



**CASTILE RESOURCES PTY LTD**  
**COMBINED ANNUAL EXPLORATION REPORT**  
**Warumpi Project**  
**EL6861, EL6732, EL10379 and EL30306**  
**YEAR ENDING 10 SEPTEMBER 2016**

**Compiled by:**  
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**November 2016**

**CASTILE RESOURCES PTY LTD**  
**wholly owned by**  
**METALS X LIMITED**

**COMBINED ANNUAL EXPLORATION REPORT 2016**

**WARUMPI PROJECT**  
**EL6861, EL6732, EL10379 and EL30306**

<b>Operator:</b>	Castile Resources Pty Ltd
<b>1:250,000 Sheet:</b>	Mount Rennie SF52-15; Mount Liebig SF52-16
<b>1:100,000 Sheet:</b>	Ehrenberg 4951; Yingurrdu 4950; Kuta Kuta 505; Mount Liebig 5151.
<b>Datum:</b>	GDA94
<b>Projection:</b>	MGA
<b>Zone:</b>	52
<b>Report Type:</b>	Annual Exploration Report
<b>Report Period:</b>	11 September 2015 to 10 September 2016
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<b>Tenement Holders:</b>	Castile Resources Pty Ltd
<b>Distribution:</b>	Department of Resources; and Castile Resources Pty Ltd / Metals X Limited

## SUMMARY

This report covers exploration completed on the Warumpi Combined Reporting tenement group for the period 11 September 2015 to 10 September 2016.

The Warumpi Project is located approximately 300km west of the Alice Springs Township, and includes a number of granted tenements and applications that fall within aboriginal freehold lands of the Haasts Bluff Land Trust. The project area is considered to be prospective for a number of commodities, ranging from copper and gold to base metals within a structurally controlled, high-grade metamorphic terrain.

In August 2013, combined reporting status was granted over three tenements; EL's 6861 and 10379 forming a separated group within the Warumpi Project. The exploration activities are governed by the negotiated Deed of Exploration with the Central Land Council (CLC) on behalf of the traditional Aboriginal owners.

Previous work completed by the NTGS in the late 1990's to early 2000's resulted in new Proterozoic ages being applied to the Warumpi Province, defining it as being formed during a crucial period of development of the Australian continent. Deposits as Broken Hill, Mount Isa and McArthur River share similar ages to the Warumpi Province. The area is also interpreted to also have potential for a similar style of mineralisation as AngloGold's Tropicana deposit (5M+ oz Au). The province has seen little to no previous exploration work.

In March 2012, Castile Resources Pty Ltd (Castile) entered into a joint venture agreement with Lassact Pty Ltd (Lassact) to explore the tenements and has the right to earn up to 80% equity, which was surpassed in August, 2015. Since entering into the joint venture, Castile has completed a range of activities including numerous sampling and regional reconnaissance campaigns, multiple geophysical programs both airborne and ground, and desktop reviews and reprocessing of regional geophysics.

Exploration activities for the year ending 11th September 2016 consisted of the following major programs:

- Numerous desktop studies reviewing assay results from sampling campaigns in order to plan future programs.

Future work planned over the combined Warumpi Project Reporting area includes:

- On-going negotiations with Central Land Council and Traditional Owners to advance multiple prospective regions to drill ready stage.
- Review of Quickbird imagery for remote targeting.
- loGAS review of previous geochem sampling
- Regional scale VTEM survey design over multiple prospective regions throughout the project areas

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## 1.0 INTRODUCTION

Castile's Warumpi Project is located approximately 300km west of the town of Alice Springs, and includes a number of granted tenements and applications within aboriginal freehold lands of the Haasts Bluff Land Trust. The project area is considered to be prospective for a number of commodities, ranging from copper and gold to base metals within a structurally controlled, high-grade metamorphic terrain.

The Warumpi Project area lies in the Warumpi Province, a newly defined province, with bedrock ages ranging from 1,690-1,610Ma. The Warumpi Province shares similar ages to that of the Broken Hill Block, Mount Isa Block and the McArthur Basin, which all host world class base metal deposits. Along with prospective ages, major, crustal-scale, east-west structures and associated secondary shears are observed striking through all the tenements enhancing the prospectively of the Warumpi Project.

To date limited mineral exploration has been completed including remotely sensed data acquisition, processing and interpretation of publicly available data, on ground heritage surveys and geophysical surveys and numerous regional sampling / prospecting campaigns.

### 1.1 Location and Access

Access to the project area is via the Stuart Highway, 20km north of Alice Springs, then northwest along the Tanami Road for approximately 118km to the Kintore Road. The project area is approximately 195km west along Kintore Road via the Garry Junction Road passing the communities of Papunya and Mount Liebig. The project area begins with EL10379, approximately 24km west along Kintore Road past the communities of Mount Liebig and extends to EL6861, an additional 100km to the west toward the community of Kintore.

Exploration by Castile is conducted from mobile, temporary exploration camps throughout the tenements. Camps consist of no permanent infrastructure and are of a limited footprint utilising one camper trailer and multiple tents. Water, food and fuel are brought onto the tenement for each campaign and everything is removed once the program is completed, including all rubbish.

### 1.2 Tenement Details

The tenements were granted on the 11<sup>th</sup> of September 2007. Exploration activities are governed by the negotiated Deed of Exploration with the CLC on behalf of the traditional Aboriginal owners.

EL6861 and EL10379 are 100% owned by Castile, which it acquired through a JV entered into in 2012 with Lassact Pty Ltd.

Table 1: Tenement details

Lease	Project	Granted Blocks	Grant Date	Expiry Date
EL6861	Warumpi	246	11/09/2007	10/09/2017
EL10379	Warumpi	29	11/09/2007	10/09/2017



Figure 1: Project Location Map

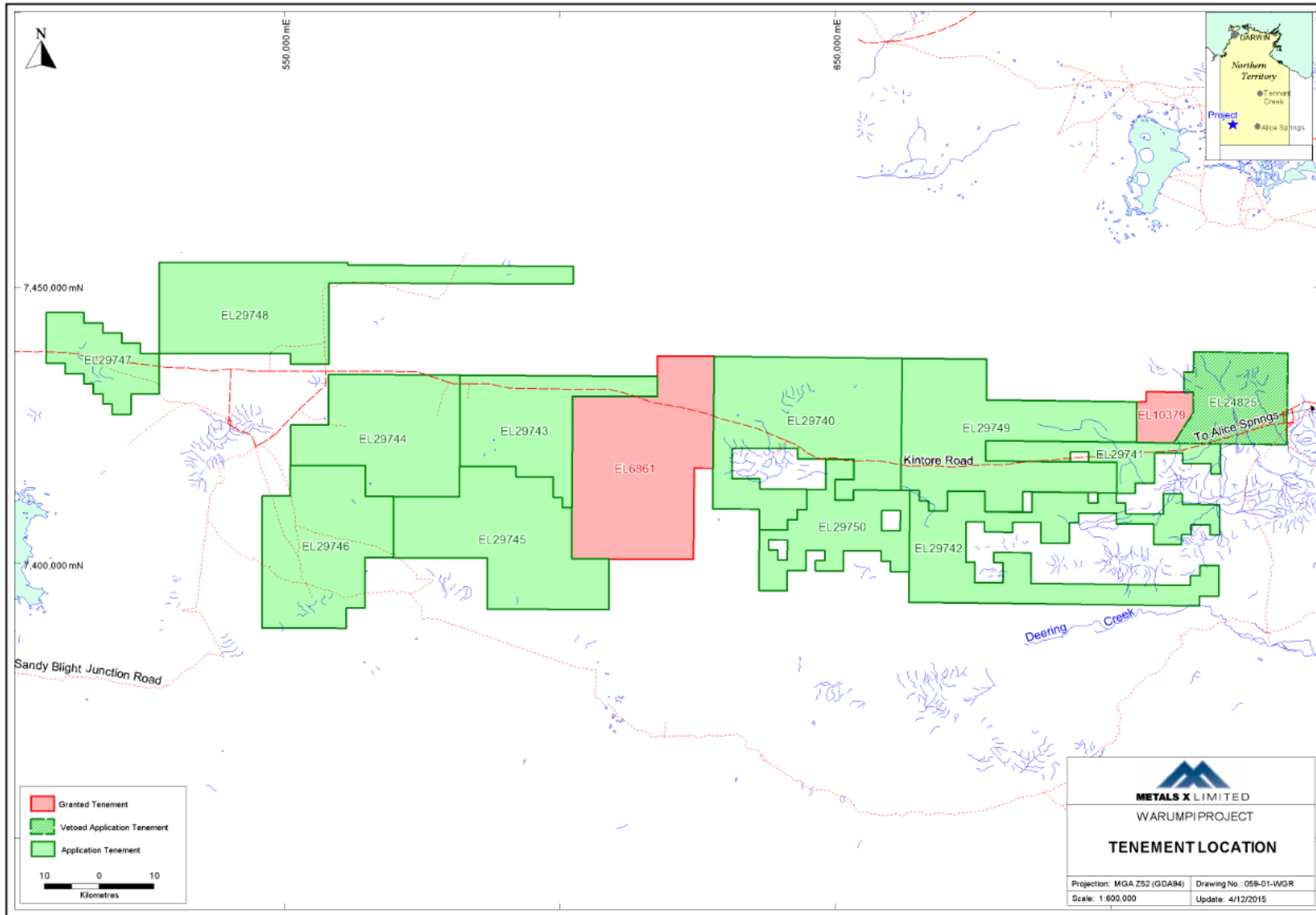


Figure 2: Location Plan Showing Positions of the Tenements in the Combined Reporting Group

## 2.0 GEOLOGY

### 2.1 Regional Geology

The Warumpi Project lies within the Western Springs area, which is entirely located in the Warumpi Province. This area was previously considered to be the southern margins of the Arunta Inlier. However, in 1999 the NTGS processed high-resolution aeromagnetic data over central Australia resulting in the identification of the Warumpi Province as a separate entity from the Arunta Inlier. Further mapping and age dating of the Mount Rennie and Mount Liebig area that lie within the Warumpi Province produced dates ranging from 1,690-1,610Ma giving further evidence that the Warumpi Province was part of a crucial period of the development of the North Australia Craton (NAC). This 500km east-west exotic terrain is hypothesised to have Grenville-aged architecture, thrusting it up onto the southern margins of the Arunta inlier during the Liebig orogeny (1,640-1,630Ma).

Two high-grade domains dominate the Warumpi Project area of the Warumpi Province; The Yaya Domain; located in the northern portion, which dominates EL10379, EL6732 and approximately 75% of EL6861, and the Haasts Bluff Domain located in the south, accounting for the remaining southern portion of EL6861. The Yaya Domain (1,660-1,640Ma) consists of psammites, pelite, calc-silicates, felsic migmatites and cordierite mafic granulites all of which have been intruded by various granite suites of the Papunya Igneous Complex. The Haasts Bluff Domain (1,690-1,660Ma) consists of rhyolitic volcanic, metasedimentary schists, amphibolites, orthogneiss, and various suites of granitoid intrusive.

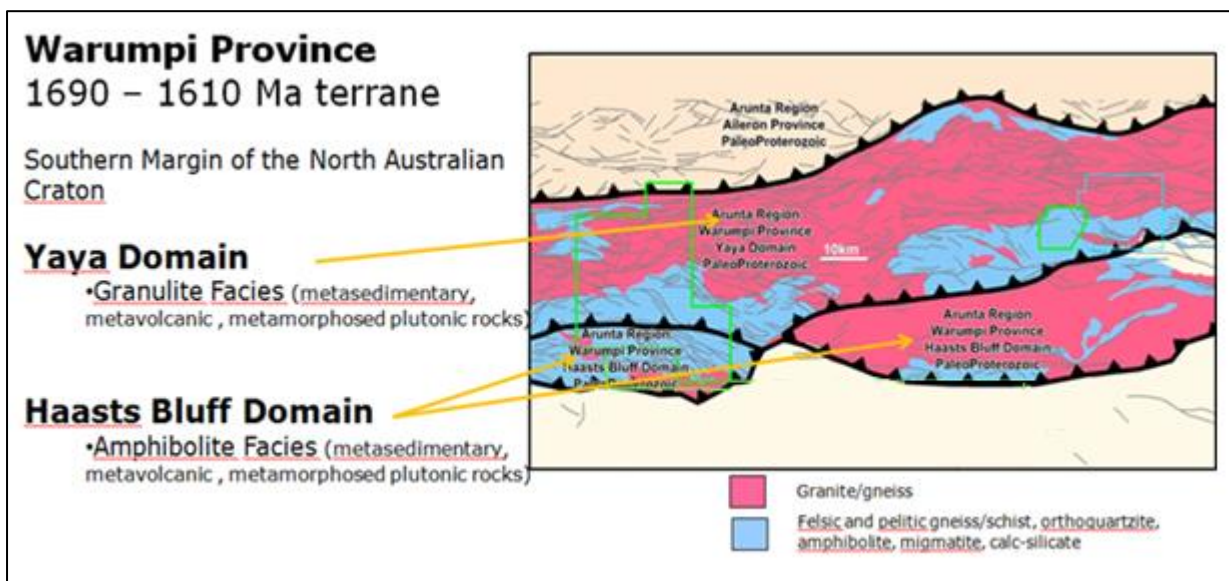


Figure 3: Geological Domains of the Warumpi Province

The Yaya Domain (1660-1640Ma) consists dominantly of high grade metamorphic migmatites intruded by volumous felsic and mafic rocks of the Waluwiya Suite (1,640-1,630Ma) and conformly overlain by the Yaya Metamorphic Complex (1,660-1,650Ma). The Yaya Metamorphic Complex is composed of four stratigraphic units:

Spears Metamorphics Generally mapped in the east portion of the Warumpi Province, however, observed throughout the Mount Liebig area. It consists of augen gneiss, felsic gneisses, metapelites, and amphibolites.

Inyalinga Granulites Dominantly in the northern portion of the Yaya Metamorphic Complex with similar lithologies to the Spear Metamorphics containing massive cordierite rich granulites.



Alkipi Metamorphics Mapped throughout the eastern portion of the Warumpi Province and not seen on the project area. It consists dominantly of homogenous quartz rich metasediments.

Liesler Metamorphics Forms near the Davenport Hills in the far west Yaya Metamorphic Complex and consists of metapelitic migmatites.

The Haasts Bluff Domain (1,690-1,660Ma) makes up the remaining portion of the Warumpi Province in the project area and is some of the oldest rocks in the region. It consists of dominantly metasedimentary schists, orthogneisses, and various suites of granitoid intrusives with minor rhyolitic volcanics. An upper amphibolite facies metamorphic event during the Liebig Orogeny (1,640-1,635Ma) affected the region, while the Iwupataka metamorphics were unconformably being deposited.

Many units compose the Iwupataka Metamorphics, however only two are observed throughout the southwest portion of Warumpi Project area.

Lizard Schist Biotite-muscovite-quartz schist interlayered with muscovite quartz rich psammite layers.

Nugman Metamorphics Lower amphibolite facies metasedimentary rocks near the Mount Rennie area composed of biotite muscovite schists and minor mafic amphibolites.

## 2.2 Local Geology

Due to the large-scale of the tenements and the displacement between them, the local geology varies significantly and has been separated by tenement below.

EL10379 lies within the Yaya Domain of the Warumpi Province, consisting of dominantly high-grade metasedimentary to igneous rocks types as described above. The tenement is made up of two formations; the Inyalinga Granulites to the north, which consists of high-grade calc-silicate rocks and unclassified Yaya Metamorphic Complex to the south, consisting of a multitude of migmatites and altered granites. The Inyalinga Granulites dominate the majority of the tenement with only the southwest sector containing the Yaya Metamorphic complex (Figure 4).

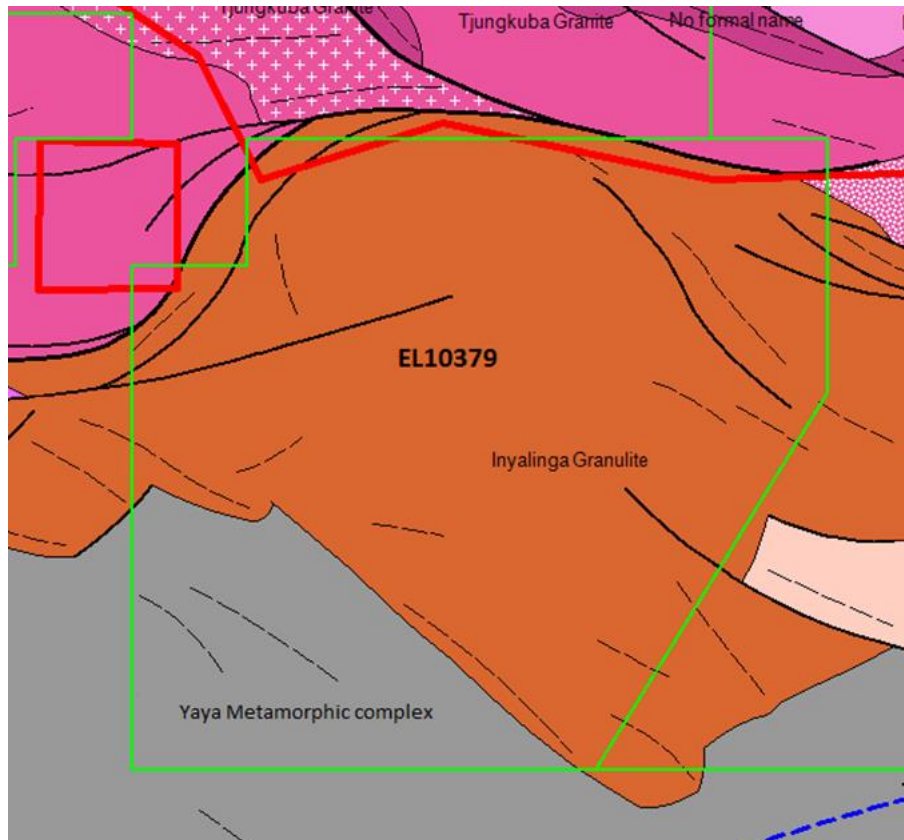


Figure 4: EL10379 Local Geology

EL 6861 straddles the Yaya Domain in the north and the Haasts Bluff Domain in the south of the Warumpi Province. The tenement is dominated by the Yaya Domain constituting approximately 75% of the total tenement area. It consists of a range of porphyritic biotite granites from the Gunbarrel Granite and Ehrenberg Granite to migmatites and metasedimentary rocks of the Yaya Metamorphic Complex. The Ngumen Metamorphic of the Haasts Bluff Domain make up the remaining 25% of the tenement in the south and consists of dominantly quartzites and muscovite-quartz schists. The Yuwalki thrust fault separates the two domains and can be traced anatomising through the Warumpi Province. Scattered throughout the tenement in both domains are distinctive magnetic low signature bodies interpreted to be ultramafic dunite / lherzolite intrusions. These intrusions are focused within or near dilational zones observed in the regional structures interpreted from airborne magnetics.

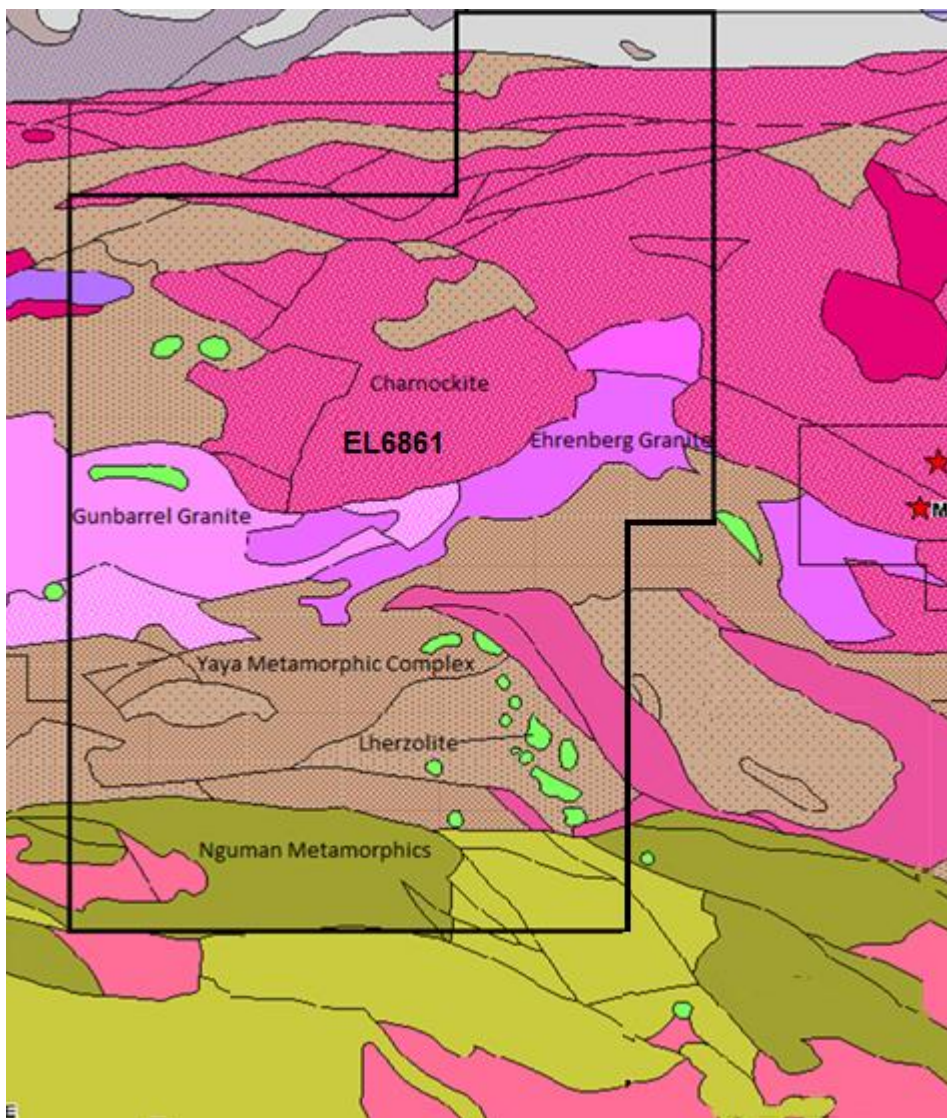


Figure 5: EL6861 Local Geology

### 2.3 Exploration History

Limited historic exploration has been completed throughout the region prior to activities by Castile, due primarily to its relative inaccessibility, harsh arid environment, lack of water sources and poor grazing conditions.

Geologically the area is poorly understood due to limited outcrops, weathered profile and a thin veneer of aeolian sands masking vast areas the region. Recent work by the NTGS including outcrop mapping, broad-scale aeromagnetics and limited geochemical sampling to the direct east of the tenements was undertaken in 1999.

During the 2011-2012 reporting period, Castile conducted a four days reconnaissance trip throughout ELs 6861, 6732, and 10379 collecting rock and lag samples over areas of interest to help establish baseline levels as well as to determine the effectiveness of the sampling mediums and technique used (Burke, 2013).

As a result, systematic on-ground exploration was initialised throughout the central portions of EL6861 during the latter half of the 2011-2012 reporting period. Initially samples were collected along a 1km x 1km grid with greater detailed 500m x 500m spaced lag sampling over structural zones and areas of interest. As the 2011-2012 reporting period closed, Castile was actively sampling EL6861 and had collected 271 lag samples and 114 rock chip samples over EL6861, EL6732 and EL10379.

During the 2012-2013 reporting period, Castile conducted a wide range of greenfields exploration throughout the entire project area. A large heritage survey over the remaining portions of EL6861 and EL30306 was completed, which enabled sample crews to complete first wave region and follow-up sampling throughout the new area. A large push during the reporting periods to complete all regional sampling with minor follow-up soils and prospecting through all tenements at the Warumpi Project was achieved during the period. As a result 3,725 lag, 188 rock and 219 soils samples were collected highlighting multiple precious and base metal prospective zone predominately throughout EL6861.

Multiple desktop studies of the vast geochemical data collected throughout the field season was also completed and complimented by reprocessing high-resolution Quickbird imagery. This imagery played a vital role in correlating geochemical data to surface expressions including bedrock exposure and vegetation for 2014/2015 target generation exercises.

### **3.0 WORK COMPLETED DURING THE REPORTING PERIOD**

Exploration activities for the year ending 10 September 2016 consisted of the following major programs:

- Tenement rationalisation of EL30306 and EL6732 resulted in the relinquishments of both tenements. This has enabled the company to focus expenditure towards the core prospects within EL6861 and EL10379.
- Numerous desktop studies reviewing assay results from sampling campaigns in order to plan future programs.

No on ground exploration was conducted throughout the project area during the reporting period. Work focussed on regional targeting, tenement rationalisation and on-going negotiations with Traditional Owners and Central Land Council.

### **4.0 ENVIRONMENTAL / REHABILITATION REPORT**

No rehabilitation was conducted over the tenements as no tracks were established or earth moving conducted and geophysical programs had a limited environmental footprint.

### **5.0 CONCLUSION AND RECOMMENDATIONS**

Exploration work over the Warumpi Project for the year ending 11 September 2016 has reinforced Castile's view of the prospectively of the broader Warumpi Province.

Systematic geophysical programs over prospective regions around the Huron Prospect in EL10379 have been an effective method of advancing the prospect. These surveys have not only highlighted the structural complexity of the region and potential prospective lithologies for follow-up work, but also multiple drill ready targets. With the approval of the Exploration Mine Management Plan, the Huron Prospect is ready to drill. However, issues highlighted by recent heritage clearances and on-going negotiations with Central Land Council and Traditional Owners have delayed the push for further on-ground work.

Castile remains focused on continuing systematic exploration in order to develop a greater understanding of geology and the economic potential of the Warumpi Province.

The proposed 2016 / 2017 programme will include:

- On-going negotiations with Central Land Council and Traditional Owners to advance multiple prospective regions to drill ready stage.
- Review of Quickbird imagery for remote targeting.
- loGAS review of previous geochem sampling

- Regional scale VTEM survey design over multiple prospective regions throughout the project areas.

The minimum anticipated cost of the 2016 programme will be approximately \$32,000 over the combined tenements, subject to positive results.

## **6.0 COPYRIGHT STATEMENT**

This document and its content are the copyright of Metals X Limited (MLX). The document has been compiled by Robert Burke for submission to the Northern Territory Department of Resources as part of the tenement reporting requirements as per Regulation 86 of the Minerals Titles Act.

Any information included in the report that originates from historical reports or other sources is listed in the "References" section at the end of the document. This report may be released to open file as per Regulation 125(3)(a).

## **7.0 REFERENCES**

Scrimgeour IR, Close DF and Edgoose CJ, 2005. *Mount Liebig, Northern Territory. 1:250 000 geological map series explanatory notes, SF 52-16*. Northern Territory Geological Survey, Darwin and Alice Spring

Burke, R. 2013. Annual Report EL6861, EL6732 and EL10379, Warumpi Project for the Period 11 September 2012 to 10 September 2013 Castile Resources Pty Ltd

## **Appendix 1: Bibliographic Data Sheet**

## BIBLIOGRAPHIC DATA SHEET

Report Number:	GR-317-13
Report Name:	Combined Annual Report EL6861, and EL10379. Warumpi Project for the period 11 September 2015 to 10 September 2016
Prospect Names:	Luna, Nyx, Gold Hill, Fortuna, Invictus, Cacus, Huron and Ni Hill
Tenement Number:	EL6861, EL10379.
Owner/JV Partners:	Castile Resources Pty Ltd
Agreements:	Deed of Exploration (EL's 6861, and 10379)
Commodities:	Gold, Base Metals
Tectonic Units:	Warumpi Province
Stratigraphic Units:	Yaya Domain, Haasts Bluff Domain
1:250,000 Map Sheet:	Mount Rennie SF52-15; Mount Liebig SF52-16.
1:100,000 Map Sheet:	Ehrenberg 4951; Yingurrdu 4950; Kuta Kuta 505; Mount Liebig 5151.
Keywords:	Exploration, Geophysics, DDIP, GAIP, Lag Sampling, Rock Chip Sampling, Geochemistry, Assay, Copper, Gold, Nickel Lead, Zinc

