

Allotropes Diamond Project – JORC Alluvial Exploration Target

ASX Code:
NWF

Key Points

- Newfield Resources Ltd (“Newfield” or the “Company”) is pleased to report the completion of a JORC compliant Exploration Target¹ for the alluvial gravels within its Allotropes Diamond Project in Sierra Leone.
- The initial Exploration Target estimate for the alluvial gravels in the Allotropes Diamond Project is tabulated below:

EXPLORATION TARGET TABLE				
GRAVEL TONNES		GRADE RANGE	CARATS	
Lower End of Range	Higher End of Range	cpht	Lower End of Range	Higher End of Range
34 Million tonnes	173 Million Tonnes	9 to 16	3 Million	28 Million

- The potential quantity and grade of the Exploration Target is conceptual in nature as there has been insufficient exploration to define a Mineral Resource. It is uncertain if further exploration will result in the determination of a Mineral Resource under the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, the JORC Code” (JORC 2012). The Exploration Target is not being reported as part of any Mineral Resource or Ore Reserve.
- The Exploration Target is based on the detailed review and compilation of historical datasets, artisanal workings and geophysical interpretation completed by the Company over the past nine months. The Exploration Target has been appropriately discounted to reflect the localised presence of artisanal workings and has also been discounted for potential geological losses.
- The Exploration Target is an estimate of only the alluvial gravels within the Project. The Exploration Target does not include any of the kimberlite targets or any alluvial gravels within the modern Sewa River.
- The Company is currently undertaking a substantial exploration program over its 790km² tenement holding designed to test the validity of the Exploration Target over the next twelve months.
- The Company has recently successfully commissioned a 10 tonne per hour Dense Media Separation (“DMS”) Plant with head feed rate varying from 20 – 40 tonne per hour dependent on gravel facies type. This DMS Plant together with the infrastructure and earthmoving equipment invested in during the past twelve months will underpin the Company’s forward exploration activities.



Photograph of diamonds recovered from the processing of bulk samples from Newfield’s Allotropes Diamond Project in Sierra Leone.

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CAPITAL STRUCTURE

Shares on Issue: 172.4M
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¹ Refer to Proximate and Competent Person's Statement on this release.

ALLOTROPES DIAMOND PROJECT – SIERRA LEONE (NEWFIELD 100%)

1. JORC Alluvial Exploration Target

Newfield is pleased to report the completion of a JORC compliant Exploration Target for the alluvial gravels within its Allotropes Diamond Project in Sierra Leone.

The initial exploration target estimate is 34 – 173 million tonnes of gravels for estimated 3 – 28 million carats of diamonds. The grade range of the estimate is between 9 – 16 carats per hundred tonnes (cpht).

The Exploration Target is detailed on a tenement basis in Table A below.

EXPLORATION TARGET TABLE						
EXPL. LICENCE	GRAVEL TONNES (Mt)		A.V. REC. GRADE (cpht)		CARATS	
	FROM	TO	FROM	TO	FROM	TO
EL 15/2012	2.9	9.4	8.9	26.9	257,000	2,516,000
EL 20/2014	2.5	6.0	20.0	35.5	498,000	2,118,000
EL 19/2014	3.4	15.4	14.5	26.9	491,000	4,141,000
EL 12/2014	9.8	53.0	9.5	19.1	933,000	10,112,000
EL 11/2014	15.2	89.2	5.4	10.8	830,000	9,601,000
GRAND TOTAL	34	173	9	16	3,009,000	28,487,000

Table A – Exploration Target Table for the alluvial gravels within the Allotropes Diamond Project, Sierra Leone

Table A Footnotes.

1. Area of 5 licences - 790km²
2. Relative density of gravels 1.8 t/m³
3. Values are averages/ranges across all facies types
4. Artisanal mining and cultural losses applied
5. 50% geological losses have been applied to EL 11/2014 and EL 12/2014 due to limited historical data
7. No attempt has been made to convert to in situ grades
8. The figures in this table are rounded to reflect the precision of the estimates.

1.1 Geology and Geological Interpretation

Allotropes Diamond Project comprises five exploration licences covering 790km², straddling the Sewa River in the Bo District of southern Sierra Leone. The Project is centred on the Sewa River alluvial diamond field and covers approximately 95km of reach of the diamondiferous Sewa River. The floor-rocks to these wide-spread gravel occurrences comprise the Leonean Granite and Gneiss Terrane of the Man Craton of West Africa.

The licence areas along the Sewa River hosts both modern and palaeo diamondiferous gravel deposits. A variety of alluvial facies, including high terrace, middle terrace, low terrace, swamp and river depositional environments types have been sporadically worked by artisanal miners throughout the project area. The majority of the artisanal mining activities have been confined to the lower terrace facies, swamp facies and the modern river system.

Prospective gravel horizons comprise lower terrace, middle terrace, upper terrace and swamp facies. The middle and upper terraces are terrestrial, chemically weathered and relatively in situ, regolith landforms that form a lateritic residuum comprising a ferruginous (haematite and goethite) gravel horizon, containing abundant pisoliths and nodules, as well as diamonds. Unlike the lower terrace gravels, a relatively thin overburden allows easy access to these gravels, which attain a maximum thickness of c.2m.

A provisional landform and lithology (morphostratigraphic) model and type-section, relative to the mode and occurrence of diamondiferous alluvial deposits, has been compiled and is presented in Figure 1.

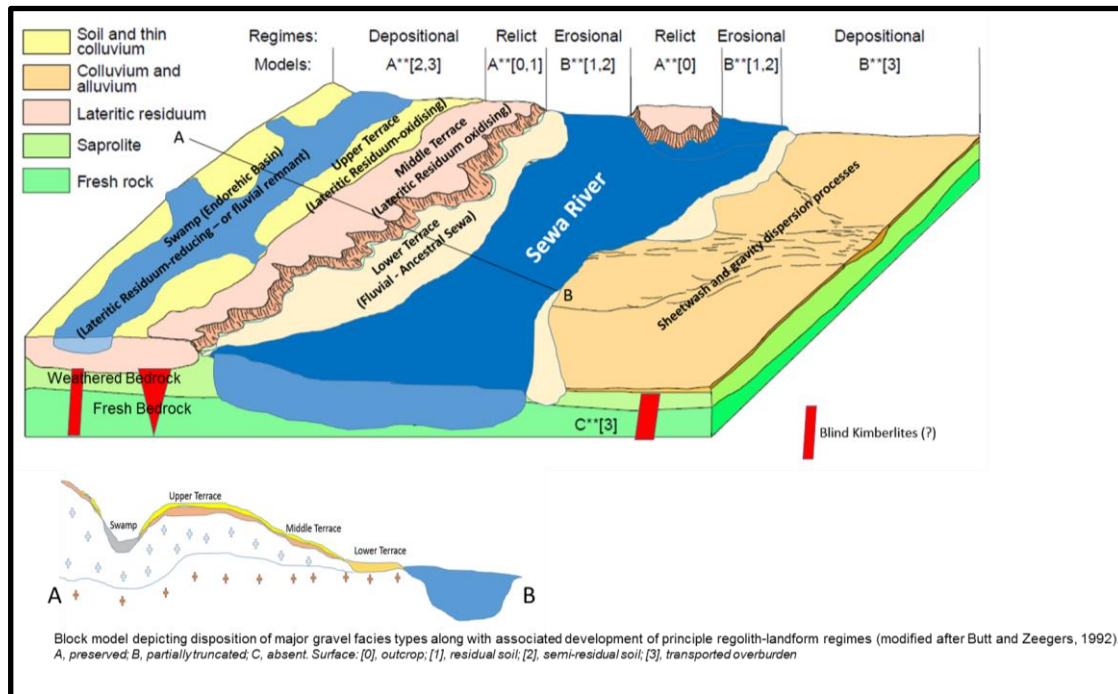


Figure 1. Block model and type-section depicting the proposed morphostratigraphic (landform and lithology) for the Allotropes Project, in relation to the occurrence of alluvial (and primary) diamond deposits (after R Hall, 2014).

The alluvial targets comprise a range of environments of deposition, from down-wasted, residual regolith landforms, to fringing terraces of the Sewa River and elongate inland swamps systems, which comprise a large percentage of the total drainage network; in fact, the gravel horizons of the swamps have, in the past, constituted the second-most important source of alluvial diamonds.

All target selection and subsequent exploration activities, thus have through necessity, incorporated a multi-disciplinary approach; a review of legacy data, artisanal activity and geophysical interpretation of underlying primary (kimberlite) ore bodies, have all been utilised to a greater or lesser degree. It must be noted that historic artisanal workings often coincide with these geophysical anomalies, especially the swamp localities and are also a good indicator for target selection on the basis that many of these deposits are thought to be largely intact, given the lack of mechanisation and depth issues encountered with artisanal mining activities.

The alluvial exploration program for the inland alluvial targets, is thus primarily based on the premise that alluvial deposits will have formed as colluvial/eluvial aprons where they directly overlie, or are developed subjacent to, a blind primary source. An additional premise is that these near-source alluvials will have an enhanced diamond tenor (grade) as a result.

1.2 Estimation Methodology – Polygonal Estimate

Gravel distribution polygons have been compiled over high-interest areas; viz: drainage catchments (2nd-4th order streams and rivers) and inter-fluves/glacis that invariably have interpreted geophysical magnetic anomalies in close proximity (Figure 2).

The polygons have incorporated, and traverse, a number of depositional environments/facies, and thus their thickness varies greatly; from the thin basal lags of the swamps to the thicker colluvial drapes found on the river and stream interfluves. For the purposes of this reporting, no attempt has been made to discriminate across facies boundaries and therefore the gravel thickness range has a wide variance. This variance has been carried through the estimation process resulting in a similarly wide range of parameters for the Exploration Target (Table A).

1.3 Density

The relative density (R.D.) or specific gravity calculations of the gravels in all instances, has assumed to be 1.8t/m^3 , based on isolated test work conducted on basal gravels at the Golu Node (refer Newfield's ASX Quarterly Report ending 30 June, 2014).

1.4 Grade Range

Grade data is derived from on archive data from Hall (1972), SLDC in-house reports sourced from the NMA and other miscellaneous open sources (e.g Cream Minerals Ltd; 2006). In all instances, grade data has historically been expressed as carats per cubic yard (cts/yd^3) and has been converted to carats per cubic metre (cts/m^3), utilising the conversion factor $1\text{ yd}^3 = 0.776455\text{m}^3$. Historic recovered grades have been expressed with upper and lower limits.

2. Future Work Program

As with the current work programs, the systematic delineation of gravel distribution by exploration pitting (at approximately 200m centres) will be similarly applied to the Exploration Target as an initial phase of the work program. Once the mode and distribution of gravels has been ascertained, these select areas will be targeted for bulk-sampling to determine the diamond content (grade), either through bulk-sample pitting or trenching.

The bulk samples, up to several hundred tonnes, will be despatched to the recently commissioned 10tph Dense Media Separation plant for processing in order to potentially progress these targets into a JORC compliant resource over the next twelve months.

References

- Ikona, C. K. (2006). Technical Report on Alluvial Diamond Properties –EPL 1/94 & EPL 5/94, Sierra Leone for Cream Minerals Ltd. 77pp.
- Hall, P.K., (1972). The diamond fields of Sierra Leone. Geol. Surv. Sierra Leone Bull. 5 (1) (133 pp.).

Competent Person's Statement

The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves on the Allotropes 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 who is 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.