MELALEUCA RESOURCES PTY LTD

EXPLORATION LICENCE (EL) 30485

FINAL REPORT FOR PERIOD ENDING
16 MAY 2016

Submitted by the Titleholder:

MELALEUCA RESOURCES PTY LTD

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Any information included in the report that has been originated or sourced from historical open file reports or other sources is listed.
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SUMMARY

Under provisions of section 94(2)(e) of the *Mineral Titles Act* and regulation 86(3), a Final Report must be prepared and submitted by the titleholder for each surrendered exploration licence.

This Final Report for Exploration Licence (EL) 30485 provides a summary of the activities carried out over the permit in the past year, including any results produced by these activities. EL 30485 is being completely relinquished by Melaleuca Resources because the company has determined that while the potential for kimberlite sources may exist within the area, the follow-up exploration required would require extensive resources and funding.

EL 30485 was granted on 9 April 2015 for a term of six (6) years. Melaleuca Resources is the sole titleholder and operator of EL 30485.

The work and expenditure program for EL 30485 during its first year required a geological and geophysical review of existing data and information towards determining the location of any areas prospective for kimberlitic diamonds. It was specifically focused on reviewing data and determining the extent of follow-up sampling and geophysics that would be required to delineate areas of interest.

During the initial year, studies have resulted in Melaleuca Resources’ final conclusions that the area still requires significant exploration programs to follow-up the historical results before it would be in a position to delineate areas of geophysical interest. Accordingly, Melaleuca Resources has elected to relinquish this tenement in full.
INTRODUCTION

EL 30485 was granted to Melaleuca Resources on 9 April 2015, and covers an area of 74 sub-blocks.

EL 30485 was also known as the Flemington Project. The Flemington diamond project is located within a diamond corridor which extends from the Mt Isa region through to the north-west part of the northern territory. Within this corridor there are several known diamond / kimberlite occurrences, and a number of unexplained alluvial diamond and microdiamond anomalies. The project is based on a microdiamond anomaly.

It overlies one single Perpetual Pastoral Lease, which is that of Mittiebah Station. Please see Figure 1 below, Location Map.

**Figure 1 – Location Map of EL 30485**
HISTORY OF EL 25246

EL 30485 was granted to Melaleuca Resources on 9 April 2015. Since that time, the permit has remained at 74 sub-blocks covering an area of approximately 241 square kilometres in the north eastern portion of the Northern Territory.

The area historically carried with it a high incidence of microdiamonds but with no attendant indicator minerals such as chromite reported in the area. This microdiamond area was identified by Ashton Mining in the 1980s and was known as the Fish Hole Creek Anomaly. Despite intense follow-up sampling, no specific focus or source for the microdiamonds was found.

The reason Ashton initially persevered with the anomaly was that the microdiamonds recovered from the lower part of Fish Hole Creek were considered morphologically different than those identified at Coanjula some 80km to the north. The follow-up of the anomaly was abandoned when no chromite reported to any of the samples in proximity to the microdiamonds, however, this work was done prior to the discoveries of Merlin and Abner kimberlite fields in the early 1990’s.

The significance of this is that there was no appreciation at the time of Ashton’s follow-up work of the issues associated with the preservation and dispersion of chromite. The absence of any obvious aeromagnetic target also downgraded the anomaly. However, the discoveries at Merlin and Abner clearly demonstrated that kimberlite pipes don’t necessarily have an associated recognisable magnetic anomaly.

The reports reviewed during the reporting period not only included Ashton Mining’s reports but also included the below Company Reports.

**Table 1 - Historical Reports**

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<th>Tenement</th>
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GEOLOGY AND DIAMOND PROSPECTIVITY IN THE NT

The Northern Territory has a widespread but largely enigmatic distribution of microdiamonds which extends from the Kimberley through to Western Queensland. The known NT kimberlite occurrences at Timber Creek, Moroak, Abner and Merlin are all diamond bearing, however these diamond fields and including the large sediment hosted microdiamond deposits at Coanjua are insufficient to account for the widespread occurrence of microdiamonds and is likely indicative of additional as yet undiscovered kimberlite pipes.

The area is approximately 350 kilometers northwest of Mt Isa (Qld) and 245 kilometres southeast of Cape Crawford (NT). EL 30485 is located within the Mt Drummond (SE53-12) 1:250,000 map sheet and the Benmara (6361) 1:100,000 map sheet in northeast Northern Territory. It is tectonically part of the Mesoproterozoic South Nicholson basin southwest of the Murphy Tectonic ridge. Access into the area is limited to occasional unmaintained fence and station tracks usually via either Ranken Road or Calvert Road off the Tablelands Highway. These plains are difficult to cross after heavy rainfall.

The tenement is located within the Mesoproterozoic-Palaeoproterozoic South Nicholson Basin, a western extension of the Lawn Hill Platform sequence which forms part of the North Australian Platform Cover.

To the east, this sequence hosts the large Sedex Century Zn deposit. To the north the mainly Mesoproterozoic Lawn Hill Platform onlaps the Paleoproterozoic Murphy Tectonic Inlier. The Murphy Tectonic ‘Ridge’ acts as a barrier between the South Nicholson Basin to the south and the McArthur Basin to the north.

The South Nicolson Basin unconformably overlies rocks of the Lawn Hill Subprovince of the Western Fold Belt Province, across the Queensland - Northern Territory border. The only significant mineralisation recorded within the rocks of the basin is sedimentary ironstone in the Constance Range area (Harms, 1965) where oolitic hematite, siderite and chamosite beds occur within the Train Range Ironstone Member.

Rock units in the South Nicholson Basin include the Benmara Group and the South Nicholson Group. The latter are largely clastic sediments, sandstones conglomerates and siltstones, along with chemical sediments, dolomites and dolomitic siltstones and includes the Crow and Playford Formations and Mittiebah Sandstone.

These rocks are weakly metamorphosed, with sandstones often indurated and quartzitic in character. The Benmara Group includes the Buddycurra Volcanics and Breakfast Sandstone.

The Murphy Province which underlies the South Nicholson Basin is made up of the Palaeoproterozoic Murphy Metamorphics and the co-magmatic Cliffdale Volcanics and Nicholson Granite Complex. The Murphy metamorphics consist of shale, siltstone, sandstone and felsic volcanic rocks converted to schist and gneiss by greenschist facies metamorphism. These rocks are isoclinaly folded along east-west axes and are unconformably overlain by the Cliffdale Volcanics. Their upper age limit is constrained by the older phases of the Nicholson Granite Complex. See figure below for Regional geology map of North Australian Proterozoic Units (after Rawlings et al 2008).
The areas within the tenement generally have very little outcrop. Float material has been interpreted as belonging to the Constance Formation sandstones. Aeromagnetic anomalies identified from the government aeromagnetic surveys suggest the presence of basic volcanics or intrusive under cover. The discrete aeromagnetic anomaly suggests the possibility for iron oxide copper gold style deposits and is unlikely to reflect that of a diamond pipe. Positive diamond indicator minerals have been found in drainages to the west of the magnetic anomaly.

EXPLORATION OBJECTIVES AND RATIONALE

Melaleuca Resources exploration rationale and objectives for EL 30485 have been aimed towards evaluating historical data and delineating areas for sampling and geophysical programs for the project.

Melaleuca Resources exploration rationale included a literature search where access to all available literature from previous private and governmental basin studies, mineral and petroleum exploration to understand what is currently known about the distribution of microdiamonds in the area.
We have approached this project on the basis that it may have the same lack of geophysical signature to that of Merlin, i.e. that the kimberlite pipe will be ‘corked’ and lack any discernible magnetic signature.

Accordingly, it has been determined that a significant number of samples and possibly barrage samples will need to be taken in order to delineate any real areas of interest for further works. While there is a magnetic anomaly within the tenement, Melaleuca Resources has determined that the magnetic anomaly and associated geomorphic depression are likely to prove to be unrelated to the diamond source. The occurrence of Murphy Metamorphics in the area, the host rock for the microdiamonds at Coanjula, will also need to be eliminated as a potential source for the local microdiamonds.

EXPLORATION ACTIVITIES DURING THE REPORTING PERIOD

Melaleuca Resources collected various sets of previous exploration data including historical reports and literature over the tenure. It has examined geophysical data and conducted regional reviews of where and how the project sits within the corridor, together with assessing geological data in light of historical sampling.

Despite the desktop reviews conducted, Melaleuca Resources has elected to relinquish the tenement as it has been determined that significant work in the form of sampling and possibly large barrage sampling, would need to be undertaken to delineate a worthwhile area of interest for future follow-up exploration. The follow-up exploration which would lead to conducting geophysical surveys which could very likely not result in obtaining any magnetic signatures associated with a kimberlite source given the issues which were encountered with the discovery of Merlin.

REPORTS LODGED FOR EL 30485 DURING THE REPORTING PERIOD

As this is the first term of the Exploration Licence, Melaleuca Resources believes that there were no other reports required to be lodged during this period.

CONCLUSIONS

Melaleuca Resources has reviewed the historical data and literature available in relation to the tenement and has concluded that it is not in a position to significantly invest in conducting extensive sampling over the area in order to attempt to delineate any real areas of interest for future programs.

We appreciate the co-operation and assistance of the Northern Territory government agencies and individuals during the course of our investigation and look forward to future work with them.


Note these (and many more) references are also located in the References section of the Mt Drummond 1:250,000 geological map series explanatory notes.