Operator: Castile Resources Pty Ltd
Tenement Holders: Castile Resources Pty Ltd
1:250,000 Sheet: Mount Rennie SF52-15
1:100,000 Sheet: Ehrenburg 4951
Datum: GDA94
Projection: MGA
Zone: 52
Report Type: Final Surrender Report
Report Period: 11 September 2007 to 9 September 2017
Author: Peter Wilson
Report Date: 20 September 2017
Distribution: Department of Resources; and Castile Resources Pty Ltd / Westgold Resources Limited
ABSTRACT

Location
The tenement is within the Warumpi Province of the Haasts Bluff Aboriginal Land Trust, and is approximately 300km west of the Alice Springs Township. It occupies an area of 246 graticular blocks, and formed part of Castile Resources Pty Ltd (“Castile”) Warumpi Project.

Geology
The project is located within the Western Springs area of the Warumpi Province that was originally considered the southern margins of the Arunta Inlier. EL6861 straddles the collisional boundary between the northern Arunta Inlier and the southern Warumpi Province and comprises predominately Paleoproterozoic rocks of the Yaya Domain of the Warumpi Province. Large portions of the tenement have a thin veneer of aeolian sand. The contact between the two provinces is obscured by recent sediments, but can be inferred from recent aeromagnetic data. Previous work completed by the NTGS in the late 1990’s to early 2000’s resulted in new Proterozoic ages for the Warumpi Province, defining it as being formed during a crucial period in the development of the Australian continent. Deposits such as Broken Hill, Mount Isa and McArthur River share similar ages to the newly defined Warumpi Province.

The area is interpreted to also have potential for a style of mineralisation similar to AngloGold’s newly discovered Tropicana deposit (5M+ oz Au). The province has seen little to no previous modern exploration work, and was considered to have high potential for economic mineralisation.

Work Completed
Exploration for the period of 11 September 2007 – 9 September 2017 included regional 1 km x 1 km lag sampling and prospecting followed by detailed lag (500 m x 500 m and 250 m x 250 m), soil sampling and rock chip sampling programs over elevated pathfinder element anomalies in several areas of the tenement. Totals of 3202 lag, 228 rock and 647 soil samples were collected during the period of tenure.

Results / Conclusions
Follow-up work on base metal targets identified the sources of the elevated results and in the main these were derived from the weathering of mafic intrusions enriched in the anomalous elements. No evidence of economic levels of mineralisation was revealed by the work. Gold anomalism in lag sampling in the area of Gold Hill could not be repeated in follow-up soil sampling.
Systematic regional sampling throughout the tenement and detailed follow-up programs including prospecting along primary and secondary structures associated with the collisional boundary did not identify targets worthy of drilling. Castile has now focused its exploration efforts on other regions in the Warumpi Province and has opted to surrender this tenement.
TABLE OF CONTENTS

1 INTRODUCTION .................................................................................................................. 3
  1.1 LOCATION AND ACCESS ............................................................................................ 3
  1.2 TENEMENT DETAILS ................................................................................................. 4
2 GEOLOGY ........................................................................................................................... 4
  2.1 REGIONAL GEOLOGY ............................................................................................... 4
  2.2 LOCAL GEOLOGY ...................................................................................................... 6
  2.3 EXPLORATION HISTORY ......................................................................................... 8
3 MINERALISATION AND POTENTIAL .............................................................................. 8
4 WORK COMPLETED ...................................................................................................... 9
5 RESULTS ......................................................................................................................... 12
6 ENVIRONMENTAL / REHABILITATION ....................................................................... 19
7 CONCLUSION AND RECOMMENDATIONS ............................................................ 19
8 REFERENCES ............................................................................................................... 19
9 COPYRIGHT ................................................................................................................... 19

LIST OF FIGURES

Figure 1: Tenement access map showing relative positions of tenement with Alice Springs ...................................................... 4
Figure 2: Tenement Location Map ........................................................................................................ 3
Figure 3: Geological Domains in the Warumpi Project area of the Warumpi Province .......................................................... 5
Figure 4: EL6861 Local Geology .................................................................................................. 7
Figure 5: High resolution Magnetics of Australia with the reconstruction of the collisions between the WAC/NAC and the SAC (Aitken and Betts, 2008) .................................................. 8
Figure 6: Tropicana model developed by AngloGold Ashanti (Laurentian Goldfields Ltd, 2009) ........................................ 9
Figure 7: EL6861 Surface Sample Distribution ........................................................................... 11
Figure 8: Ni in Lag Sampling Throughout the Ni Hill Region ................................................................................. 12
Figure 9: Ni in soil sampling over the Ni Hill region. Note the difference between the Ni in Lag contours and soil results (refer to Figure 7 for prospect location) ........................................................................... 13
Figure 10: Cobalt and Nickel in Lag Sampling Throughout the Nyx Prospect .................................................. 14
Figure 11: Ni in soils over the Nyx prospect over regional 1vd magnetics. Note the dispersive nature of the lag sampling compared to the soils (refer to Figure 7 for prospect location) .................................................. 15
Figure 12: Copper and Nickel in Lag Sampling Throughout the Luna Prospect ........................................ 16
Figure 13: Copper results in two north south soils line through 250 x 250m lag zone at the Luna prospect (refer to Figure 7 for prospect location) .............................................................................. 17
Figure 14: Gold Anomaly in the Southern Portion of the Gold Hill Prospect ........................................ 18
Figure 15: Results from soil program through anomalous lag region of Gold Hill ........................................ 18

LIST OF TABLES

Table 1: Tenement Details ........................................................................................................... 4

LIST OF APPENDICES

Appendix 1: Surface Sample Geochemistry .................................................................................. 20
1 INTRODUCTION

EL6861 is located approximately 390km west of Alice Springs in the Northern Territory and is the western-most tenement of the Warumpi Project within Aboriginal freehold land.

The Warumpi Project area lies in the Warumpi Province, a newly defined geological province, with bedrock ages ranging from 1690-1610Ma. The Warumpi Province shares ages similar to that of the Broken Hill Block, Mount Isa Block and the McArthur Basin, all of which host world class base metal deposits. This report is the final surrender report for EL6861 and documents all work carried out on the exploration licence during its tenure.

1.1 Location and Access

EL6861 is located approximately 100km west of the Mt Liebig community within the Haasts Bluff Aboriginal Land Trust in south-western NT.

Access to the project area is via the Stuart Highway, 20 km north of Alice Springs, then northwest along the Tanami Road for approximately 118km to Kintore Road. The project area is approximately 195 km west along Kintore Road passing the communities of Papunya and Mount Liebig (Figure 1). No roads access the tenement south of the Kintore Road and off-road travel is only possible through cleared heritage corridors nominated by Central Land Council.
Figure 1: Tenement access map showing relative positions of tenement with Alice Springs.
Figure 2: Tenement Location Map
1.2 Tenement Details

The tenement was granted, on 11 September 2007. Exploration activities over the tenement were governed by the negotiated Deed of Exploration with the Central Land Council on behalf of the traditional Aboriginal owners.

In March 2012, Castile Resources Pty Ltd, a wholly owned subsidiary of Westgold Resources Limited agreed to enter into a joint venture agreement with Lassact Pty Ltd to explore the tenements of the Warumpi Project and had the right to earn up to 80% equity in the project. To date Castile has passed all stages of the agreement and has earned up to the 80% equity, resulting in the transfer of the title to Castile Resources.

Castile was notified in December 2014 by the NT DME that under new tenement guidelines, EL6861 was too large and a formal split request was issued. As a result a new tenement was formed, EL30306. This tenement was surrendered in 2016 and the work completed on that portion of the original EL6861 was reported to the DME in 2016 and is not included in this report.

Table 1: Tenement Details

<table>
<thead>
<tr>
<th>Lease</th>
<th>Project</th>
<th>Granted Area</th>
<th>Grant Date</th>
<th>Surrender Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL6861</td>
<td>Warumpi</td>
<td>246 Blocks</td>
<td>11-Sep-07</td>
<td>18-Sep-17</td>
</tr>
</tbody>
</table>

2 GEOLOGY

2.1 Regional Geology

The Warumpi Project lies within the Western Spring area, which is entirely located in the Warumpi Province. This area was in the past considered to be the southern margins of the Arunta Inlier. It wasn’t until 1999 when the NTGS processed high resolution aeromagnetic data over central Australia that the Warumpi Province was identified 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 Provence produced dates ranging from 1690-1610 Ma giving further evidence that the Warumpi 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 (1640-1630Ma).

Two high grade domains dominate the Warumpi Project area of the Warumpi Province; The Yaya Domain; located in the northern portion, which covers approximately 75% of EL6861 and the Haasts Bluff Domain located in the south, accounting for the southern portion of EL6861. The Yaya Domain (1660-1640 Ma) 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 (1690-1660 Ma) consists of rhyolitic volcanic, metasedimentary schists, amphibolites, orthogneiss, and various suites of granitoid intrusive.
The Yaya Domain (1660-1640Ma) consists dominantly of high grade metamorphic migmatites intruded by voluminous felsic and mafic rocks of the Walwiga Suite (1640-1630Ma) conformably overlain by the Yaya Metamorphic Complex (1660-1650). The Yaya Metamorphic Complex is composed of four stratigraphic units:

**Spears Metamorphics** Generally mapped in the east portion of the Warumpi Province, although observed throughout the Mount Liebig area. They consist of augen gneisses, felsic gneisses, metapelites, and amphibolites.

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

**Alkipi Metamorphics** Mapped throughout the eastern portion of the Warumpi Province and not seen on the project area. They consist dominantly of homogenous quartz-rich metasediments.

**Liesler Metamorphics** Forms low rounded outcrops and bolders near the Davenport Hills in the far west Yaya Metamorphic Complex and consists of metapelitic migmatites.

The Haasts Bluff Domain (1690-1660Ma) makes up the southern portion of the Warumpi Province in the project area and contains 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 metamorphic event during the Liebig Orogeny (1640-1635Ma) affected the region while the Iwupataka metamorphics were unconformably being deposited.

Numerous 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 psammitic layers.

**Nguman Metamorphics** Lower Amphibolite metasedimentary rocks near the Mount Rennie area composed of biotite muscovite schists and minor mafic amphibolites.
The Amadeus Basin (850-350Ma) makes up the remaining portion of the Warumpi Project constituting the southern boundary of the Warumpi province and comprises the youngest rocks within the project area. The basin is an east west trending elongated basin covering approximately 170,000km². The basin margins are well defined to the north and south by igneous and metamorphic rocks of the Musgrave and Warumpi Provinces. The stratigraphy reflects a basal Upper Proterozoic succession of shelf, lagoonal, continental, and shallow marine sediments including carbonates and evaporates overlain by Cambrian-Ordovician marine sediments - all unconformably overlain by continental Devonian-Carboniferous sediments (Ozimic et al, 1986).

2.2 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 porphoritic biotite granites from the Gunbarrel Granite and Ehrenberg Granite to migmatites and metasedimentary rocks of the Yaya Metamorphic Complex. The Nguman Metamorphics 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 Kuwalki 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, however with limited outcrop, it is hard to be sure what the features are. These intrusions are focused within or near dilational zones observed in the regional structures interpreted off the airborne magnetics.
Figure 4: EL6861 Local Geology
2.3 Exploration History

Limited to no mineral exploration has been completed throughout the region due to its relative inaccessibility, harsh arid environment, lack of water sources and poor grazing conditions.

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

3 MINERALISATION AND POTENTIAL

No reported occurrences of any mineralisation have been recorded on the tenement.

The Warumpi province is considered to have high potential, based upon prospective rock types and structural settings. This potential is supported by the newly defined bedrock ages, 1690-1610Ma, which are similar to the Broken Hill Block (1690), Mount Isa Block (1654) and McArthur River Basin (1640) which all host world class orebodies.

Additionally, a major crustal feature, the Central Australian Suture Zone dissects the local geology and dips gently to the south separating the Warumpi Province from the Arunta Inlier. This collisional boundary, which is interpreted to be Grenvillian in architecture, can be traced through areas near AngloGold’s Tropicana deposit, through to Albany, separating the South Australian Craton from the North and West Australia Cratons. This crustal-scale suture and its associated sub-parallel secondary structures could potentially significantly aid in the transportation and localisation of mineralised fluids as seen at Tropicana. Further, the clockwise rotation of this collision (Figure 5), folding and shearing seen throughout the Warumpi area have the potential to create dilatational zones which again aid in focusing and localising mineralised fluids (Aitken and Betts, 2008). These are characteristic of the right ingredients and plumbing that is seen in AngloGold’s Tropicana model (Figure 6).

Figure 5: High resolution Magnetics of Australia with the reconstruction of the collisions between the WAC/NAC and the SAC (Aitken and Betts, 2008)
WORK COMPLETED

2007 – 2011

The initial stages of work on EL6861 consisted of a data review, desktop studies on mineralisation and structural models (as detailed in the geological description above) and on the acquisition and re-processing of public domain remote sensing data.

2012

EL6861 was the focus of Castile’s exploration program within the Warumpi Province in 2012. Initial reconnaissance of the tenement occurred shortly after the heads of agreement with Lassact was signed in March 2012. Over approximately four days Castile collected rock and lag samples over areas of interest to help establish baseline levels as well as to determine the effectiveness of the sampling medium and technique used.

After the results of the initial field trip were assessed in July 2012 Castile commenced a systematic sampling program over the tenement. Regional lag samples were collected along a 1km x 1km grid. Structural zones and anomalous areas from the work in March were sampled at 500m x 500m. By the end of the reporting period on 10 September 2012, Castile was still working in the field and had collected 333 lag samples and 94 rock chip samples.

2013

In 2013 Castile completed the field soil and log sampling campaign commenced in 2012 as well as two additional campaigns. In total 3,148 lag samples, 222 rock chip and 219 soil samples were collected over various locations throughout the tenement in 2012 and 2013, highlighting multiple areas of interest for both precious and base metals.

In addition, reprocessing of high resolution satellite imagery over all tenements in the reporting group was completed.

2014

Based on the results from 2013, additional infill soil and regional lag sampling was completed in EL6861 during 2014. A total of 54 additional lag samples, 6 rock-chip
samples and 428 soil samples were collected with the aim of following-up previous anomalous lag samples with a more robust and less dispersive sampling method to advance each prospect to the next phase of systematic exploration. Figure 7 shows the distribution of sample points at the completion of the surface sample programs in 2014.

**2015 -2017**

During the period from 2015 until the surrender of EL6861 the focus of field work shifted to other targets within the project and work on EL6861 concentrated on assessment of the results of the regional and follow-up sampling campaigns. A number of targets showed promise. An Exploration Mine Management Plan for the Warumpi Project was approved during this time which would have allowed drilling to be undertaken at multiple prospects. Detailed assessment of the targets was undertaken, but justification to move to a drilling phase could not be found. The decision was taken in 2017 to surrender the tenement.
Figure 7: EL6861 Surface Sample Distribution
5 RESULTS

Initially the orientation samples from the tenement were analysed by Genalysis for Au by fusion and flame AAS, and for a multi-element suite by 4-acid ICPMS/ICPOES. From September 2012 the samples were processed by ALS in Alice Springs and analysed for a similar set of elements and methods, except that Au was now determined by fire-assay.

The results of the regional lag sampling and rock chip sampling identified several areas for follow-up work, typically involving soil sampling over the anomalous areas. These are identified by name in Figure 7 and the significant targets are discussed individually below.

Nickel Hill

The region around the Ni Hill prospect was recognised through regional sampling and hammer prospecting which returned rock chip values of up to 1.6% Ni. Infill lag sampling was then conducted at a spacing of 250m x 250m which further defined the mineralisation and led to the recognition of a layered mafic complex with associated weathering products throughout the area (Figure 8). It appears that mineralisation is primarily confined to the weathering products of the intrusive ultramafic rocks in the form of Fe oxides and minor limonite.

![Ni in Lag Sampling Throughout the Ni Hill Region](image)

A small soil sample program around the Ni Hill region was completed in 2014 as a wider orientation study throughout the project to determine the effectiveness of soil sampling compared to the more dispersive lag technique. The sampling was conducted at a spacing of 200m and lines were orientated through the region of highest anomalous lag results. Figure 9 shows the results and illustrates how the soils more closely define the potential limonite mineralisation throughout the area. A detailed sampling program was also completed in the south over an east west structure with elevated Au in lag sampling. However, this work did not return any anomalous results.
Figure 9: Ni in soil sampling over the Ni Hill region. Note the difference between the Ni in Lag contours and soil results (refer to Figure 7 for prospect location)
Nyx Prospect

Anomalous nickel and elevated cobalt were also encountered at the Nyx Prospect in the central-west portion of EL6861 and subsequently followed up with infill lag sampling similar to that of the Ni Hill Prospect (Figure 10). This work significantly aided in the understanding of the area. The cause was identified and it was shown that the anomalous nickel and cobalt mineralisation was confined to a highly weathered ultramafic intrusion with zones of concentrated manganese (29% in rock chip samples).

Figure 10: Cobalt and Nickel in Lag Sampling Throughout the Nyx Prospect

The anomalous nickel and elevated cobalt was followed-up in 2014 with a short soil sample program over the strongest anomaly outlined in the previous lag sampling (Figure 11). The soil samples were once again able to more closely define the limonite mineralisation in the area. The elevated values are most likely related to an east-west intruding ultramafic unit observed in regional magnetics.
The final area of base metal interest highlighted by regional sampling during the period was focused around an intruding gabbro-norite in the northwest portion of the tenement. The intrusion was interpreted by the NTGS as a part of the western extents of the Papunya Intrusive Complex which is considered to be sulphur saturated and have potential for Ni/Cu/PGE mineralisation. Infill lag sampling was carried out, but access for rock chip sampling was limited due to a heritage exclusion zone encompassing the outcropping intrusion. Several elevated Ni/Cu results were returned from lag samples of weathered products in the region associated with the intrusion (Figure 12). However, no sulphides or oxide material was encountered during sampling.

Figure 11: Ni in soils over the Nyx prospect over regional 1vd magnetics. Note the dispersive nature of the lag sampling compared to the soils (refer to Figure 7 for prospect location)
Two detailed soil lines with samples spaced 50m apart were completed in 2014 to test anomalous Cu in lag sampling near the outcrop. Several elevated Cu results returned from soils samples on the western side were not duplicated on the east. Increased aeolian cover was found in the east and anomalous lag samples are most likely sheet wash from the gabbro-norite outcrop nearby (Figure 13).

Figure 12: Copper and Nickel in Lag Sampling Throughout the Luna Prospect
Gold Hill

The Warumpi Province is dissected by multiple, deep, crustal-scale faults and secondary structures displace the underlying geology and deposit significant amounts of silica in the form of large outcropping quartz veins and reefs. The potential for these deep-seated structures to mobilise mineralising fluids into the surrounding country rock remains high and are the exploration priority for Castile. Several zones returned weak gold anomalies and were highlighted for follow up work. One in particular was located near an old prospecting region referred as “Gold Hill” which returned anomalous gold results over a strike of approximately 1km (Figure 14). The area is characterised by an intrusive charnockite with cross-cutting NNE and E-W structures. Sand dune development is observed in the vicinity of the anomaly.

Figure 13: Copper results in two north south soils line through 250 x 250m lag zone at the Luna prospect (refer to Figure 7 for prospect location)
The area was followed-up in 2014 with a detailed soil program with discouraging results, which may be due the presence of aeolian cover (Figure 15).

Figure 15: Results from soil program through anomalous lag region of Gold Hill.
ENVIRONMENTAL / REHABILITATION

No environmental rehabilitation was required during the period of tenure as no ground-disturbing work was undertaken.

CONCLUSION AND RECOMMENDATIONS

EL6861 lies on the northern portion of the Warumpi Province stretching over 27km east west along the prospective collisional boundary of the Proterozoic gneisses of the Yaya domain to the south and metamorphosed quartzites and pelites of the Arunta Inlier to the north. Regional magnetics throughout the tenement outline a major crustal scale structure interpreted as the Central Bore Suture Zone, a major collisional boundary that is Grenvillian in architecture, striking east west through the northern portion of the tenement.

Systematic regional sampling throughout the tenement and detailed follow-up programs including prospecting along primary and secondary structures associated with the collisional boundary did not locate targets worthy of further work. Castile has now focused its exploration efforts on other regions throughout the Warumpi Province and has opted to surrender this tenement.

REFERENCES


COPYRIGHT

This document and its content are the copyright of Castile Resources Pty Ltd. The document has been written by Peter D. Wilson for submission to the Northern Territory Department of Mines and Energy as part of the tenement reporting requirements as per Regulation 126 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.

I authorize the department to copy and distribute the report and associated data.
Appendix 1: Surface Sample Geochemistry

Please see “Appendix 1” folder