

**SURRENDER REPORT FOR THE PERIOD TO**  
**5<sup>TH</sup> August 2012**  
**BRIDPORT EXPLORATION LICENCE**  
**EL 10/2008**

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## **ABSTRACT**

EL 10/2008 Bridport was granted on 16th December 2008 .

It is 118sqkm in area and was claimed to explore for the potential for heavy mineral sands ,particularly cassiterite, zircon, illmenite, rutile, monazite, gold, and gemstones (topaz ,sapphire, ruby etc).

*Work during the tenure period (16-12-2008 to 5-08-2012) comprised ;*

- **research** of previous exploration data
- **interpretation of Processed Landsat Imagery** (with emphasis on the features peculiar to paleo strand lines was attempted).  
Consultants Geotech International processed the MRT geophysical data and highlighted a number of encouraging anomalies that could well be related to blind heavy mineral concentrations.
- **Ground reconnaissance** on the tenement evaluated the surface expression of interpreted buried strandline. Considering the disturbed nature of the area heavies have been recovered from several sites.
- Published radiometric and magnetic imagery was utilized to find evidence of relationship between current landform and botany and underlying marine strandlines and paleostructure.
- **Interpretation of Google Imagery** to recover and/construct new geological maps beneficial to further reinforcing the presence of blind paleo heavy mineral strands
- **construction of near surface basement maps** of the project area utilizing Geoscience Australia-NASA "World Wide Wind" imagery (ternary radiometrics,Th,U,K,U2/Th,Dose Rate, Magnetics , Gravity , "Hill Shade" Satellite Imagery ) ;
  - at regional and project scales and

- with various drapes ..... to deduce the subsurface topography

It has been found that the current landuse has severely affected the botanical environment and spectral signatures such that there is little perceived relationship between these and the underlying geology-geography deduced from MRT geophysics.



However, further research of historical exploration data does indicate the presence of mineral sands in various modern trap sites along the coastline .

Despite the fact that there seems to have been little ,if any, exploration in or around the interpreted paleostrand line areas interpreted by current work (south of the current coastline dune strands) there is strong evidence of white heavy minerals in sands discarded from agricultural drainage ditches (Report . file10-2008/ 2 ).

## **CONTENTS**

### **1.INTRODUCTION**

### **2.REVIEW OF PREVIOUS WORK**

### **3.Regional Geology and Mineralisation**

### **4.EXPLORATION COMPLETED DURING the TOTAL TENURE PERIOD**

### **5.DISCUSSION OF RESULTS**

### **6.CONCLUSIONS**

### **7. ENVIRONMENTAL**

### **8.EXPENDITURE**

### **9.REFERENCES**

### **FIGURES**

## **1.INTRODUCTION**

**Exploration Rational** – see abstract

**Licence**

**Tenement Number EL10/2008**

**Beneficial Holder**

The Tenement was applied for by James Stewart. P.O.Box 7298,Karawarra,PERTH 6152.

**Area – figure 1a.**

The project area was encompassed by a 118 sq. km Exploration Licence, EL 10 / 2008.  
Specifically:

**Date of Grant** 16 / 12 / 2008

**Date of Expiry** 16 / 12 / 2013

**Surrendered** 5/ 08 / 2012

**Tenement Location**

The Bridport Project is located in north east Tasmania directly east of the Town of Bridport .

Access to the perimeter and northern segment of the project area is excellent. However, access to the southern part of the tenement is extremely limited . An all weather sealed road services the townships of

The Tenement is located over the land tenure known as private land, Crown land, Forest Reserve and State Forest.

## **2.REVIEW OF PREVIOUS WORK**

### **Prior to Current Tenement**

Regional auger drilling traverses proximal to the current coastline and adjacent strandlines- 1970 and 1989 (EL41/87 and EL40/87,EL5/70) .

- Auger drilling was sampled at 5ft intervals and HM concentrates obtained (SC1,ESC1,NB3,NB5,WH1-11,WH6-11 and WH 1-5).
- Other than HMC in current tidal flat ripples the auger samples returned from 0.28 to 1.4% total heavy minerals (eg. near the Great Forester River-Melaleuka Park, Anderson Bay, Noland bay, and Cape Portland).
- Cassiterite was not commonly reported but the work was shallow or surficial—mostly 5 to 25feet in depth.

Historical exploration (e.g. EL40-87 etc) for heavy mineral sands at Noland Bay, Barnbugle, and St Andrew has returned best drill hole results of 0.9 to 1.4% heavies in concentrates there was 5 to 15% rutile/zircon and traces of cassiterite and gold.

Reasonable exploration work was undertaken to the west and adjoining the tenement by AngloAustralian Resources NL (EL38/94-Nabowla).Most of their work comprised seeking basement gold deposits in the East Denison Goldfield where a 12km long belt of anomalism and historical workings trend into the town of Bridport itself.

Likewise to the east a Goldfield flanks the current tenement.

Thus the two areas may have supplied potential sources for alluvial gold into the paleo marine embayment now covered by Quaternary sands of EL10/2008??

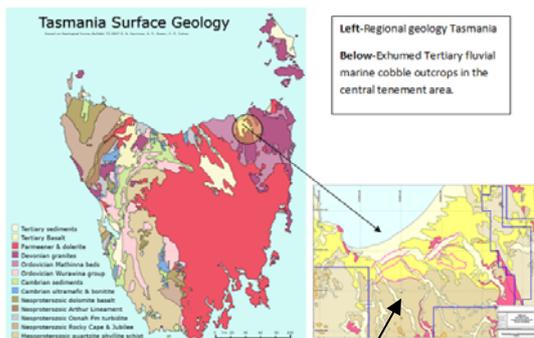
Examination of the work of Van Diemen and other s to the south illustrate an interpretation that the ancestral Ringarooma River (which drains the Stanniferous Blue Tier and Mt Cameron batholiths –massifs ) may have

passed adjacent to and west of Mt Cameron debouching into the paleo marine embayment (the southern tip of EL10/2008). They interpreted potential large HMC sources under cover to the west of Endurance and Pioneer. By implication, this contention supports the concept of potential for new cassiterite deposits in the shallowly covered paleo marine embayment.

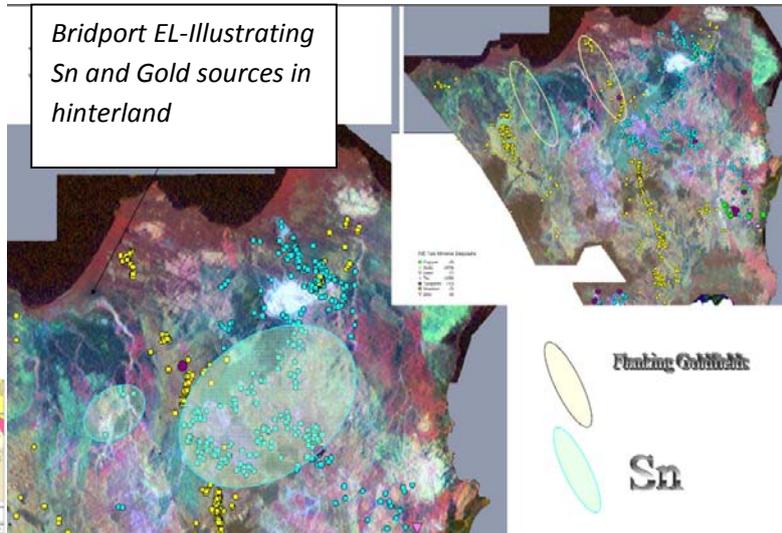
In the Jerusalem Plains area drilling (Tasmanian Geological Survey 1951) indicated a large body of calcium carbonate. At that time there was strong interest in developing a lime source for agricultural purposes initial resource of 0.4 million tonnes grading 36% CaCO<sub>3</sub>. There is no evidence that modern exploration examined the Bridport area for heavy mineral sands except within the corridor adjacent to the current coastline.



### **3. Regional Geology and Mineralisation**



*Bridport EL-Illustrating Sn and Gold sources in hinterland*



In the project area the lithologies are dominated by Tertiary fluvial and high energy marine sediments (brown and yellow on above map).

Field Reconnaissance located lithified alluvial and marine sands-conglomerates on low lying scarps in the central part of the tenement (illustrated above).

To the south and SE are Devonian aged “granitic” basement rocks (which are the sources of significant cassiterite deposits and a number of rare earth prospects south of the tenement boundary (Frontier Resources ([www.frontierresources.com](http://www.frontierresources.com))) and Silurian-Devonian sediments.

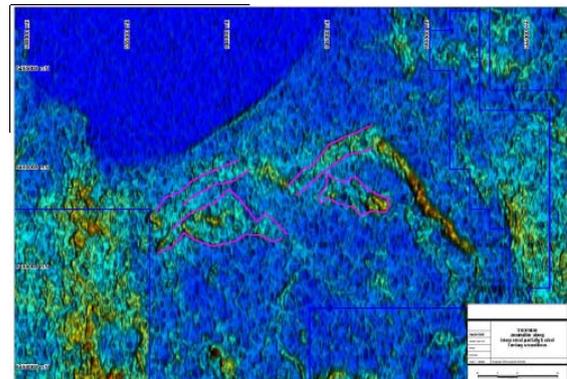
#### **4.EXPLORATION COMPLETED DURING THE TOTAL TENURE PERIOD**

*Work during the tenure period (16-12-2008 to 5-08-2012) comprised ;*

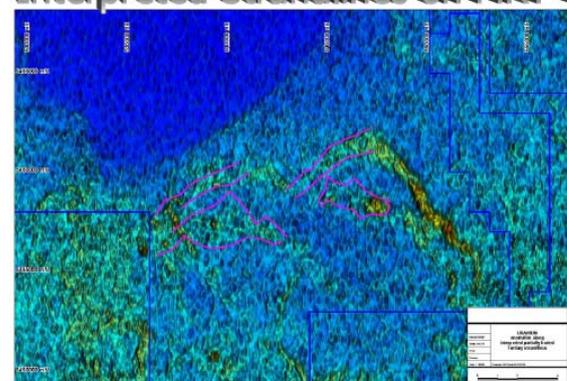
- **research of previous exploration data** - See 2009 Annual Report.
- interpretation of Processed Landsat Imagery.

- Published **radiometric and magnetic imagery** was utilized to find evidence of relationship between current landform and botany and underlying marine strandlines and paleostructure.

Consultants Geotech International **processed the MRT geophysical data** and highlighted a number of encouraging anomalies that could well be related to blind heavy mineral concentrations.



**Bridport EL10-2008**  
**Interpreted Strandlines on MRT Tenement**



- **Ground reconnaissance** on the tenement evaluated the surface expression of interpreted buried strandline and assessed the landuse and assess potential.



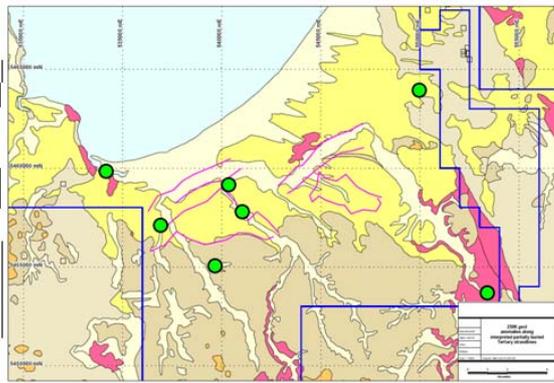
Examination of sites representative of the uranium and thorium anomalies and field examination for evidence of HMC and potential sampling sites.

Selected sites are shown on figure 1-Report 10-2008/2.

Sites descriptions are included in figure 2 to 5 and tables 1 to 3. Report 10-2008/2

	Recon. Site No		
BP1-GTFRSWRD1	SITE 4	552434	5455747
BP2	SITE 3	539268	5459664
BP3	SITE 3	539803	5459510

Preliminary reconnaissance was conducted over parts of the project area. Stream trap sites (e.g. Great Forester River etc) and several sandy (organics rich fine sand, pebbly conglomerate etc) agricultural drainage channels were panned in the field. Several crude concentrate samples were submitted to a specialist petrological consultant- for BP1-GTRSWRD1 to BP3 were submitted in previous report No 10-2008/2.



● Reconnaissance Sites, on Geotech ER- Mapper U2/Th anomalies and Geology



Current Excavated Drainage Channel .Sample piles comprising pebbly sand and black organic fine loose sand.

- Considering the disturbed nature of the area heavies have been recovered from several sites.

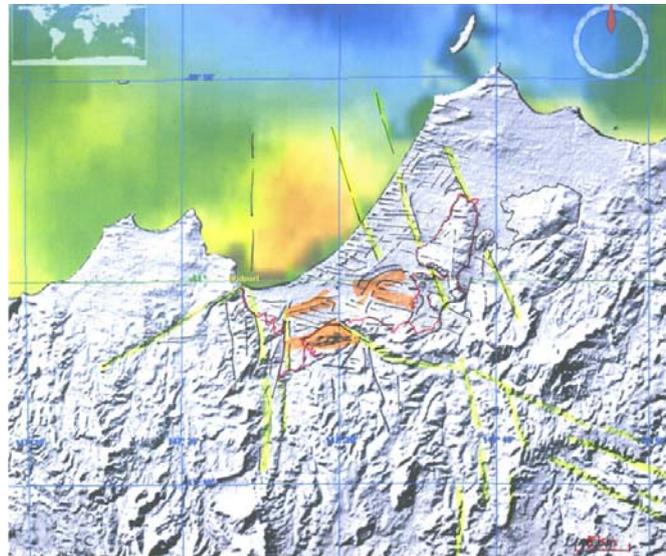
- **Interpretation of Google Imagery to recover** and/construct new geological maps beneficial to further reinforcing the presence of blind paleo heavy mineral strands.

Google earth was examined in fine detail for spectral features identified in the Landsat Imagery.

- **construction of near surface basement maps** of the project area utilizing **Geoscience Australia-NASA “World Wide Wind” imagery** (ternary radiometrics,Th,U,K,U2/Th,Dose Rate, Magnetics , Gravity , “Hill Shade” Satellite Imagery ) ;
  - at regional and project scales and
  - with various drapes ..... to deduce the subsurface topography

Analysis of the Geoscience Australia –NASA World Wide Web GIS assessed-selected drapes included below;

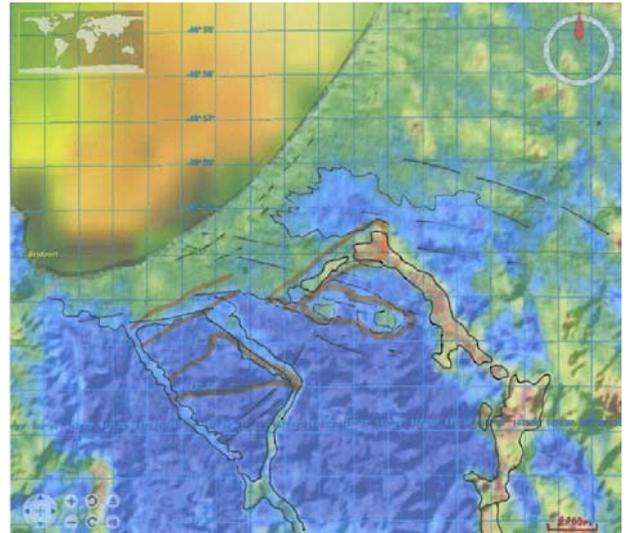
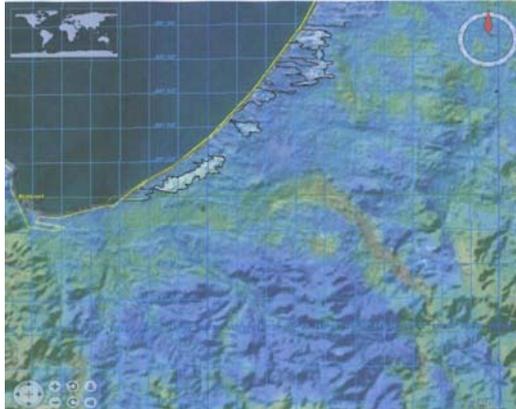
- the project area is within a NNW facing arcuate current and paleoembayment. Significant N-S trending gravity lineaments bound the interpreted anomalous paleostrands (orange).Bar scale 5km..



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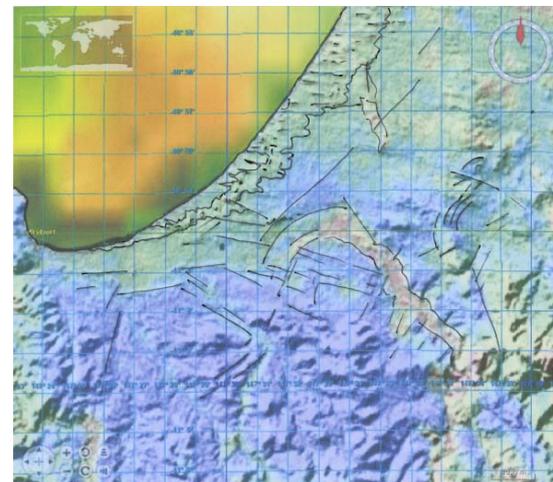
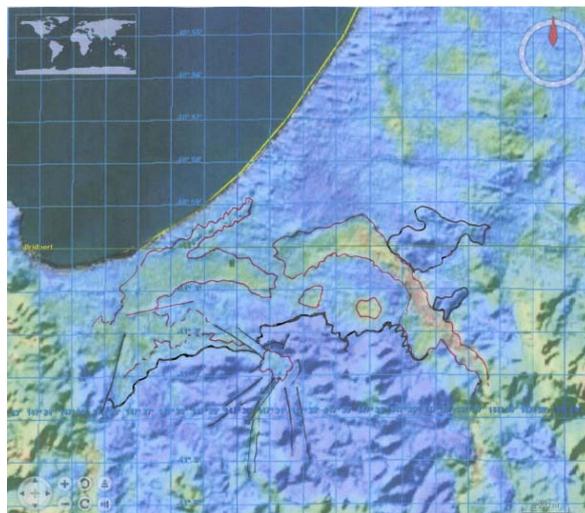
- K-radiometrics with a 40% Hill Shade (bar scale 2km)

- Dose Rate" draped on 40% Hill Shade

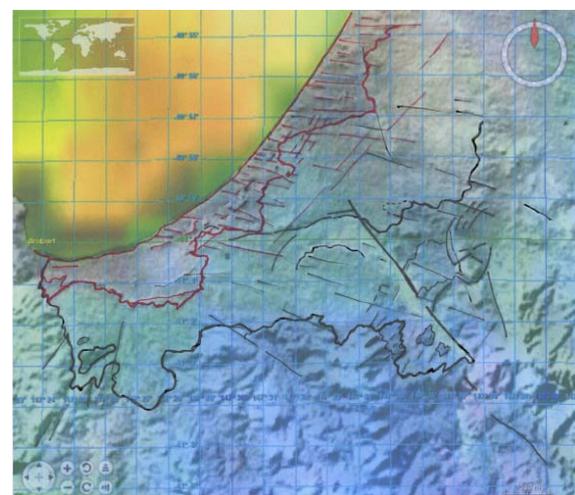


- Potassium radiometrics on 75% Hill Shade

- Total Radioactive Dose on 62% Hill Shade



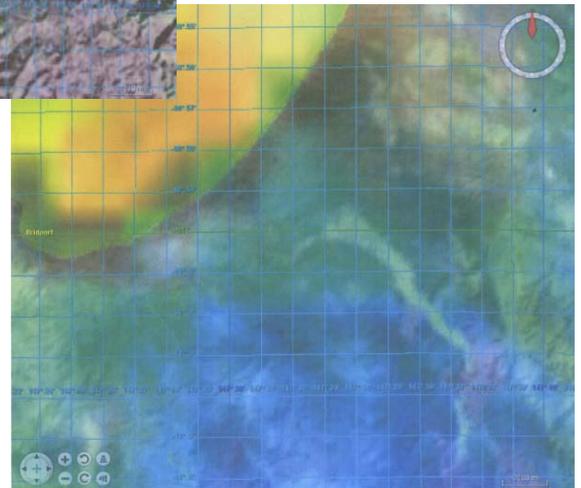
- Ternary Radiometrics on 40% Hill Shade



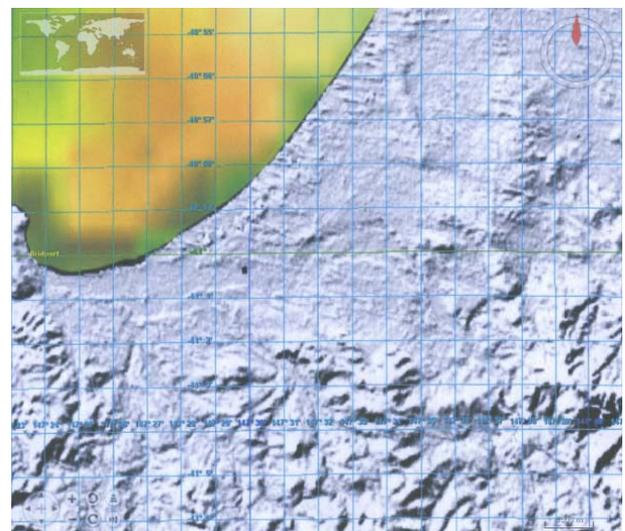
- Ux2/Th on a 40% Hill Shade



- Ternary Radiometrics and 10% Hill Shade on Gravity (the Great Forester River is prominent in the radiometric abundance.



- "Hill Shade" on gravity. Note the two prominent circular features .



- Building upon the modern MRT geophysics (see file10-2008/ 1 and file10-2008/ 2 ) ,and in the absence of drill ,seismic, and shallow EM data, there is

a suggestion that the lower half of the Exploration License contains shallower than expected basement ?

In contrast the “Hill Shade” technique seems to indicate two (5km diameter) circular features which may be topographic remnants of paleoshoreline embayment’s .There is textural contrast within these circular features ,which if correct, may represent additional basement barriers and thus trap sites.

The interpreted radiometric anomalies (file 10-2008) are all aligned mostly E-W at the leading edge of this 10km wide basement position.

Utilizing the geophysical drapes from World Geoscience it is possible to narrow down the most prospective portions of the Licence ,where the proposed anomalies have previously been interpreted.

## **5.DISCUSSION OF RESULTS**

Exploration by the tenure holder and consultants has had moderate success in an area that seems not have been previously tested for paleostrand lines buried under shallow to moderate cover .

A prerequisite to any proposed shallow drilling programme would be geophysics to model the higher ranking anomalies—which seem to be weak at this stage.

The tenement area lacks detailed geology, basement, structure ,and isopach data to enable a more effective targeting tool to follow up the hint of heavy mineral strands detected in processed radiometrics and limited ground reconnaissance.

## **6.CONCLUSIONS**

### **Recommendations and Proposed Future Exploration**

1. Further examination of sites representative of the uranium and thorium anomalies
2. Seeking Joint Venture assistance for detailed seismic to map the bar barriers etc
3. Possibly shallow churn or auger drilling to test the heavy mineral enrichment in suitable trap positions.

In the extended GFC market place there is little appetite for grassroots exploration .Attempts to attract a significant Joint Venture partner have faltered.

The area remains potential for hitherto unquantified heavy mineral sands ; particularly zircon, monazite and perhaps lesser cassiterite/gold etc.

## **7.ENVIRONMENT**

Surface Disturbing Operations: No surface disturbing operations conducted during the period.

Surveys; extensive literature exists for Landcare and Forestry Projects in the surrounding area. Public Information was assessed to determine possible environmental sensitivities (eg NE Coast Landcare Group-Waterhouse Region, Farm Forestry Programme 1997-2000 etc).

Rehabilitation; Not Applicable during the reporting period



## **8.EXPENDITURE**

Total Cumulative Expenditure for the term of Bridport EL 10/2008 is approximately \$215,900.

## **9.REFERENCES**

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