

# **ROPER HM PROJECT**

# EL 22478

## **SEVENTH ANNUAL REPORT**

## FOR PERIOD

## 10-08-2007 to 09-08-2008

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	NT Dept of Primary Industry,	Fishenes and willes

- Submitted by: Exploration & Resource Development Pty Ltd
- Author: IK Johnstone

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## 1. SUMMARY

Exploration Licences 22478, 22479 and 22480 were granted on 9<sup>th</sup> August 2001 to Mr G Fanning under an Agreement with Exploration & Resource Development Pty Ltd (ERD), a Darwin based resource sector company. At this stage ERD was the designated Project Manager. EL 22478 is now granted to ERD after tenement transfer in early 2008 following a sale of the company and a complete restructure of its operations.

The tenements, after the reductions in Year 4 covered approximately 2231 sq km of Roper Group stratigraphy in the Bauhinia Shelf / Arnhem Shelf tectonic elements of the western McArthur Basin, envelope extensively mapped eroded ilmenite-bearing source rocks with considerable potential for large tonnage 'insitu', eluvial and colluvial heavy mineral accumulations. A request for a waiver of reduction at end of year 5 was submitted to the Department as negotiations on the joint venture/sale of ERD and these resources are not fully concluded.

Titaniferous dolerite sills intrude Adelaidean Roper Group sediments at a number of exposed stratigraphic horizons. The dolerites have been subject to prolonged weathering and erosion during the Tertiary and Recent epochs through to modern day wet season cycles.

Year 1 and 2 activities included: orientation soil and lag sampling of a number of these sills followed by a comprehensive auger drilling campaign testing the heavy mineral potential of three selected target areas; geological mapping; flora and fauna surveys; airborne and ground based topographic surveys; macro-sampling at BMC and Buka Prospects and commencement of channel sampling of shallow test pit walls on regolithic soils developed on regional dolerite sills.

Year 3 activities were predominantly based on infill drilling, resource estimation by trenching, further sampling of outlying areas.

Year 4 activities were dedicated to in-house studies to increase the resource, beneficiation studies to convert the resource to a more saleable product and marketing of the resource to prospective joint venture partners.

Year 5 activity mainly centered around a greatly enhanced marketing regime in Australia, Asia and Europe with several parties interested to joint venture or purchase the resource/company and in discussions with the NLC to grant approval for ELA 23385 which abuts the main resource of BUKA. ERD were in the final stages of a joint venture/sale agreement with two of the interested parties and a sale/joint venture would result in the resources being further identified and a mining application submitted in year 6. This agreement failed. The negotiations with the NLC still appear to ERD to have stalled and this tenement would greatly enhance the resource under the control of ERD.

Year 6 activities were focussed on attempting to negotiate with the Northern Land Council on adjoining tenements and in finalising our marketing for the contained and previously reported resource. These discussions have been fruitful and a partial surrender of EL22478 occurred with a full surrender of EL22479 and EL 22480. These tenements were reapplied for after moratorium to protect the identified and inferred resources. Year 7 activities incorporated minor office studies with 1 helicopter supported field reconnaissance trip and 2 vehicle based trips to gain small samples and adjust the figures from year 1 through 6 analysis.

ERD was sold to Maxwealth International Invest Ltd in late 2007 and immediately underwent a complete company restructure in late 2007/early 2008 to allow the new owner to fully identify and modify the business plan of the organisation. Marketing was commenced to obtain development partners and seek new technologies to look at not only mining of the resources held by ERD but also the further beneficiation techniques currently available or coming on stream such as the CSIRO Light Metals Project. EL22478 was transferred from Geoff Fanning to ERD during this restructure period.

Directors from ERD visited China and Japan with the NTG delegation in May 2008 and met with several potential development partners including Sinosteel Corporation, Beijing, Fu Shun Titanium Company Ltd in FuShun, NE China and Itochu Corporation in Tokyo, Japan. All of these organisations are looking at joint venture/ farm-in agreements to drive the further development of the contained resources.

The area contained within EL 22478 has also been identified by ERD as having the potential to host Westmoreland/Murphy style of unconformity uranium deposits despite its cretaceous age. Discussions are underway to fund an exploration program within this tenement and others of the Roper HM Project Area to develop an exploration program to identify targets for drilling. Initial analysis of the available coarse ternary radiometric data has identified several potential areas of clustered anomalies.

No scaled intrusive field work was undertaken on the tenement during Tenure Year 7 as ERD has not received written notification of its renewed "Authority to Explore" from the Department. Three field trips to collect several samples were undertaken before a trip to China to provide data and information on chemistry to Fu Shun Titanium and Sinosteel Corporation. Sampling was completed by helicopter and vehicle on well used station tracks and only non-magnetic material was taken with no evidence of the sampling remaining. All sites were fully rehabilitated by brushing the disturbed surface of current tracks. No holes were dug, rather the material was taken from the wind rows alongside the station track.

A comprehensive geological and data review in Year 7 by ERD of all of its identified resources resulted in further identification and regime localisation proximity of insitu heavy mineral accumulations. ERD still awaits its "Authority to Explore" before this program can be implemented.

This information, when coupled with the current inferred/indicated and measured resources discriminated within the remaining portion of EL 22478 indicate that a moderate resource is available for mining studies to commence.

## Years 1 and 2 Summary

- Regional sampling demonstrated two mineralisation regimes; a titanomagnetite dominated HM assemblage liberated from stratigraphically 'older' sills and an ilmenite-rich assemblage from 'younger' sills which have been exposed to longer weathering cycles and relatively mature regolith development.
- Favourable characteristics from chemical and physical property studies of the ilmenites include: insignificant highly susceptibles (titanomagnetite) and trash HM's; angular to euhedral ilmenite grains free from silicate inclusions; consistent TiO2 content of 50-50.6%; negligible chromium content; low alkalis; acceptable CaO, ZrO2 and SiO2; low U+Th and high FeO; bulk of the size ranges are within >100 to 250 microns.
- The auger drilling campaign comprised 2,998 predominantly 100m spaced holes drilled for a cumulative 8,372 metres at three selected prospects; BMC, BBan and Buka.
- Drill indicated resources of approximately 1Mt and 1.5Mt of ilmenite-dominant heavy minerals have been outlined with internal high grade (>5%) ore zones contained within regolithic and pisolitic soils at BMC and Buka South Prospects respectively.
- Processing of representative macro-samples from Buka and BMC reports that the pisolitic samples are easily treatable, contain higher insitu grades, lower slimes and minimal oversize.
- The concentrates produced provide a quality ilmenite product with expected recoveries in excess of 95% and outstanding unit efficiencies due to the limited mineral species present and favourable size relationships between ilmenite and gangue minerals.
- At the Buka South Prospect empirical observations coupled with geology and macro-sample data show an excellent correlation between high grades (>7.5%HM) and remobilised pisolite-abundant soils, moderate grades (>5%HM) with regolithic soils and lower grades corresponding to immaturely transported and deposited gravel/sediment regimes and black soil pondage areas.
- No rare and endangered plant or animal species of conservation significance were encountered within the project area.
- Regional sill investigations commenced on EL 22478 with collection of 77 channel samples from small backhoe excavations from seven selected target areas.

### Year 3 Summary

Year 3 activities incorporated infill 25 metre spaced auger drilling at the Buka South Prospect in EL 22478 (3,207 holes for 3,893 metres); continuation of backhoe excavation and channel sampling (77 samples) of a further 4 regional sill targets on EL 22479; excavation and sampling of three shallow trenches at Buka South to collaborate auger intercepts and provide ore body characteristics; an independent resource calculation exercise at Buka South.

#### Buka South Infill Auger Drilling

In view of the easily treatable and high grade nature of the pisolitic soils at Buka South, a campaign of infill auger drilling on 25 metre drill hole spacing was undertaken internal to the 5%HM contour to test thickness and grade of pisolite ore and determine a measured resource for an initial two to three years proposed production. A total of 3,207 holes were drilled for a cumulative 3,893 metres with an average pisolite thickness of 1.21 metres. Coupled with the existing 100m spaced holes internal to the infill grid a combined 5,430,000 tonnes of mineralised soils was calculated. Average grade reported approximately 6.9% HM yielding 6.76% ilmenite for 367,000 tonnes ilmenite. The drilling indicated partially channelised coarse pisolitic sheet wash soil regimes overlying clay-rich regolith (insitu) soils with variable boulder content developed 'down slope' from shallow bedrock highs (undulating bedrock topography).

#### **Regional Sill Investigations**

Following on from year 2, regional sill investigations were completed on EL 22479. Four dolerite regolith targets were sampled with a series of 200m spaced small backhoe excavations to one metre depths with collection of a representative 15kg channel sample from the pit walls. Sampling was designed to provide, where possible, long axis and cross-sectional data for use in resource inference. Additionally, eight shallow test pits were excavated and sampled on an opportunistic basis where access tracks intercepted previously unsampled regional sill exposures. A total of 77 shallow pits were sampled and were immediately infilled following the sample collection.

The combined 154 samples collected during years 2 and 3 were dispatched to Tristate Research Laboratories in Mildura Victoria for heavy mineral processing. Eight of the tested targets represent stratigraphically 'lower' sills with relatively immature regolith development (insitu boulders) with variably abundant heavy minerals veneers overlying red residual soils. Variably pisolitic red to red-brown regolithic soils with visible magnetic and non-magnetic heavy minerals were encountered to one metre thickness in most of the areas. Two sampled bodies (Buka NE & Buka NNE) represent the prospective 'upper' level sills and reported ilmenite dominant HM assemblages.

The following table summarises the exploration results with a geological resource inference calculated.

Regional Sill	Potential Tonnage	A∨ HM%	Av Mag %	Av Ilmenite %	Slimes %	HM tonnes	Mag tonnes	llmenite tonnes
MV1	1,564,000	1.6	1.1	0.5	88	25,024	17,204	7,820
MV2A	4,080,000	2.55	0.25	2.3	74	104,040	10,200	93,840
MV2B	510,000	3.2	2.1	1.1	85	16,320	10,710	5,610
CON 1N	6,446,400	2.4	1.8	0.6	83	154,714	116,035	38,678
CON 1S	3,570,000	8.6	7.1	1.5	88	307,020	253,470	53,550
CON 2	267,750	4.3	3.3	1	77	11,513	8,836	2,678
GOON 1	663,000	0.6	0.3	0.3	90	3,978	1,989	1,989
GOON 2	2,346,000	0.6	0.3	0.3	85	14,076	7,038	7,038
Buka NE	1,602,000	4.45	0.12	4.33	82	71,289	1,922	69,367
Buka NNE	2,787,480	3.6	0.3	3.3	78	100,349	8,362	91,987
BBAN	11,980,000	3.99	2.87	1.13	73	478,002	343,826	135,374
BBAN SW	1,887,000	0.51	0.02	0.49	78	9,624	377	9,246
Mt Caroline	994,500	1.06	0.48	0.58	75	10,542	4,774	5,768
Dooley's E	765,000	3.15	2.5	0.65	65	24,098	19,125	4,973

#### Buka South Trenching

Shallow trenching incorporating three E-W costeans across a western sheetwash channel at Buka South was undertaken to verify drill indicated pisolite thicknesses by direct measurement and check for concealed roots and boulders which may affect mining. Each of the trenches captured 25m spaced infill drillholes with channel samples collected adjacent to the holes. Additionally 12.5m spaced channel samples were collected to further augment grade variation and increase confidence levels for proven resource calculations. The pisolite thicknesses encountered by the drilling were largely collaborated by the trench exposures. Tree roots are predominantly confined to the upper 40cm of soil profile. Dolerite boulders up to 35cm in diameter manifest proximal to or within the clayey underlying regolith soils with only minor cobbles and boulders within the sheetwash pisolitic regimes (generally on margins).

The three trenches provide an average of 7.5% HM in the upper metre and 5.1% HM in the lower interval. While the trench results correlate well with the drill indicated measured resource, direct comparison with auger holes adjacent to trench channel samples indicate a 20% increase in auger grades overall.

#### Independent Resource Estimation

All Buka South auger drilling data was forwarded to Tennent & Isokangas Pty Ltd, Consulting Mining Engineers in Brisbane, for an independent resource estimate using computer assisted Surpac software. An uncut Indicated Resource of 39Mt @ 4.1%HM (3.3%HM adjusted) was calculated for the entire drilled out area and includes 10Mt @ 5.8%HM (adjusted 4.7%HM) in the identified pisolite zone.

The resource estimate largely collaborated ERD's internal estimate of 36Mt @ 3.9%HM (adjusted 3.12%HM).

#### Pre-feasibility Studies

The scoping study covering conception and costing for mining plant, Project infrastructure, water supply and tailings disposal through to transport mode and corridors linked to bulk storage and loading facilities in Darwin is continuing together with value-add studies including potential for beneficiating ilmenite product to synthetic rutile.

#### Year 4 Summary

Year 4 activities have concentrated on further studies to beneficiate the resource and in trying to gain further commitment from potential mining partners.

#### Heubach International

A large scall series of bench tests were conducted on three samples of concentrated ore in India by Huebach International at their Indian operation (Heubach Colour) using their Reptile 96 Synthetic Rutile beneficiation process. (http://www.heubachinternational.com/)

These tests involved the transport of 3 tonnes of concentrate to Ankleshwar in India and their subsequent cleaning and batch testing in their reactor pilot plant at Mumbai. The samples tested were from the BBAN, BUKA and BMC project areas and after

test work was complete the results were sent to the head office of Heubach in Germany for detailed analysis to compare results.

The results from the batch plant were very promising and ERD is currently evaluating and discussing the importation of this technology to the Northern Territory to beneficiate its ilmenite resource to Synthetic Rutile with a purity of 95 to 96% TiO2.

Test results and flow diagrams were included in Appendix 1 in the year 4 report

#### **Developing Partners**

ERD has been notionally successful in seeking joint development partners and was at this stage in discussion with Heubach International of Germany to enter into an agreement to import technology for the resource.

#### Trans Territory Pipeline

ERD has been discussing and conducting field expeditions during the last 12 months to ensure that the Trans Territory Pipeline, if developed, is equitable to the owners, its managers and ERD. This has entailed several discussions at the TTP offices as well as several visits to the areas in question to re-sample, map and assess potential conflict areas.

ERD never secured a satisfactory agreement with the TTP organisation and delivered a letter to the appropriate Minister objecting to the grant of the pipeline license.

#### Year 5 Summary

Year 5 activity mainly centered around a greatly enhanced marketing regime in Australia, Asia and Europe with several parties interested to joint venture or purchase the resource and or the company and in discussions with the NLC to grant approval for ELA 23385 which abuts the main resource of BUKA. ERD again was in the final stages of a joint venture/sale agreement with two of the interested parties and a sale/joint venture which would result in the resources being further identified and a mining application submitted in year 6. The negotiations with the NLC had stalled and this tenement would greatly enhance the resource under the control of ERD.

#### Year 6 Summary

Year 6 activities were focussed on attempting to negotiate with the Northern Land Council on adjoining tenements and in finalising our marketing for the contained and previously reported resource. These discussions have been fruitful but have arrived after a decision needed to be made on tenement status and a partial surrender of EL22478 occurred to retain the measured resource it contains with full surrender of the identified and inferred resources of EL22479 and EL 22480. These tenements were reapplied for after moratorium to protect the identified and inferred resources partially contained within EL 22478 and fully contained within the surrendered tenements of EL22479 and EL22480. All technical data was submitted to the Department on these resources and again were issued with the Final Technical Report for EL 22479 and EL 22480.

### Year 7 Summary

Year 7 activities incorporated minor office studies with 1 helicopter supported field reconnaissance trip and 2 vehicle based trips to gain small samples and adjust the figures from year 1 through 6 analysis.

ERD was sold to Maxwealth International Invest Ltd in late 2007 and immediately underwent a complete company restructure in late 2007/early 2008 to allow the new owner to fully identify and modify the business plan of the organisation. Marketing was commenced to obtain development partners and seek new technologies to look at not only mining of the resources held by ERD but also the further beneficiation techniques currently available or coming on stream such as the CSIRO Light Metals Project. EL22478 was transferred from Geoff Fanning to ERD during this restructure period.

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A comprehensive geological and data review in Year 7 by ERD of all of its identified resources resulted in further identification and regime localisation proximity of insitu heavy mineral accumulations. ERD still awaits its "Authority to Explore" before this program can be implemented.

This information, when coupled with the current inferred/indicated and measured resources discriminated within the remaining portion of EL 22478 indicate that a moderate resource is available for mining studies to commence.

#### 1.1 Environment

All field activities adhered to the environmental and safety principles and practices outlined in detail in the Small Mining Management Plan which was accepted by the Department prior to commencement of exploration.

A Small Mine Management Plan was resubmitted in 2007 to gain an Authority to Explore. ERD has yet to formally receive this approval. Comments were acted upon and the document resubmitted but no further information or formal approval has been received from the Department.

## 2. Conclusions and Recommendations

Following overall Roper HM Project data reviews and spatial analysis, a medium to large insitu heavy mineral resource is contained within the EL 222478 which although not contiguous with the resource in EL23048, EL23048 and EL24655 results from the same ore genesis.

Ground truthing of the analysed data commenced in a non-intrusive manner in year 7 as sample was needed for chemical analysis for a trip to China with the NTG delegation. The Small Mine Management Plan has been submitted and an exploration plan completed.

ERD is currently negotiating with several companies in China and Japan for the joint development of these resources and the development of further exploration programs to assess the tenements suitability to host Westmoreland/Murphy style of unconformity related Uranium deposits.

Several visits have been made to Darwin by both Chinese and Japanese companies seeking partnerships with ERD and several Confidentiality Agreements have been issued and signed. The Directors of ERD expect that a joint development of the mineral resources contained within the Roper HM Project Area will commence in calendar year 2008 and that a modified SMMP will be required to be submitted to the Department by August of 2008 to allow for further intrusive and non-intrusive exploration for uranium.

### 3. Introduction

Previously contiguous Exploration Licences 22478 (Roper 1), 22479 (Roper 2) and 22480 (Roper 3) covered an area of approximately 2231km<sup>2</sup> on the Urapunga 1:250000 mapsheet SD 53-10 and extend a short way into the southern Mount Marumba (SD5306) sheet after the reductions of these tenements in 2004. Tenement applications were lodged on 17 March 2000, by ERD Pty Ltd Director Mr G Fanning. The tenements were granted for a period of six years on 10 August 2001 and EL22478 was eventually transferred in total to Exploration & Resource Development Pty Ltd in early 2008. A 12 month waiver of the 50% relinquishment due at completion of tenure year 2 (9<sup>th</sup> August 2003) on EL's 22478, 22479 and 22480 was requested and accepted by the NT Department of Business, Industry & Development (DBIRD). Following rationalisation of tenure holding, a 50% sub-block relinquishment for all three EL's was forwarded to DBIRD in early July 2004 to leave the following areas.

Title	Original Sub Blocks	Sub Blocks Retained	Sub Blocks Relinquished
EL 22478	429	214	215
EL 22479	475	237	238
EL 22480	441	220	221

It was requested that no further relinquishment occur in year 4 as ERD was in an advanced stage of negotiation with prospective joint venture parties and was further assessing technology solutions. A letter was forwarded to the Mining Register on  $01^{st}$  July 2005 requesting a 12 month waiver which was granted.

At this time the negotiations with prospective joint venture parties were still occurring.

On July 20<sup>th</sup> 2006 (after a 14 day request for extension of time was granted) application was made for a waiver of relinquishment responsibilities for this year to the Department of Primary Industries, Fisheries and Mines and approved to retain all current blocks in the three EL's.

Title	Original Sub Blocks	Sub Blocks Retained	Sub Blocks Relinquished
EL 22478	429	214	215
EL 22479	475	237	238
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The EL's are considered prospective for heavy mineral accumulations (principally ilmenite and titanomagnetite) in regolithic soils developed on numerously exposed and variably eroded dolerite sills intruding into Proterozoic Roper Group stratigraphy.

The tenements, collectively formed the Roper Project, are centred approximately 80 kilometres east of the township of Mataranka and are dissected in the north and south by the unsealed Central Arnhem and sealed Roper Highways respectively (Figure 1). A station-maintained road is central to the Project Area linking the two highways. All EL's are interspersed with station tracks leading to the main arterial roads. Due to the monsoonal nature of the area the station tracks are well graded every year but are virtually impassable at the height of the monsoon.

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. 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 flat-floored valleys form part of the vast Roper River floodplain and its associated tributaries (Wilton, Maiwok, Flying Fox, Mainoru) and are largely developed on incompetent shales, fine-grained sediments, volcanics and carbonate rocks. The target dolerite sills are prominent in their deep red soil colour and rounded boulder outcrops. Quite a few of the rivers and creeks are perennial or contain large year round billabongs. The northeastern part of EL 22480 covers a portion of the Wilton River Plateau, a flat-lying Proterozoic sandstone highland.

The principal vegetation regime is open Eucalyptus woodland ranging from sparsely wooded open grassland alluvial and blacksoil 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 while a peculiar relationship between SE Asian Capoc trees and rubbly dolerite outcrops is evident.

Completed year one, two and three activities included: orientation soil and lag sampling of a number of these sills followed by a comprehensive auger drilling campaign testing the heavy mineral potential of three selected target areas;

geological mapping; flora and fauna surveys; airborne and ground based topographic surveys; macro-sampling at BMC and Buka Prospects and channel sampling of shallow test pit walls on regolithic soils developed on regional dolerite sills.

This report outlines exploration activities conducted during tenure year 7 ending  $9^{th}$  August 2008 for EL 22478.

## 4. Geology

## 4.1 Regional Geology

The Project lies in the central-western shelves (Arnhem Shelf and Bauhinia Shelf) of the 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.'<sup>1</sup>

## 4.2 **Project Geology**

The Roper Heavy Minerals Project is confined to the Roper Group specifically targeting the ilmenite-bearing dolerite sill horizons and their erosional transport trails. The strata are generally flat lying to undulating although secondary folding and reactivation of older faults result in steepening of dips and stratigraphic dislocation in places (WNW trending Urapunga Tectonic Ridge in the central area and N-S trending Strangeways Fault in the southwest).

The absence of Cambrian flood basalts and only remnant outliers of Cretaceous sandstones, both of which are extensive to the south, west and north of the Project, suggest a significant exposure to uplift and erosion within the area permitting exposure of the underlying Proterozoic sediments and dolerite sills. Extensive deposits of Quaternary to Recent sediments comprising alluvium, colluvium, unconsolidated gravel and sand overlain by mud-rich soils are mapped in the project area and reflect material derived from prolonged weathering and erosion during the Tertiary.

Sills of the Derim Derim Dolerite were emplaced at various stratigraphic horizons (Table 1) from a primary magma source at depth. Extensive lateritised outcrops, subcrops and regolithic soils of the dolerite have been mapped over approximately 1,300km<sup>2</sup> within the tenements. The dolerite outcrops as low-relief medium to coarse grained, variably altered and weathered ('onion-skin' weathering) rounded boulders. Composition is dominated by plagioclase (40%), clinopyroxene (40%), amphibole (7%), opaques (ilmenite & magnetite 5%) and clay (7%). The associated regolith soils are deep red-purple-brown, clay-rich and contain abundant liberated ilmenite and locally with accessory titanomagnetite, magnetite and haematite grains. In some areas these dolerite sills have only been recently exhumed (higher elevations) and in other instances, larger areas of dolerite sills have been exposed for a longer geological time resulting in pisolitic laterite formation and attendant erosion (lower elevations). These latter areas are considered to have the best potential for higher insitu ilmenite grades in both eluvial and alluvial terrain.

Diamond drillhole intercepts of the dolerite sills show a thickness in the order of 60-70 metres with upper and basal fine-grained chilled margins of 6-10m. Thin section work commissioned by Pacific Oil & Gas in the late 1980's showed the rock to be representative of a small, high-level intrusion of doleritic basic rocks. Ilmenite and magnetite are observed to be primary constituents of the dolerite. A chemical analysis (Cochrane & Edwards, 1960) of fresh dolerite within the Moroak Formation (Prk) near the Sherwin Iron Deposits reported 1.52% TiO<sub>2</sub>.

### Table 1 - Roper Group Stratigraphy

(youngest to oldest) Chambers River FormationPrc Siltstone, mudstone, fine sandstoneDolerite sillBukalorkmi SandstonePrlQuartz sandstoneDolerite sillBukalorkmi SandstonePrlQuartz sandstoneDolerite sillKyalla FormationPrySiltstone, mudstone, fine sandstoneDolerite sillMoroak Formation Sherwin MemberPrkQuartz sandstoneDolerite sill sandstoneVelkerri Formation Munyi MemberPrvMudstone, siltstone (organic in part)Dolerite sill part)Bessie SandstonePre Quartz sandstoneDolerite sill part)Corcoran Formation Munyi MemberPro PromSiltstone lower; with sandstone upper Ferruginous sandstone & siltstoneDolerite sill Dolerite sill Dolerite sillIbdigson SandstonePrh Quartz sandstone, siltstoneDolerite sill Dolerite sillJalboi Formation Showell Member Limestone Mountain Valley LimestonePru Pru PruUndifferentiated Pru Mudstone, limestone Pru Mudstone, limestone Mudstone, limestone MudstoneDolerite sill Dolerite sill Dolerite sill Calcareous mudstone, Pru Mudstone Pru Mudstone, limestone MudstoneDolerite sill Dolerite sill Dolerite sill	Stratigraphy	Symb	Lithology	Comments
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	Mantungula Formation Phelp Sandstone	Prn Prp		

## 5. **Previous Exploration**

Summaries of previous exploration were documented and can be referenced in ERD's past Annual Reports (September 2002, September 2003, September 2004 and September 2005, August 2006 and August 2007).

#### 6. Exploration Activities in Year 7

Year 7 activities were focussed on our continual attempts to negotiate with the Northern Land Council on adjoining tenements and in finalising our marketing for the contained and previously reported resource. The Directors were successful in their efforts for the owners of ERD and the company was sold to Maxwealth International Investments Ltd in late 2007.

A decision was made on tenement status and a partial surrender of EL22478 occurred to retain the measured resource it contains with full surrender of the identified and inferred resources of EL22479 and EL 22480. These tenements were reapplied for after moratorium to protect the identified and inferred resources partially contained within EL 22478 and fully contained within the surrendered tenements of EL22479 and EL22480. All technical data was submitted to the Department on these resources and again issued with the Final Technical Report for EL 22479 and EL 22480.

The company then centered its efforts to develop the resources using a joint venture partner and several visits have been made by interested companies to Darwin and a visit to China and Japan to promote joint development was made by company Directors with the NTG delegation in May 2008.

A web site of pre-feasibility documentation has been updated and marketing has focussed in Asia. Several parties have expressed interest and the Board is confident that a joint development partner will be established by August 2008. The ilmenite mineral contained within the tenements is suitable for either the production of synthetic rutile or used as a feed for titanium slag when mixed with the titanomagnetite also present. This would produce a trimodal product suite of titanium slag, high grade iron and vanadium.

The aerial photography previously flown over the entire EL and other EL's within the Project Area were analysed against the known deposits adjoining the tenement to the West and the drillhole and surface sampling database. Common discrimination techniques have re-established the potential of the area.

The Board of ERD also believe that the area under its control including EL 22478 shows potential for uranium. The mineral sampled contains traces of gold and elevated vanadium levels within the ilmenite and titanomagnetite profile. Both are indicators for Westmoreland/Murphy style of uranium deposits. Westmoreland-Murphy-type deposits occur within the lower McArthur Basin succession, on the northern side of the Murphy Inlier, straddling the NT-Queensland border.

Production from two small operations in the 1960s totaled 35 t U3O8. The largest known deposits of this type are in Queensland and occur where dolerite dykes crosscut sandstone. Other styles of this deposit type occur at contacts between rocks of different oxidation states, and appear to have formed by reduction of oxidised uranium-bearing fluids. Small occurrences of uranium mineralisation occur in similar geological settings in Katherine River Group rocks, near the western margin of the McArthur Basin, and appear to have been formed by similar processes. The leases held by ERD contain over 1600 sq km of dolerite sills. Sills are horizontal magma extrusions and ERD have the largest accumulation of dolerite sills in the Northern Territory

Year 8 activities will therefore revolve around fostering development partners and if successful the submission of mining applications and furthering the resource on adjoining blocks through discussions being held with the Northern Land Council in 2008.

#### **Developing Partners**

Maxwealth International Investments Ltd as owner of ERD is currently in discussions with Sinosteel Corporation and FuShun Titanium Company Ltd to jointly develop the resources contained within the Roper HM Project with the prime view of mining and beneficiation of the ilmenite and titanomagnetite into titanium slag, high grade iron and vanadium as a trimodal product suite.

### 6.1 EL 22478

In previous years ERD established a proven resource on EL22478 and had inferred and indicated a further several resources. EL 22478 includes one indicated resource with a 300,000 ton measured resource immediately available. ERD have identified a suitable technology provider to import their own technology and also are in discussions with CSIRO on the technology available through their Light Metals Project. The resource is highly suited to the manufacture of titanium slag and will also produce high grade iron with a vanadium by-product.

Year 7 saw disruption with the company being sold to Maxwealth International Investments Ltd and all tenements analysed and finally consolidated. The company then centered its efforts to develop the resources using a joint venture partner and several visits have been made by interested companies to Darwin and a visit to China and Japan to promote joint development was made by the author with the NTG delegation in May 2008.

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Research is ongoing to evaluate the areas potential using ternary radiometric data available from the Department.

Itochu Corporation of Japan are interested in developing a joint venture/farmin agreement with ERD to allow the full exploration of this tenement to host uranium deposits. A field trip in late June was conducted to assess the anomalies using hand held instrumentation identified using NTG coarse ternary and radiometric data sets.

The following table summarises the resource inferences for sampled sills.

Regional Sill	Tonnage	Av HM%	A∨ Mag %	Av Ilmenite %	Slimes %	HM tonnes	Mag tonnes	llmenite tonnes
MV1	1,564,000	1.6	1.1	0.5	88	25,024	17,204	7,820
MV2A	4,080,000	2.55	0.25	2.3	74	104,040	10,200	93,840
MV2B	510,000	3.2	2.1	1.1	85	16,320	10,710	5,610
CON 1N	6,446,400	2.4	1.8	0.6	83	154,714	116,035	38,678
CON 1S	3,570,000	8.6	7.1	1.5	88	307,020	253,470	53,550
CON 2	267,750	4.3	3.3	1	77	11,513	8,836	2,678
GOON 1	663,000	0.6	0.3	0.3	90	3,978	1,989	1,989
GOON 2	2,346,000	0.6	0.3	0.3	85	14,076	7,038	7,038
Buka NE	1,602,000	4.45	0.12	4.33	82	71,289	1,922	69,367
Buka NNE	2,787,480	3.6	0.3	3.3	78	100,349	8,362	91,987

### Table 2 EL 22478 Regional Sill Resource Inferences

### 6.2 Concurrent Pre-feasibility Studies

Investigations were continuing on potential mining, processing and project infrastructure costing together with assessment of ilmenite product for value-add beneficiation to synthetic rutile and or titanium slag. Data and agreements were still awaited and will be incorporated into a Year 8 feasibility study report for the measured resource on EL 22478.

ERD and partners in EL22478 and other adjoining resources within the Project Area will design and import the required equipment to produce titanium slag in the Northern Territory from ilmenite sourced from this EL should feasibility indicate cost effectiveness in doing so.

## 7. Environment

All field activities adhered to the environmental and safety principles and practices outlined in detail in the Small Mining Management Plan which was accepted by the Department prior to commencement of exploration. Selected photographs of field activities were included in previous reports.

No ground intrusive activities requiring rehabilitation were carried out on the EL during tenure year 7 with the exception of a small collection of samples to take to China and Japan. Samples were delivered to Sinosteel Corporation and FuShun Titanium Company Ltd. These samples required minimal rehabilitation as they were collected from windrows on existing station tracks.

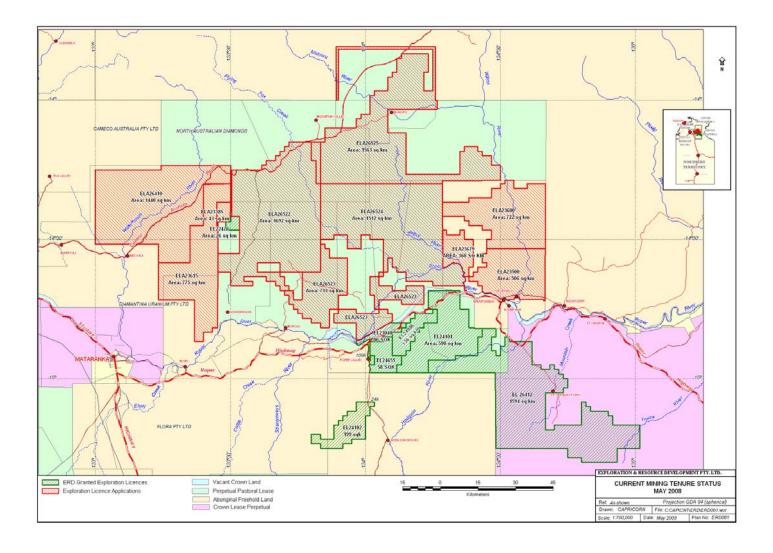
Natural rehabilitation by the past few wet seasons has seen total rehabilitation occurring with all past activity traces from other and past exploration being completely removed.

### 8. References

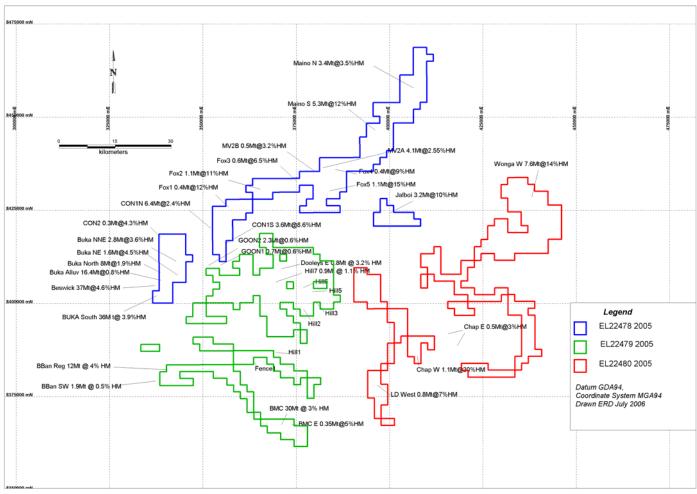
Abbott ST, Sweet IP, Plumb KA, Young DN, Cutovinos A, Ferenzi PA, Brakel A & Pietsch BA, 2001. Roper Region: Urapunga and Roper River Special, Northern Territory (Second Edition), 1:250 000 Geological Map Series Expanatory Notes, SD 53-10 & SD 53-11. Northern Territory Geological Survey

### List of Figures

- Figure 1 Roper Project Location Plan May 2008
- Figure 2 Indicated, Inferred and Measured Resources 2005/2006
- Figure 3 EL 22478 Location Plan



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#### Figure 2. Indicated, Inferred and Measured Resources of ELs 22478, EL22479 and EL 22480 2005

