EL 23046 ROPER 7 NT

SECOND & FINAL REPORT

For Period Ending

09-06-2004

Submitted to: NT Dept of Business, Industry & Resource Development

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1. SUMMARY & CONCLUSIONS

Exploration Licence 23046 was granted to Exploration & Resource Development Pty Ltd (ERD) on the 7th February 2003. ERD Pty Ltd, a Darwin based resource sector company, is the designated Project Manager. The tenement covers approximately 1,494 sq km covering a portion of Roper Group stratigraphy in the Bauhinia Shelf tectonic element of the western McArthur Basin.

The tenement lies within the Gulf Fall physiographic province, a dissected terrane from which almost all of the old Tertiary land surfaces have been eroded. Topography is characterised by broad alluvial valleys between low rubbly hills and prominent strike ridges of resistant Roper Group strata, locally still capped by remnant Tertiary laterite. The northern part of EL 23046 covers a portion of the Wilton River Plateau, a flat-lying Proterozoic sandstone highland.

The tenement encompasses mid-lower Roper Group sandstones and siltstones capped by Cretaceous sediments in the northwest. Significant areas of Quaternary and Caenozoic to modern day fine grained alluvial sedimentation are present and represent extensive silted valleys and floodplains of the lower reaches of the Jalboi River, Mainoru River and Flying Fox Creek systems.

Previous exploration in the EL environs has comprised regional drainage stream sediment and gravel sampling programs targeting stratabound base metals and diamonds. No significant mineral occurrences are present within the EL.

Interrogation of the recently produced DBIRD diamond and diamond indicator database reveals sparsely scattered positive diamond indicator results within the EL confines. The scattered indicators are considered to be secondary sourced and hard rock diamond potential is deemed low as follow-up sampling by previous explorers failed to repeat the positive results.

Open file reviews suggest that sufficient work has been undertaken within the EL confines to downgrade the mineralisation potential. No further work is recommended and the EL was surrendered effective 9th June 2004. No field work was undertaken during the term of tenure.

1.1 Environment

All activities were confined to office work and aerial inspections. In consequence, no ground disturbance was undertaken during the term of tenure.

2. INTRODUCTION

Exploration Licence 23499 covers an area of 462 sub-blocks (1,494 sq km) in the northern portion of Urapunga 1:250,000 map sheet SD53-10, centred approximately 220km ENE of Katherine. The tenement application was lodged on 13th February 2001 by Exploration & Resource Development Pty Ltd; a Darwin based mineral resource sector privately listed company. The tenement was granted for a period of six years on 7th February 2003. Tenement acquisition was based on the regions perceived potential for hosting diamondiferous diatreme mineralisation.

The EL encompasses mid-lower Roper Group sediments and extensive silted valleys and floodplains of the lower reaches of the Jalboi River, Mainoru River and Flying Fox Creek systems.

The Project Area lies principally within the physiographic province of the Gulf Fall, a dissected terrane from which almost all of the old Tertiary land surfaces have been eroded. The northern part of EL 23046 covers a portion of the Wilton River Plateau, a flat-lying Proterozoic sandstone highland. Topography is characterised by broad alluvial valleys between low rubbly hills and prominent strike ridges of resistant Roper Group strata, locally still capped by remnant Tertiary laterite. Large components of the EL cover the flat-floored valleys which form part of the vast Roper River floodplain and its associated tributaries (Wilton, Maiwok, Jalboi, Flying Fox, Mainoru) and are largely developed on incompetent shales, fine-grained sediments, volcanics and carbonate rocks. Quite a few of the rivers and creeks are perennial or contain large year round billabongs.

The principal vegetation regime is open Eucalyptus woodland ranging from sparsely wooded open grassland alluvial and black soil plains to densely vegetated lancewood on high ground and steeply sloping areas. The major watercourses are lined with paperbarks and larger Eucalypts. Spinifex grows predominantly on the sandy soils close to outcrop.

This report outlines exploration activities conducted within EL 23046 during the period of tenure ending 9th June 2004.

3. REGIONAL GEOLOGY

The EL lies in the central-western shelf (Bauhinia Shelf) of the Palaeo-Mesoproterozoic McArthur Basin. The basin can be viewed as several northerly trending rifts separated by northwest-trending faults and transverse ridges and was subject to repeated cycles of clastic and marine carbonate sedimentation interspersed with volcanic extrusion and sill emplacement (*Tawallah, McArthur and Nathan Groups*) in response to reactivation of older basement structures.

A later, more passive series of sedimentation cycles in response to western basin subsidence occurred with the deposition of suites of blanket quartz sandstones, micaceous siltstones, black shales and glauconitic sandstones (*Roper Group*). Ironstones are prominent on a local stratigraphic level (Roper and Hodgson Iron Deposits). 'A variety of marginal, shallow and deeper marine shelf environments reflect alternating basin-wide sea level rises and falls.

Tholeiitic dolerite and gabbro sills were emplaced throughout the Roper group soon after deposition ceased and before regional deformation.' (NTGS).

3.1 Tenement Geology

The tenement encompasses mid-lower Roper Group sandstones, siltstones and mudstones of the lower Maiwok Subgroup (Corcoran Formation) and upper Collara Subgroup (Hodgson Sandstone, Jalboi Formation, Crawford Formation and the Showell Member of the Mainoru Formation) in the central-northern EL. These sediments are capped by Cretaceous sandstones with local Cenozoic ferricrete in the northwest.

Significant areas of Quaternary and Caenozoic to modern day fine grained alluvial sediments are present and represent extensive silted valleys and floodplains of the lower reaches of the Jalboi River, Mainoru River and Flying Fox Creek systems.

The absence of Cambrian flood basalts and only remnant outliers of Cretaceous sandstones, both of which are extensive to the west and north of the EL, suggest a significant exposure to uplift and erosion within the area permitting exposure of the underlying Proterozoic sediments and dolerite sills.

4.0 PREVIOUS EXPLORATION

The Roper Region has attracted various exploration campaigns including:

: Evaluation of the oolitic ironstones of the Sherwin Formation by BHP in the 1950's and more recently by Roper Resources (Orridge, 1993) identified potential for large tonnage (>400Mt) variably low grade (27%-52% Fe) iron deposits largely to the south and southeast of the Project Area. No development has occurred with major focus having being diverted to the richer Pilbara WA iron ore deposits.

: A number of companies have sporadically explored for base metals (Pb/Zn & Cu) culminating in the discovery of a number of small low grade deposits of sandstone-hosted (disseminated sulphides in Roper Group arenites at Galena Cliffs and Wongalara Prospects) and carbonate-hosted (veins, disseminations and replacement sulphides in brecciated dolomitic rocks of the Nathan Group) styles.

: Intensive diamond exploration was evidenced in the 1980's and 1990's with large scale stream sediment, loam, magnetics and drilling programs conducted by Stockdale Prospecting, Ashton Mining and CRA Exploration. While a few kimberlitic indicator minerals including micro and macro diamonds were reported, most could not be source traced with the exception of two thin (<2m) steeply dipping kimberlitic dykes (Packsaddle and Blackjack 1) located by Stockdale southeast of the Project Area. The very low grade and small dimensions of the dykes has precluded any further work on them.

: Pacific Oil & Gas undertook detailed investigation of the hydrocarbon potential of the Roper region in the late 1980's and early 1990's. Seismic surveys led to drilling of perceived oil-trap structures incorporating organic shales of the Velkerri and Corcoran Formations.

Following only trace encounters of hydrocarbons the petroleum tenements were surrendered in the mid-1990's.

A comprehensive summary of all past exploration is published in the 2nd edition of 1:250 000 Geological Map Series Explanatory Notes for the Roper Region Urapunga and Roper River Special.

5. EXPLORATION ACTIVITIES

EL 23046 was selected for exploration targeting diamondiferous diatremes. While no major diamond occurrences are mapped within the Roper environs, it is believed that the major structural corridors including the Walker-Batten Fault Zones and the Urapunga Tectonic Ridge and their associated parasitic fault splays have provided deep-seated conduits for mineralisation focus, notably diamondiferous diatreme emplacement (ie. Merlin and Emu diamond fields near the Emu Fault to the SE and the Packsaddle and Blackjack kimberlite dykes to the west).

Open file reviews has shown previous exploration in the EL environs having comprised regional drainage stream sediment and gravel sampling programs as well as airborne magnetic surveys targeting stratabound base metals and diamonds.

Interrogation of these reports and recently produced DBIRD diamond and diamond indicator database reveals sparsely scattered positive results (indicator minerals) within the EL confines. Follow-up sampling programs failed to repeat the positive results and the scattered indicators are considered to be secondary sourced. Hard rock diamond potential is deemed to be low.

The completed open file reviews suggest that sufficient work has been undertaken within the EL confines to downgrade the mineralisation potential. No further work was recommended and the EL was surrendered on 9th June 2004. No field work was undertaken during the term of tenure.

6. REFERENCES

Abbott ST, Sweet IP, Plumb KA, Young DN, Cutovinos A, Ferenzi PA, Brakel A & Pietsch BA, 2001. Roper Region: Urapunga and Roper River Special, Northern Territory (Second Edition), 1:250 000 Geological Map Series Explanatory Notes, SD 53-10 & SD 53-11. Northern Territory Geological Survey.

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Figure 1: EL23046 Location Plan

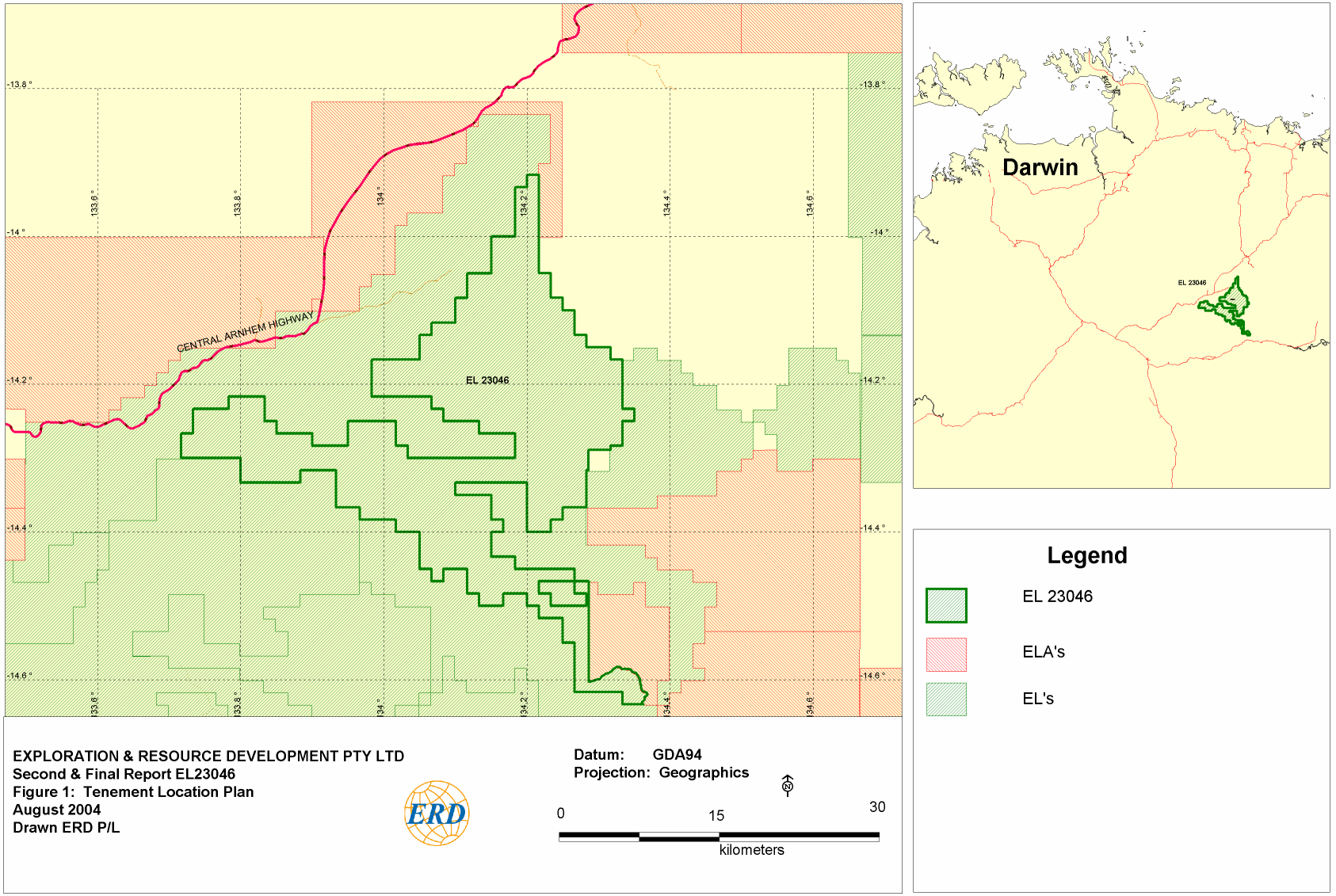

Figure 2: EL 23046 Diamond Indicator Results