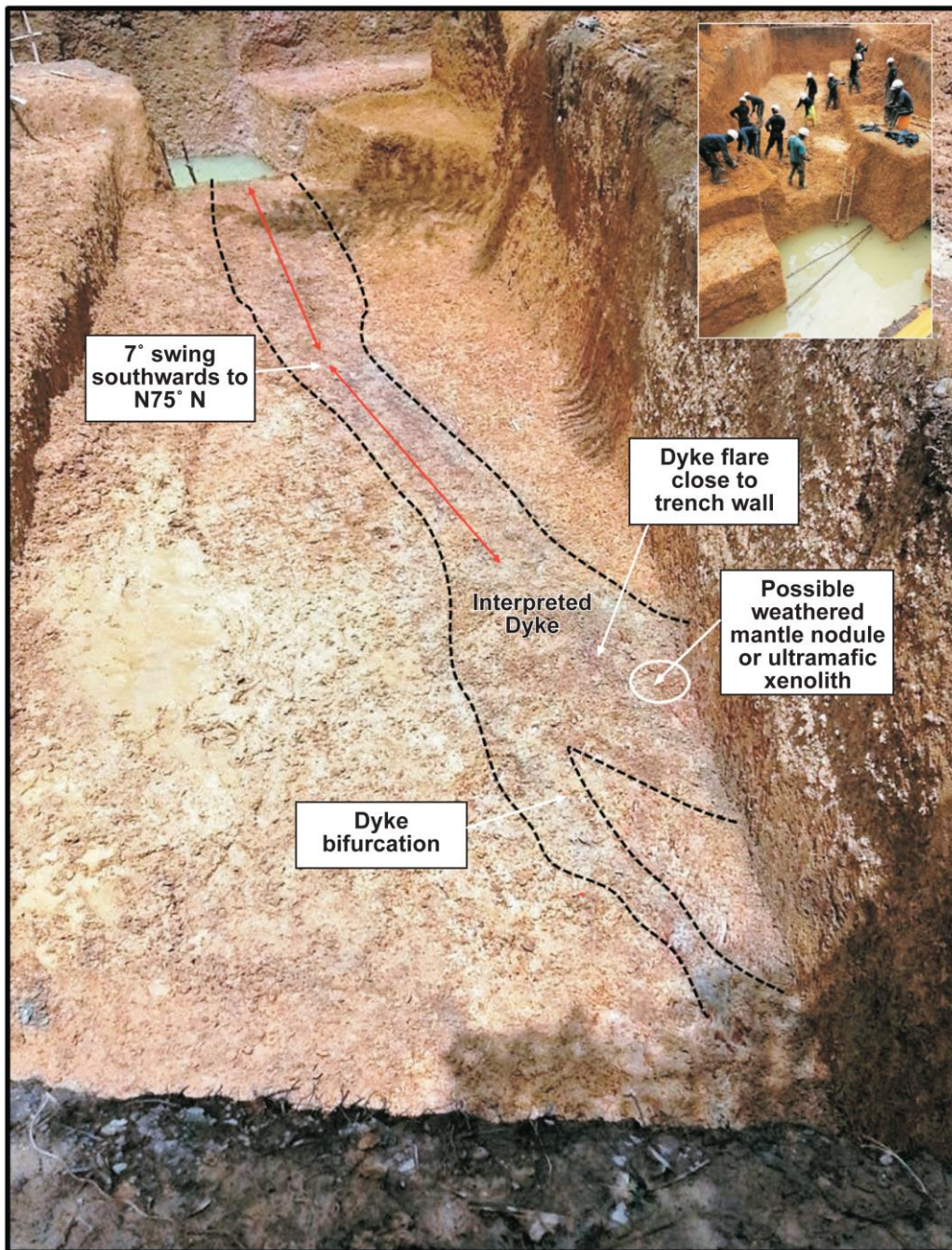




**Figure 4.** Montage showing main dyke (c.1.2m width) intersection in trench floor at top, and 15cm stringer (dykelet) (below) in the ‘discovery’ trench, LPTR 001. Post-emplacement alteration is evident in the dykelet (below, at left), and at a possible chilled-contact with the country rock (bleached area paralleling the dyke contact, below, at right). Coarse (5mm-10mm) macrocrystic KIMs, with ilmenite predominating, have been panned from these two bodies.



**Concordant (Dyke-parallel) Trench:**



**Figure 5.** Photo of concordant trench (looking east), showing the kimberlite dyke exposed (pink material with dashed boundary) in the mottled zone at c.3m depth. The cross-cutting, discordant (“discovery”) trench that initially intersected the dyke, is shown trending left to right, at top and inset. The change in orientation of dyke strike, as well as the variable change in thickness over short distances, is typical of an anastomosing kimberlite dyke array. Inset shows the start of the concordant trench excavation work from the water-filled ‘discovery’ trench.

A strike-parallel concordant trench was initiated on the main kimberlite dyke body in LPTR 001 (Figure 5). The rationale was two-fold: firstly, to gain a better visual estimate of the mode and occurrence of the dyke (c.f. Fig. 5) and secondly, to obtain sufficient weathered dyke material to constitute an exploration bulk-sample. Figure 5 also highlights the variability (seen at c.3m depth) in the strike and thickness of the dyke over relatively short distances. Figure 6 highlights the recovery of dyke material from the concordant trench for bagging and storage away from site (Fig. 6 -inset). Several tonnes of this material will be stockpiled to test for mineralisation with the Company’s soon to be commissioned 40 tph head feed DMS processing plant.





**Figure 6.** Photographs showing collection of kimberlite dyke material by hand, for eventual processing through the 40 tph head feed DMS plant.

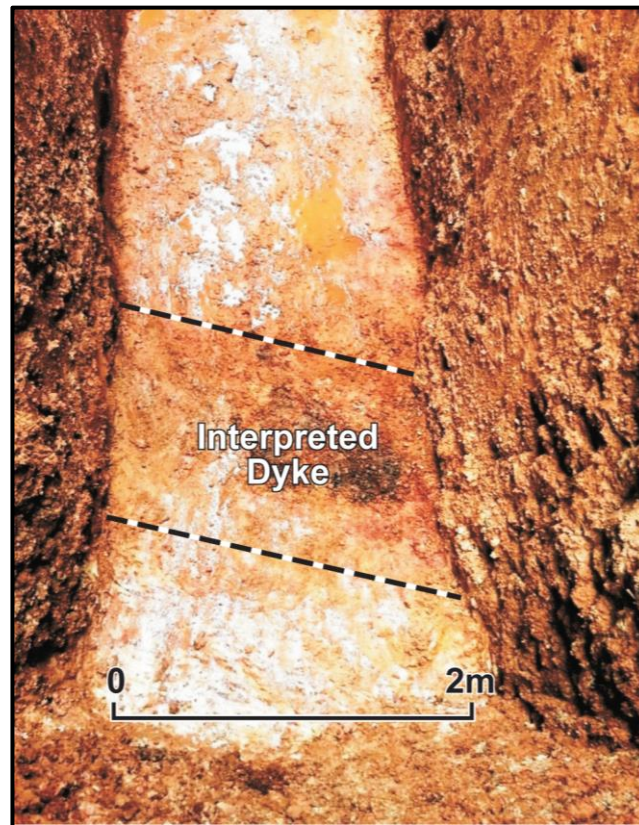
#### **1.1.2 Second Trench (LPTR 002) – Western drill-hole Cluster**

A second trench was initiated on a single borehole intersection drilled in the western cluster. The 30m long trench was excavated to c.1m but was later abandoned due to high water ingress, given its locality in a low-lying swampy area. It remains a high-priority and will be revisited in the dry season.

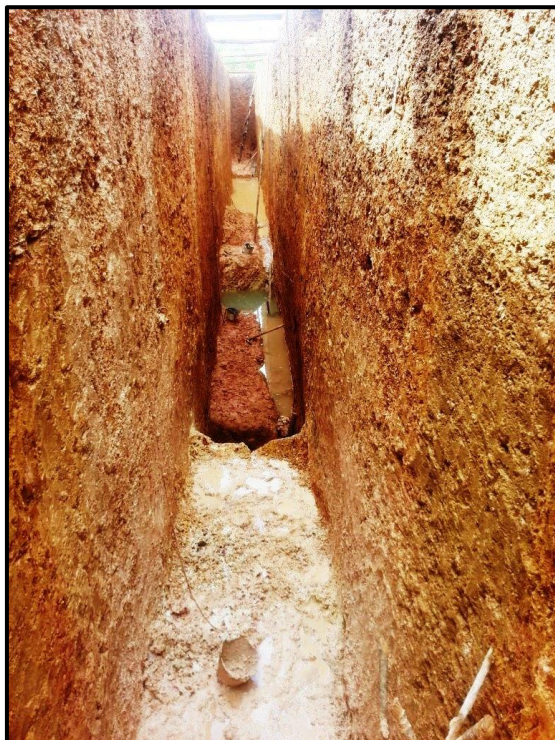
#### **1.1.3 Eastern Trench (LPTR 003) – Eastern drill-hole Cluster**

Excavation commenced on LPTR003, some 600m east of LPTR001. The 30m long trench is an N-S trending trench with the potential for trench extension in either direction. Using the frequency and size of the KIM in the overlying colluvium to guide the excavation, two further two dyke bodies, believed to be kimberlite dyke, were intersected. The trench requires further excavation into the saprolite for visual confirmation and for the recovery of sample material. Excavation has reached 7.5m by hand, and a highly micaceous main dyke body intersected at ten metres from the centre-line, in the southern portion of the trench. The dyke body yields a low pan concentrate with a low count of fine-grained ilmenite, but with sporadic garnets also recovered and yet to be identified. The dyke remains in an intensely weathered state at 7.5m (Figure 7), despite the host rock being well within the saprolite at 6.5m vertical depth.





**Figure 7.** Intersection of a highly micaceous dyke in LPTR 003 (Eastern bore-hole cluster). A second, less micaceous feature has also been intersected, with a coarser mineralogy showing up in pan concentrates.



**Figure 8.** Photograph of 7.5m deep LPTR 003 (Eastern borehole cluster), at left. The greenish-blue material at right, is suspected to be chlorite after phlogopite from the second kimberlite dyke body intersected.



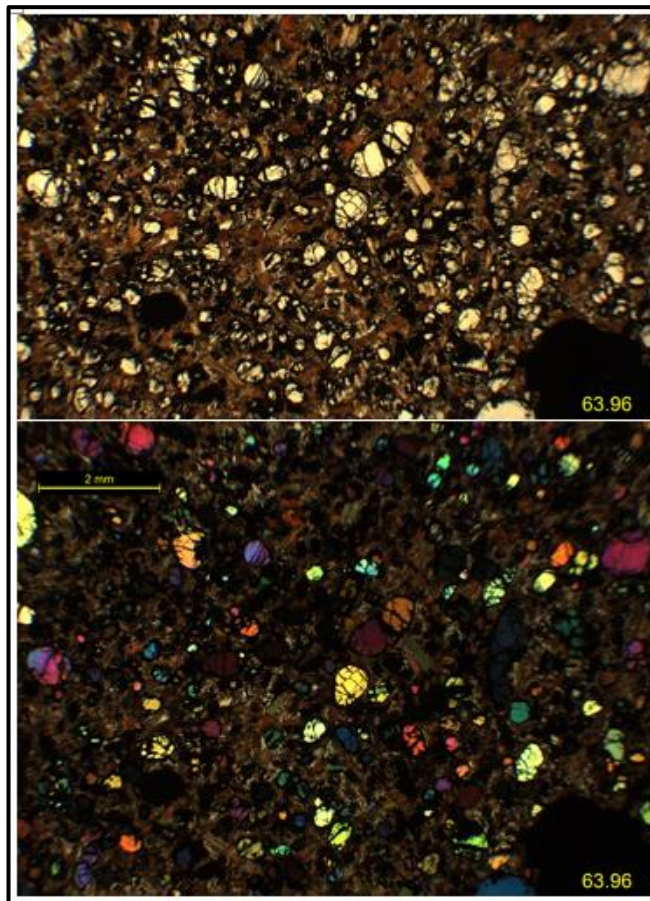
A second body consisting of greenish-blue clay (possibly chlorite - after alteration of phlogopite – refer Figure 8) with characteristic higher grain count and coarser ilmenite content was intersected in the 5m southern extension of the trench recently commenced as part of the current trench plan. The trench extension has reached 5m depth and is well into the mottle zone at the time of writing the report. At the current depth, there is no distinct contact or dyke-wall rock boundary discernible. Work on LPTR003 will continue in effort to constrain the two suspected kimberlite bodies intersected in the trench to date.

An excavation on a 5m x5m expansion on either side of the dyke (concordant trench) has commenced to enable the existing trench to be deepened. The deepening of the trench will allow the dyke body to be further exposed for better identification and additional sampling.

## 1.2 Petrography of Legacy Drill Core

Select samples of legacy drill core were submitted to Townend Mineral Laboratory in Perth for petrographic analysis. The aim of this analysis was to provide a definitive confirmation of the kimberlitic nature of the dyke intersections, and to corroborate the circumstantial archive evidence collated to date.

The petrographic analysis has conclusively confirmed the kimberlitic nature of the legacy drill hole dyke intercepts as being classified as hypabyssal phlogopite kimberlite. Photomicrographs of the kimberlite dyke are presented in Figure 9.



**Figure 9.** Photomicrograph (plane-polarised light at top, and crossed-polars, below) of dyke material recovered from legacy drill core, Lake Popei Project (EL 11/2014). The high modal vol.% of rounded olivine grains (light yellow, top, and colourful, highly birefringent, below) plus the phlogopitic groundmass and accessory chrome spinel and ilmenite grains (large opaque areas) indicates this species of kimberlite as archetypal Group II hypabyssal phlogopite kimberlite. (after Mitchell,1995). Both Group I and Group II kimberlites are known to be diamondiferous.

The Company believes this discovery is the first recorded exposure of a kimberlite dyke outside of the established diamond producing Koidu and Tongo Diamond Fields in Sierra Leone. Newfield's compilation of historical datasets suggests that the Lake Popei kimberlite discovery may be part of a more extensive kimberlite field.

### **1.3 Micro-diamond Analysis (MiDA) of Legacy Drill Core**

Approximately eight kilograms of legacy core submitted to NAGROM Mineral Processors in Perth, was systematically crushed (attrition milling) to a nominal -1mm (7.5kg after drying and dust losses) and subsequently submitted to the Merlin Diamonds Limited laboratory for caustic fusion and acid digestion, in preparation for MiDA. Traditionally, diamonds retained on a 0.5 mm square-mesh screen after sieving are referred to as macro-diamonds, while stones that pass through the sieve are referred to as micro-diamonds. The micro-diamond treatment process involves sample aliquots of 1kg to be dissolved in molten caustic soda in stainless steel fusion pots and then heated in kilns to 500-600 degrees Centigrade. The molten mix is poured onto screens and thereafter the residue is washed and treated with hydrofluoric acid and the resulting caustic residue is then picked for microdiamonds, which are left unscathed in the process (along with a few other minerals such as high-temperature chromites and zircons). The micro-diamond results are often used to estimate the grade of a kimberlite at depth and can be married to macrodiamond grade obtained from surficial bulk-sampling.

Chapman and Boxer (2004), are of the opinion that the relationship between micro and macro populations is linear and that they are therefore inter-related populations. Microdiamonds are detected visually by specialists, and by their optical properties or SEM work.

Results for MiDA work together with the results of processing of bulk samples of the weathered kimberlite through the Company's soon to be commissioned DMS plant will assist in determining the (macro-diamond) diamondiferous potential of the Lake Popei kimberlite dykes.

### **References**

Chapman JG, Boxer GL (2004) Size distribution analyses for estimating diamond grade and value. *Lithos* 76:369–375

Mitchell, R.H. 1995. Kimberlites, orangeites, and related rocks. Plenum Press, New York, 410 p.

### **COMPETENT PERSON'S STATEMENT- DIAMONDS**

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves on the Allotopes Diamond's Sierra Leone Diamond Project, is based on information compiled by Mr Richard Hall who is a Fellow of the Australasian Institute of Mining and Metallurgy and a member of the Australian Geological Society and an employee of Newfield Resources Limited.

Mr Hall has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking, to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Hall consents to the inclusion in this ASX release of this information in the form and context in which it appears.



## APPENDIX 1 – REPORTING ON EXPLORATION RESULTS-JORC (2012) TABLE 1

### Newfield Resources Ltd's Alluvial and Kimberlite Diamond Project -Sierra Leone.

#### Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Allotropes Diamonds Commentary
<b>Sampling techniques</b>	<ul style="list-style-type: none"> <li><i>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i></li> <li><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></li> <li><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></li> <li><i>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</i></li> </ul>	<ul style="list-style-type: none"> <li>Legacy drill core has been recovered as a prelude to sampling.</li> <li>Surface trenching activities are being conducted as a prelude to sampling</li> <li>However, no sampling to determine mineralisation has been conducted to date.</li> </ul>
<b>Drilling techniques</b>	<ul style="list-style-type: none"> <li><i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i></li> </ul>	<ul style="list-style-type: none"> <li>Drilling method: diamond drilling (core recovery)</li> <li>Recovered legacy core is un-oriented.</li> </ul>
<b>Drill sample recovery</b>	<ul style="list-style-type: none"> <li><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li><i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></li> </ul>	<ul style="list-style-type: none"> <li>As far as can be ascertained, appropriate measures were taken to maximise sample recovery during legacy drilling.</li> <li>Legacy core recovered is considered representative for further grade determination.</li> </ul>

Criteria	JORC Code explanation	Allotropes Diamonds Commentary
<b>Logging</b>	<ul style="list-style-type: none"> <li><i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></li> <li><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li><i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>Legacy core logs have been acquired.</li> <li>Legacy logging includes partial photographic record</li> <li>A total of 934m core-drilled and geologically logged/photographed.</li> </ul>
<b>Sub-sampling techniques and sample preparation</b>	<ul style="list-style-type: none"> <li><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet</i></li> </ul>	<ul style="list-style-type: none"> <li>Legacy core samples have been submitted for laboratory analysis to conduct petrographic studies and for microdiamond analysis. Sample preparation involves attrition milling the sample to -1mm and then</li> </ul>

Criteria	JORC Code explanation	Allotropes Diamonds Commentary
	<p>or dry.</p> <ul style="list-style-type: none"> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<p>submitting it to caustic fusion and acid digestion to form a residue for grain picking.</p> <ul style="list-style-type: none"> <li>No analytical results reported in this announcement.</li> </ul>
<b>Quality of assay data and laboratory tests</b>	<ul style="list-style-type: none"> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	<ul style="list-style-type: none"> <li>No analytical results reported in this announcement.</li> </ul>
<b>Verification of sampling and assaying</b>	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>Sampling procedure and documentation thereof will be undertaken by qualified industry specialists. Therefore no independent verification of the sampling process will be undertaken by company personnel.</li> </ul>

Criteria	JORC Code explanation	Allotropes Diamonds Commentary
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>Legacy drill-hole collars were accurately positioned and achieved required intercepts.</li> <li>Grid system utilised: WGS84, UTM Zone 29N</li> <li>Topographic control of site collars was adequate (hand-held GPS positioning).</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>The spacing of legacy drill holes is considered representative to establish geological continuity at a reconnaissance level of exploration only.</li> <li>No sampling conducted.</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>Legacy drill-hole selection planned and executed to cross perpendicular to local and regional strike to achieve successful intercepts.</li> </ul>



Criteria	JORC Code explanation	Allotropes Diamonds Commentary
<b>Sample security</b>	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Company has security procedures in place to track samples from site to laboratory or to the DMS plant, for processing.</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>No independent audits or reviews have been undertaken.</li> </ul>

## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Allotropes Diamonds Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>The exploration licences (ELs) are 100% owned by Newfield Resources Ltd. In the ownership structure, there is no participation (free-carry or otherwise) with the Sierra Leone government other than a 6.5% royalty levied for precious stones (15% for specials valued over US\$0.5M per stone) as well as an export tax that is applied to all diamonds sent out of the country.</li> <li>Any EL is issued initially for a 4 year period, and 2 subsequent renewals are permitted – the second renewal being for a 3 year period and the last being for a 2 year period, for a total of 9 years. There is no requirement at this stage for Allotropes to reduce their licence size.</li> <li>The EL tenure and planned work program for the forthcoming year are in good standing. Two additional ELs have been granted: EL 11/2014 (Lake Popei) and EL 12/2014 (Sumbuya).</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Sierra Leone Diamond Company (SLDC, now rebadged as African Minerals) conducted an extensive umbrella, multi-commodity and diamond exploration program, comprising an airborne magnetic survey for kimberlites (28 000 km<sup>2</sup>), a ground-based reconnaissance stream sediment sampling (RSS) and bulk-sample pitting program over their alluvial deposits, over approximately 40 000km<sup>2</sup> of the country.</li> <li>A diamond drilling campaign included 13 drill-holes completed at the Lake Popei area (Newfield's EL 11/2014 tenement).</li> </ul>

Criteria	JORC Code explanation	Allotropes Diamonds Commentary																					
<b>Geology</b>	<ul style="list-style-type: none"><li><i>Deposit type, geological setting and style of mineralisation.</i></li></ul>	<ul style="list-style-type: none"><li>Dominant diamondiferous alluvial facies types identified are:<ul style="list-style-type: none"><li>Modern River deposits;</li><li>Swamps and Flats;</li><li>Alluvial (fluvial) terraces (Low and High Terraces of the ancestral river located in proximity to the Modern river);</li><li>Surface residual deposits (remnant regolith landforms) comprising colluvial/eluvial aprons (laterites) over, and adjacent to, interpreted kimberlite geophysical anomalies are considered the principal alluvial (host) gravel horizon.</li><li>Primary diamond ore bodies - geophysical anomalies/models indicate pipe and blows comprising en-echelon kimberlite dyke arrays (considered of Jurassic in age (c.145Ma). Local strike of interpreted kimberlitic fissuring coincides with know regional structural orientations in existing diamond fields.</li></ul></li></ul>																					
<b>Drill hole Information</b>	<ul style="list-style-type: none"><li><i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i><ul style="list-style-type: none"><li><i>easting and northing of the drill hole collar</i></li><li><i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill</i></li></ul></li></ul>	<ul style="list-style-type: none"><li>Legacy data received reports a total of 13 diamond drill holes completed at the Lake Popei locality:</li></ul> <table><thead><tr><th>DRILL HOLE</th><th>EASTINGS</th><th>NORTHINGS</th><th>RL</th><th>DIP</th><th>AZIM.</th><th>EOH</th></tr></thead><tbody><tr><td>DDH1</td><td>178928</td><td>827282</td><td>13</td><td>-60</td><td>360</td><td>31.59</td></tr><tr><td>DDH2</td><td>178928</td><td>827352</td><td>19</td><td>-60</td><td>180</td><td>19.5</td></tr></tbody></table>	DRILL HOLE	EASTINGS	NORTHINGS	RL	DIP	AZIM.	EOH	DDH1	178928	827282	13	-60	360	31.59	DDH2	178928	827352	19	-60	180	19.5
DRILL HOLE	EASTINGS	NORTHINGS	RL	DIP	AZIM.	EOH																	
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Criteria	JORC Code explanation	Allotropes Diamonds Commentary						
	<div>hole collar</div> <ul style="list-style-type: none"><li>dip and azimuth of the hole</li><li>down hole length and interception depth</li><li>hole length.</li><li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li></ul>							
		DDH3	178929	827402	20	-60	180	20
		DDH4	178931	827309	16	-90	0	47
		DDH5	178931	827309	16	-60	360	63
		DDH6	178990	827331	14	-60	360	115.5
		DDH7	178990	827293	17	-60	360	99
		DDH8	178990	827302	9	-60	360	70.5
		DDH9	178928	827281	17	-60	360	79.5
		DDH10	178433	827079	9	-60	360	148.5
		DDH11	179470	827575	33	-60	360	42
		DDH12	179467	827559	35	-60	360	61.5
		DDH13	179485	827651	22	-60	158	136.5
		<b>Data aggregation methods</b>	<ul style="list-style-type: none"><li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li><li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li><li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li></ul>	<ul style="list-style-type: none"><li>Material has been submitted for microdiamond analysis (MiDA).</li><li>No grade estimations for the legacy core material have been attempted.</li></ul>				
<b>Relationship between mineralisation widths and intercept lengths</b>	<ul style="list-style-type: none"><li>These relationships are particularly important in the reporting of Exploration Results.</li><li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li><li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li></ul>	<ul style="list-style-type: none"><li>Legacy drill-hole data is consistent with dyke-like host rock interpreted to be an ultramafic, likely kimberlitic emplacement, into granitic country rock.</li><li>The geometry of the potentially mineralised zone is also consistent with a fissured, en-echelon dyke array and corroborated by the interpreted aeromagnetic kimberlite anomalies on a regional scale.</li><li>True width of the dyke features has been ascertained and varies from cm-scale stringers (dykelets) to a maximum width of 2.3m (average 1.2m).</li></ul>						
<b>Diagrams</b>	<ul style="list-style-type: none"><li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being</li></ul>	<ul style="list-style-type: none"><li>Appropriate maps, plans and diamond drill-hole sections have been complied by legacy licence holders and current licence holders. Third-party maps have also been sourced from government agencies (e.g. Sierra Leone National Minerals Agency ([NMA])).</li></ul>						



Criteria	JORC Code explanation	Allotropes Diamonds Commentary
	<i>reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i>	
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>All exploration results have been reported.</li> </ul>
<b>Other substantive exploration data</b>	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>Other substantive exploration data is available from the NMA. The data obtained from a previous comprehensive exploration program (ex SLDC, now African Minerals Ltd) has been obtained – this includes: <ul style="list-style-type: none"> <li>Reconnaissance level airborne magnetic data (100m line spacing; 55m flight height; 20m grid spacing)</li> <li>A 2km x 2km ground magnetic survey (EL 11/2014-Lake Popei)</li> <li>Exploration bulk localities and sample grades</li> <li>Maps of potential resource areas</li> <li>Drilling cross-sections and sampling programs</li> </ul> </li> </ul>
<b>Further work</b>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>A high-resolution aeromagnetic survey is to be conducted over select reconnaissance level kimberlite targets.</li> <li>An owner-operated diamond drilling campaign aimed at substantiating existing legacy data and ground-truthing of top-ranked geophysical kimberlite targets is planned.</li> </ul>

### Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Allotropes Diamonds Commentary
<b>Database integrity</b>	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<ul style="list-style-type: none"> <li>No code-compliant Mineral Resource estimation has been attempted, or mineral resource inventory reported.</li> <li>All work has been conducted at a reconnaissance level of confidence only.</li> <li>Any reference to resource parameters reported are indicative numbers only.</li> <li>A JORC compliant maiden resource is yet to be issued.</li> </ul>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>Site visits have been undertaken on a regular basis to monitor exploration activities.</li> </ul>
<b>Geological interpretation</b>	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal resource estimation has been undertaken</li> </ul>

Criteria	JORC Code explanation	Allotropes Diamonds Commentary
<b>Dimensions</b>	<ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal resource estimation has been undertaken</li> </ul>
<b>Estimation and modelling techniques</b>	<ul style="list-style-type: none"> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal resource estimation has been undertaken</li> </ul>
<b>Moisture</b>	<ul style="list-style-type: none"> <li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal resource estimation has been undertaken</li> </ul>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal resource estimation has been undertaken</li> </ul>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal resource estimation has been undertaken</li> <li>No mining methods or mine plans have been reported or submitted</li> </ul>
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal resource estimation has been undertaken</li> </ul>



Criteria	JORC Code explanation	Allotropes Diamonds Commentary
	<p>extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</p>	
<b>Environmental factors or assumptions</b>	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal resource estimation has been undertaken</li> </ul>
<b>Bulk density</b>	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal resource estimation has been undertaken</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal resource estimation has been undertaken</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal resource estimation has been undertaken</li> </ul>
<b>Discussion of relative accuracy/confidence</b>	<ul style="list-style-type: none"> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal resource estimation has been undertaken</li> </ul>

Criteria	JORC Code explanation	Allotropes Diamonds Commentary
	<p>accuracy and confidence of the estimate.</p> <ul style="list-style-type: none"> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	

## Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Allotropes Diamonds Commentary
<b>Mineral Resource estimate for conversion to Ore Reserves</b>	<ul style="list-style-type: none"> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<ul style="list-style-type: none"> <li>No attempt at a code compliant Mineral Reserve has been reported as the data is at a reconnaissance level.</li> </ul>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal reserve estimation has been undertaken</li> </ul>
<b>Study status</b>	<ul style="list-style-type: none"> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal reserve estimation has been undertaken</li> </ul>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal reserve estimation has been undertaken</li> </ul>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</li> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</li> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>The mining recovery factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal reserve estimation has been undertaken</li> </ul>



Criteria	JORC Code explanation	Allotropes Diamonds Commentary
	<p>and the sensitivity of the outcome to their inclusion.</p> <ul style="list-style-type: none"> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</li> <li>Whether the metallurgical process is well-tested technology or novel in nature.</li> <li>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</li> <li>Any assumptions or allowances made for deleterious elements.</li> <li>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.</li> <li>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal reserve estimation has been undertaken</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal reserve estimation has been undertaken</li> </ul>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal reserve estimation has been undertaken</li> </ul>
<b>Costs</b>	<ul style="list-style-type: none"> <li>The derivation of, or assumptions made, regarding projected capital costs in the study.</li> <li>The methodology used to estimate operating costs.</li> <li>Allowances made for the content of deleterious elements.</li> <li>The source of exchange rates used in the study.</li> <li>Derivation of transportation charges.</li> <li>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</li> <li>The allowances made for royalties payable, both Government and private.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal reserve estimation has been undertaken</li> </ul>
<b>Revenue factors</b>	<ul style="list-style-type: none"> <li>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</li> <li>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal reserve estimation has been undertaken</li> </ul>
<b>Market</b>	<ul style="list-style-type: none"> <li>The demand, supply and stock situation</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal reserve estimation has been undertaken</li> </ul>

Criteria	JORC Code explanation	Allotropes Diamonds Commentary
<b>assessment</b>	<p>for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</p> <ul style="list-style-type: none"> <li>• A customer and competitor analysis along with the identification of likely market windows for the product.</li> <li>• Price and volume forecasts and the basis for these forecasts.</li> <li>• For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.</li> </ul>	undertaken
<b>Economic</b>	<ul style="list-style-type: none"> <li>• The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</li> <li>• NPV ranges and sensitivity to variations in the significant assumptions and inputs.</li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable as no formal reserve estimation has been undertaken</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>• The status of agreements with key stakeholders and matters leading to social licence to operate.</li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable as no formal reserve estimation has been undertaken</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>• To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves: <ul style="list-style-type: none"> <li>• Any identified material naturally occurring risks.</li> <li>• The status of material legal agreements and marketing arrangements.</li> <li>• The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable as no formal reserve estimation has been undertaken</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li>• The basis for the classification of the Ore Reserves into varying confidence categories.</li> <li>• Whether the result appropriately reflects the Competent Person's view of the deposit.</li> <li>• The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable as no formal reserve estimation has been undertaken</li> </ul>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of Ore Reserve estimates.</li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable as no formal reserve estimation has been undertaken</li> </ul>
<b>Discussion of relative accuracy/confidence</b>	<ul style="list-style-type: none"> <li>• Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</li> <li>• The statement should specify whether it</li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable as no formal reserve estimation has been undertaken</li> </ul>



Criteria	JORC Code explanation	Allotropes Diamonds Commentary
	<p><i>relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</i></p> <ul style="list-style-type: none"> <li>• <i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</i></li> <li>• <i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	

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

(Criteria listed in other relevant sections also apply to this section. Additional guidelines are available in the ‘Guidelines for the Reporting of Diamond Exploration Results’ issued by the Diamond Exploration Best Practices Committee established by the Canadian Institute of Mining, Metallurgy and Petroleum.)

Criteria	JORC Code explanation	Allotropes Diamonds Commentary
<b>Indicator minerals</b>	<ul style="list-style-type: none"> <li>• <i>Reports of indicator minerals, such as chemically/physically distinctive garnet, ilmenite, chrome spinel and chrome diopside, should be prepared by a suitably qualified laboratory.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Legacy information (i.e. microprobe and mineral count data) pertaining to Kimberlite indicator minerals (KIMs) has been acquired.</li> <li>• KIMs predominantly comprise kimberlitic magnesian (picro-) ilmenite and Cr-spinels dominating the recoveries.</li> <li>• KIMs have been recovered using standard laboratory techniques i.e. heavy liquid separation (i.e. TBE, R.D. 2.9 g/cm<sup>3</sup>), followed by magnetic separation for hand-picking of mineral grains.</li> </ul>
<b>Source of diamonds</b>	<ul style="list-style-type: none"> <li>• <i>Details of the form, shape, size and colour of the diamonds and the nature of the source of diamonds (primary or secondary) including the rock type and geological environment.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The diamonds contained in secondary or alluvial deposits adjacent and inland of, the Sewa River banks, are long thought to be derived from the weathering and erosion of primary ore bodies in its catchment area to the north, which straddles the known primary or kimberlite occurrences in the Kono District (Koidu and Tongo pipe and dykes clusters of Jurassic age [c.143-146 Ma]).</li> <li>• Widespread colluvial/eluvial deposits derived from down-wasted (Late-Cretaceous?) primary kimberlite sources appear to be the main secondary (i.e. alluvial) host with a minor fluvial component immediately adjacent to the Modern Sewa river.</li> <li>• Distribution of gravels by hill-slope and sheetwash processes probably account for the extensive laterally developed surface residual gravels, comprised predominantly of a locally derived lateritic clast assemblage.</li> <li>• An endorheic component seems apparent for many of these diamondiferous drainages, thereby promoting the view that the diamonds are sourced locally or from near-source deposits (pipe and dyke kimberlite host rock).</li> </ul>
<b>Sample collection</b>	<ul style="list-style-type: none"> <li>• <i>Type of sample, whether outcrop, boulders, drill core, reverse circulation drill cuttings, gravel, stream sediment or soil, and purpose (eg large diameter drilling to establish stones per unit of volume or bulk samples to establish stone size distribution).</i></li> <li>• <i>Sample size, distribution and</i></li> </ul>	<ul style="list-style-type: none"> <li>• Legacy diamond drill core (c. 2m at NQ diameter) has been acquired. No test work (e.g. micro-diamond analysis) has been conducted to date.</li> <li>• Trenching has been completed over the projected surface trace of the primary ore-body at the Lake Popei Project (EL 11/2014). No processing of this material has been conducted to date.</li> </ul>

Criteria	JORC Code explanation	Allotropes Diamonds Commentary
	<i>representivity.</i>	
<b>Sample treatment</b>	<ul style="list-style-type: none"> <li>• <i>Type of facility, treatment rate, and accreditation.</i></li> <li>• <i>Sample size reduction. Bottom screen size, top screen size and re-crush.</i></li> <li>• <i>Processes (dense media separation, grease, X-ray, hand-sorting, etc).</i></li> <li>• <i>Process efficiency, tailings auditing and granulometry.</i></li> <li>• <i>Laboratory used, type of process for micro diamonds and accreditation.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Legacy core has been submitted to accredited laboratories in Perth, W.A.</li> <li>• Staged crushing (attrition milling) to -1mm.</li> <li>• Caustic fusion and acid digestion to be performed by accredited laboratory in Perth, W.A.</li> <li>• Material recovered from trenching has been stockpiled for further processing with DMS plant, once commissioned.</li> </ul>
<b>Carat</b>	<ul style="list-style-type: none"> <li>• <i>One fifth (0.2) of a gram (often defined as a metric carat or MC).</i></li> </ul>	<ul style="list-style-type: none"> <li>• Reported as carats (per tonne or per 100 tonnes).</li> </ul>
<b>Sample grade</b>	<ul style="list-style-type: none"> <li>• <i>Sample grade in this section of Table 1 is used in the context of carats per units of mass, area or volume.</i></li> <li>• <i>The sample grade above the specified lower cut-off sieve size should be reported as carats per dry metric tonne and/or carats per 100 dry metric tonnes. For alluvial deposits, sample grades quoted in carats per square metre or carats per cubic metre are acceptable if accompanied by a volume to weight basis for calculation.</i></li> <li>• <i>In addition to general requirements to assess volume and density there is a need to relate stone frequency (stones per cubic metre or tonne) to stone size (carats per stone) to derive sample grade (carats per tonne).</i></li> </ul>	<ul style="list-style-type: none"> <li>• Alluvial sample grades are reported as carats per hundred tons or cpht. The use of carats per ton (cpt) are used where the grade permits i.e. the mineral tenor is high enough to warrant it.</li> <li>• Previous use of carats per cubic yard have been converted to carats per cubic metre and then cpt or cpht where required.</li> <li>• Kimberlite samples as and when reported, are likely to be quoted as carats per ton (cpt) due to the inherent higher grades (mineral tenor) in these primary deposits.</li> </ul>
<b>Reporting of Exploration Results</b>	<ul style="list-style-type: none"> <li>• <i>Complete set of sieve data using a standard progression of sieve sizes per facies. Bulk sampling results, global sample grade per facies. Spatial structure analysis and grade distribution. Stone size and number distribution. Sample head feed and tailings particle granulometry.</i></li> <li>• <i>Sample density determination.</i></li> <li>• <i>Per cent concentrate and undersize per sample.</i></li> <li>• <i>Sample grade with change in bottom cut-off screen size.</i></li> <li>• <i>Adjustments made to size distribution for sample plant performance and performance on a commercial scale.</i></li> <li>• <i>If appropriate or employed, geostatistical techniques applied to model stone size, distribution or frequency from size distribution of exploration diamond samples.</i></li> <li>• <i>The weight of diamonds may only be omitted from the report when the diamonds are considered too small to be of commercial significance. This lower cut-off size should be stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Insufficient diamond recoveries to date have warranted classification via sieve classes or the compilation of size frequency distribution (SFD) curves for the diamond population of the fluvial Lower Terrace facies.</li> <li>• An approximation of the gravel relative density at this stage of exploration has been estimated in the range 1.6 tonnes per cubic metre to 1.8 tonnes per cubic metre, where more consolidated. Bulking factors have been applied.</li> <li>• Reporting of percent concentrate and undersize are considered irrelevant at this stage and level of reporting.</li> <li>• Grade variations associated with changes in BSS have not been determined, but will be assessed once the DMS plant is commissioned.</li> <li>• The size and frequency of sampling is considered to be geo-statistically representative for this level of reporting (low-level inferred).</li> <li>• There has been no recovery of owner-operated diamonds to date that are of commercial significance or quantity.</li> </ul>
<b>Grade estimation for reporting Mineral Resources and Ore Reserves</b>	<ul style="list-style-type: none"> <li>• <i>Description of the sample type and the spatial arrangement of drilling or sampling designed for grade estimation.</i></li> <li>• <i>The sample crush size and its relationship to that achievable in a commercial treatment plant.</i></li> <li>• <i>Total number of diamonds greater than the specified and reported lower cut-off sieve size.</i></li> <li>• <i>Total weight of diamonds greater than the specified and reported lower cut-off sieve size.</i></li> </ul>	<ul style="list-style-type: none"> <li>• No Mineral Resources or Mineral Ore Reserves are included in this report</li> </ul>



Criteria	JORC Code explanation	Allotropes Diamonds Commentary
	<ul style="list-style-type: none"> <li>The sample grade above the specified lower cut-off sieve size.</li> </ul>	
<b>Value estimation</b>	<ul style="list-style-type: none"> <li>Valuations should not be reported for samples of diamonds processed using total liberation method, which is commonly used for processing exploration samples.</li> <li>To the extent that such information is not deemed commercially sensitive, Public Reports should include: <ul style="list-style-type: none"> <li>diamonds quantities by appropriate screen size per facies or depth.</li> <li>details of parcel valued.</li> <li>number of stones, carats, lower size cut-off per facies or depth.</li> </ul> </li> <li>The average \$/carat and \$/tonne value at the selected bottom cut-off should be reported in US Dollars. The value per carat is of critical importance in demonstrating project value.</li> <li>The basis for the price (eg dealer buying price, dealer selling price, etc).</li> <li>An assessment of diamond breakage.</li> </ul>	<ul style="list-style-type: none"> <li>No carat value estimates for the diamonds, or diamond footprinting determinations (e.g. diamond types, quality, size frequency distribution [SFD]) that are repeatable in nature, have been included in this report.</li> <li>Historic reports that refer to the commercial disposal of diamonds from the Sewa River, outlining \$/carat, average stone size and quality are available in the public domain.</li> </ul>
<b>Security and integrity</b>	<ul style="list-style-type: none"> <li>Accredited process audit.</li> <li>Whether samples were sealed after excavation.</li> <li>Valuer location, escort, delivery, cleaning losses, reconciliation with recorded sample carats and number of stones.</li> <li>Core samples washed prior to treatment for micro diamonds.</li> <li>Audit samples treated at alternative facility.</li> <li>Results of tailings checks.</li> <li>Recovery of tracer monitors used in sampling and treatment.</li> <li>Geophysical (logged) density and particle density.</li> <li>Cross validation of sample weights, wet and dry, with hole volume and density, moisture factor.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable as no formal reserve estimation has been undertaken on alluvial or potential hard-rock deposits.</li> </ul>
<b>Classification</b>	<ul style="list-style-type: none"> <li>In addition to general requirements to assess volume and density there is a need to relate stone frequency (stones per cubic metre or tonne) to stone size (carats per stone) to derive grade (carats per tonne). The elements of uncertainty in these estimates should be considered, and classification developed accordingly.</li> </ul>	<ul style="list-style-type: none"> <li>To date, there has been insufficient recovery of diamonds to assess stone frequency, size or continuity of grades over any of the tenements at any high level of confidence.</li> </ul>