

**ANNUAL REPORT FOR THE PERIOD 16/12/2010**  
**TO 16/12/2011**  
**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).

Initial ground reconnaissance was undertaken to test for the presence of heavy minerals and follow-up several of the interpreted radiometric anomalies.

*Work during the annual period comprised ;*

- research of previous exploration data and interpretation of Processed Landsat Imagery and 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 ).

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## **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 is currently encompassed by a 118 sq. km Exploration Licence, EL 10 / 2008. Specifically:

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

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

**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.

Reporting Period is 16<sup>th</sup> December 2010 to 04<sup>th</sup> December 2011.

## **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 r 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.

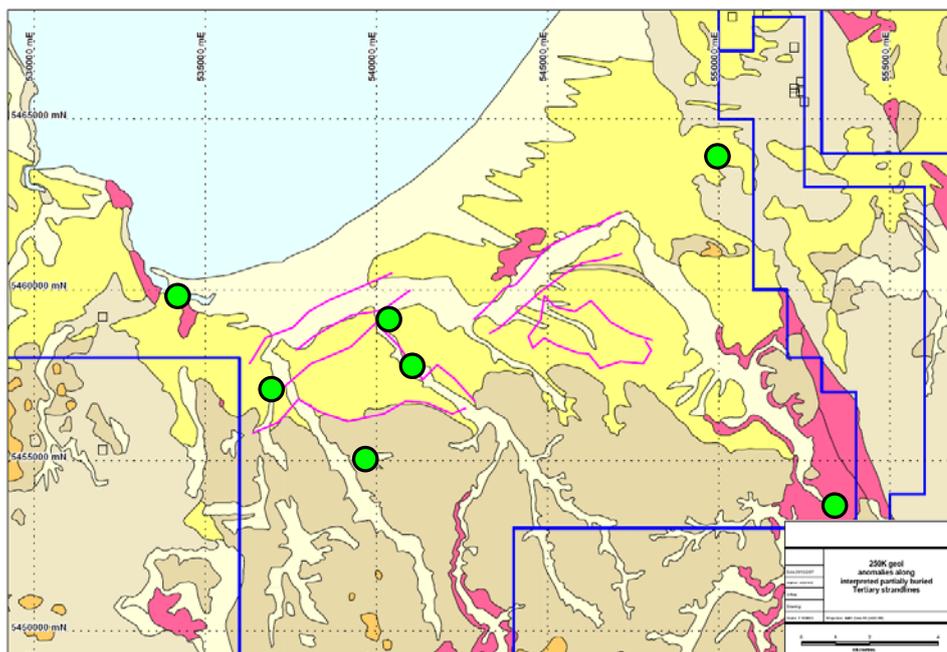


In the Jerusalem Plains area drilling (Tasmanian Geological Survey 1951) indicated a large body of calcium carbonate. At that time there was strong interest in developing a lime source for agricultural purposes initial resource of 0.4million tonnes grading 36%Ca CO<sub>3</sub>.

### **During Current Tenure**

1. Interpretation of MRT Radiometrics was completed by Geotech International.

ER-Mapper processing of MRT Radiometrics has delineated 4 broad radiometric features that geometrically indicate the presence of underlying HM concentrates on NE trending paleostrand lines. A number of strong radiometric anomalies are indicated and appear related to strong NNW and NE trending basement features.



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

2. 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.



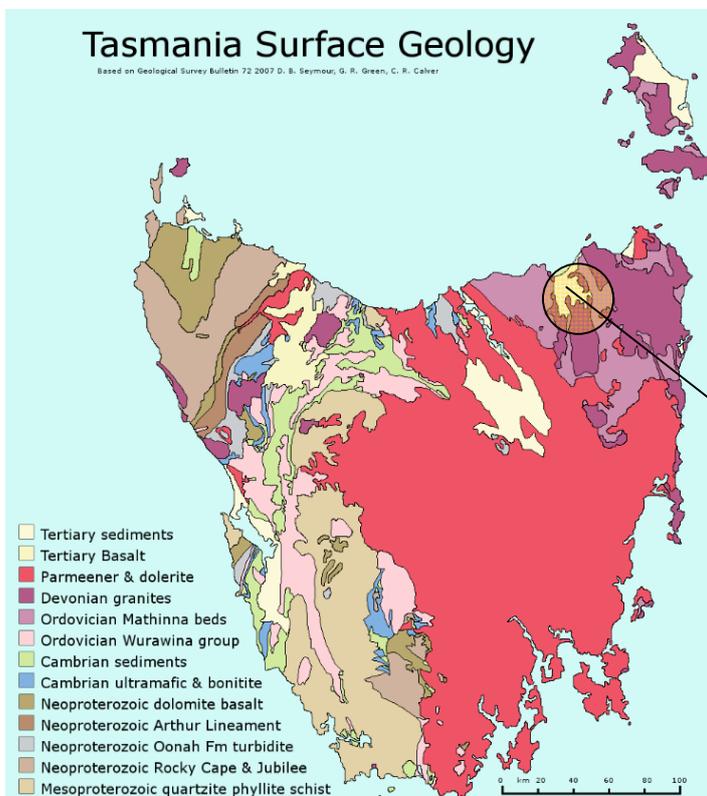
**Current Excavated Drainage Channel .Sample piles comprising pebbly sand and black organic fine loose sand.**



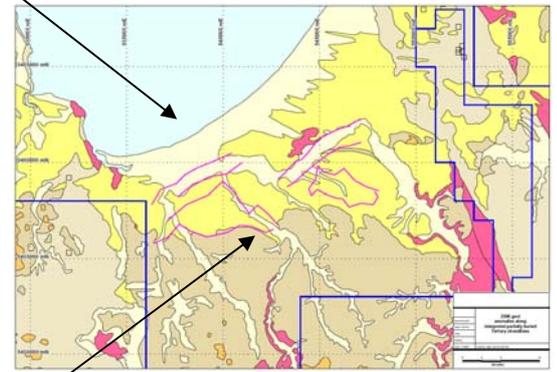
3. A detailed photo-structural analysis was attempted but has been found to be unviable due to the intense spectral signatures imposed by farming activity. Field reconnaissance shows that this activity has had a marked influence on hydrology and subsurface aquifers-old vegetation.

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

### 3.Regional Geology and Mineralisation



**Left**-Regional geology Tasmania  
**Below**-Exhumed Tertiary fluvial marine cobble outcrops in the central tenement area.



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

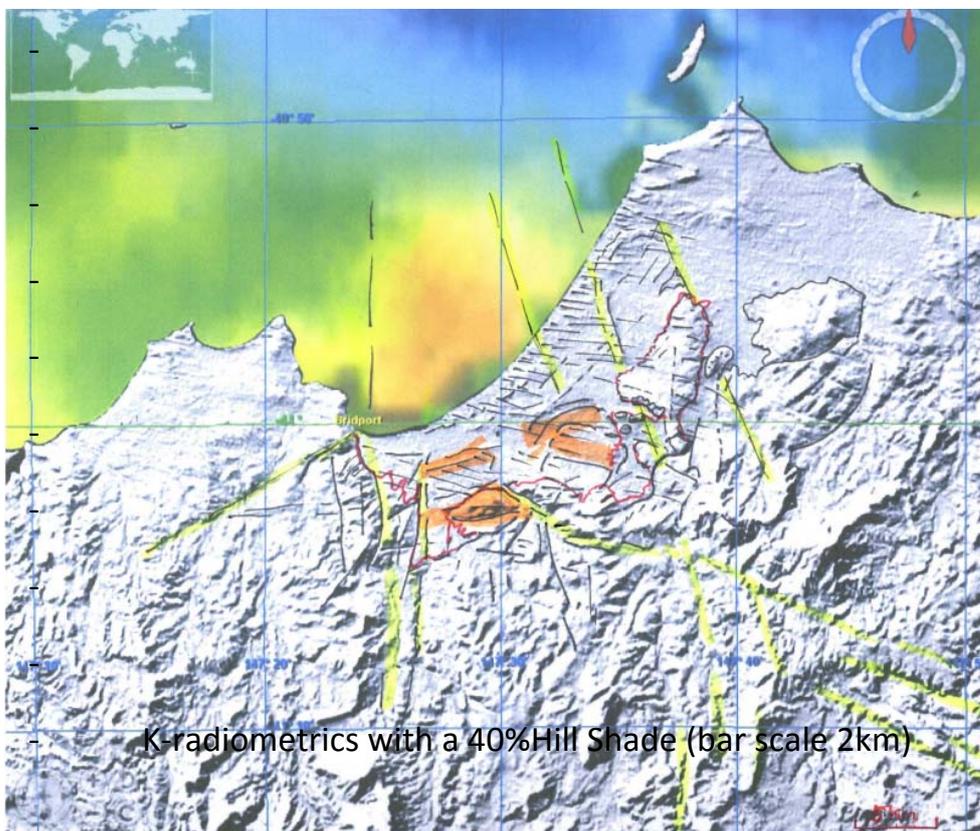
To the south and SE are Devonian aged “granitic” basement rocks (which are the sources of significant cassiterite deposits and a number of rare earth prospects south of the tenement boundary (Frontier Resources ([www.frontierresources.com](http://www.frontierresources.com))) and Silurian-Devonian sediments.

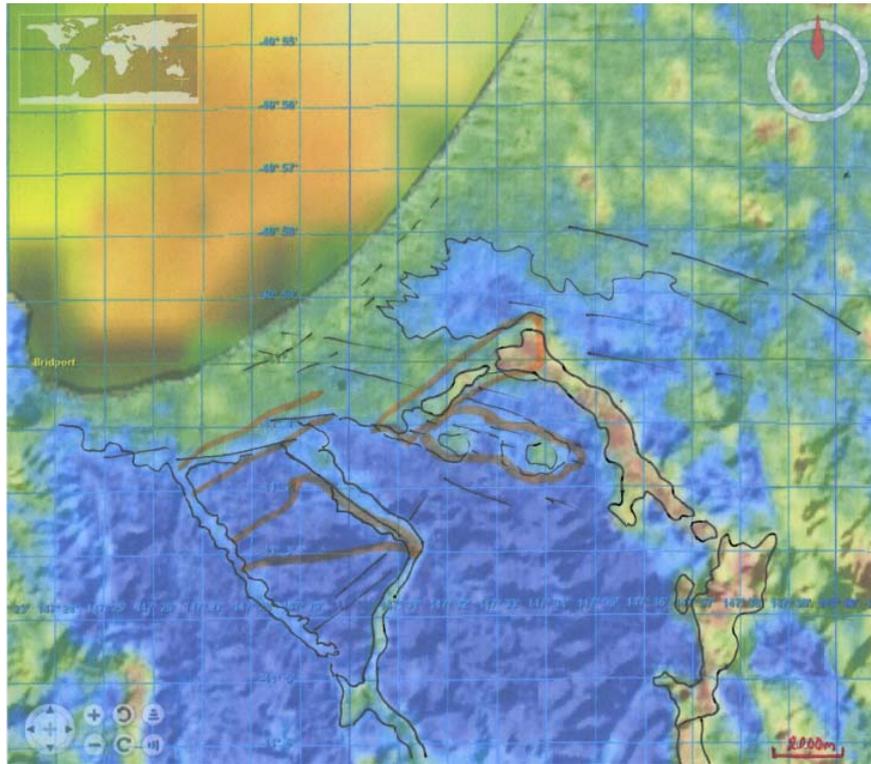
#### **4.EXPLORATION COMPLETED DURING CURRENT REPORT PERIOD**

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

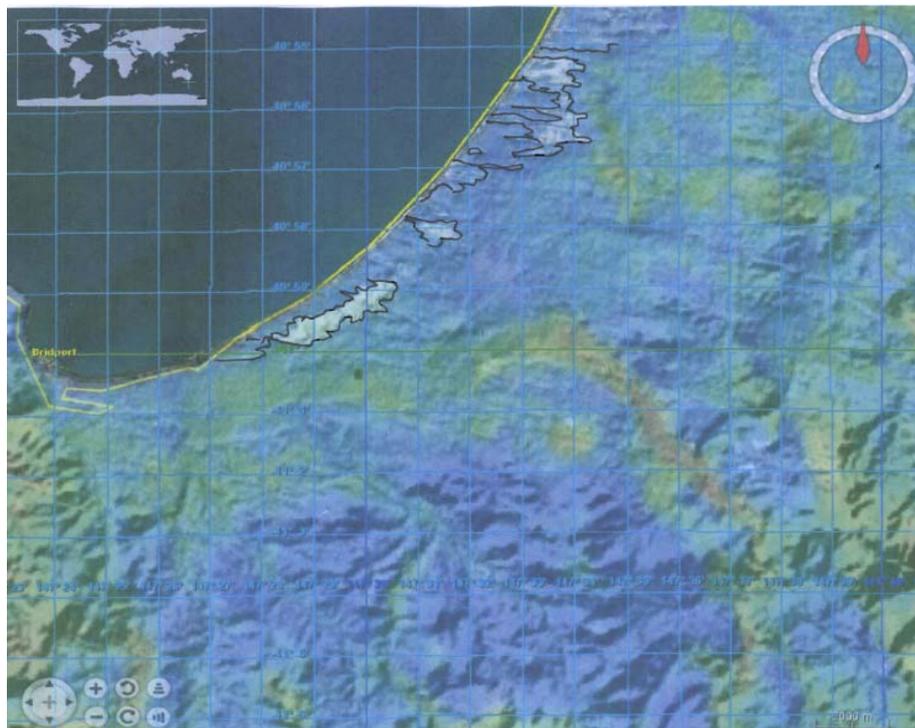
Analysis of the Geoscience Australia –NASA World Wide Web GIS assessed-selected drapes included below;

- 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..

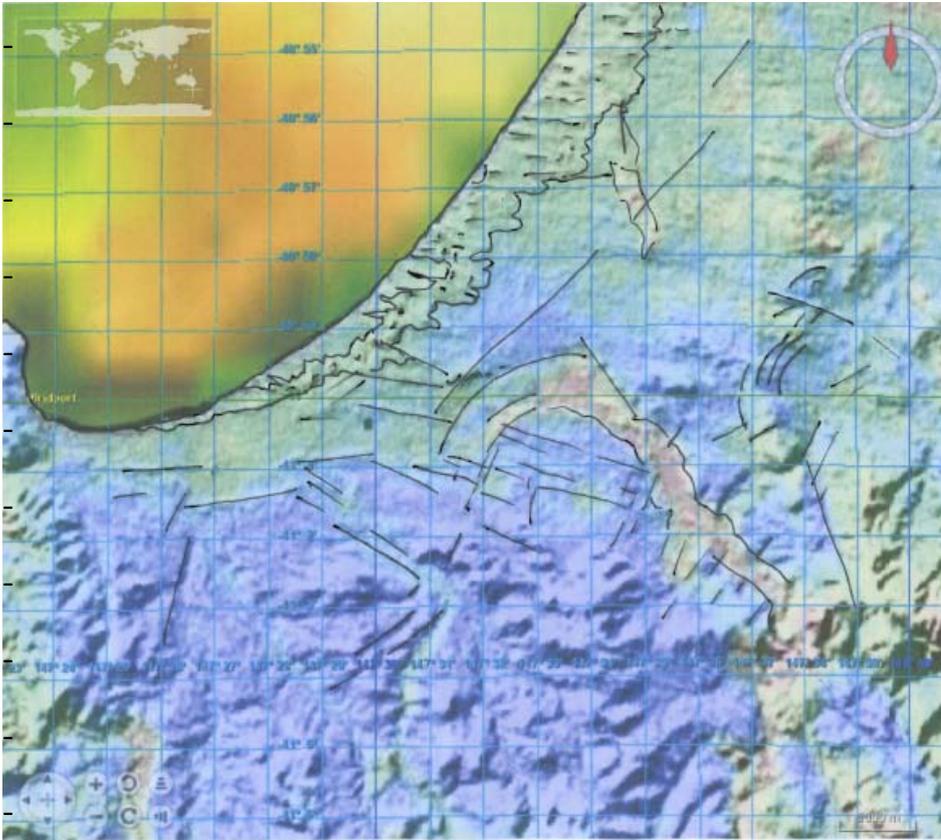




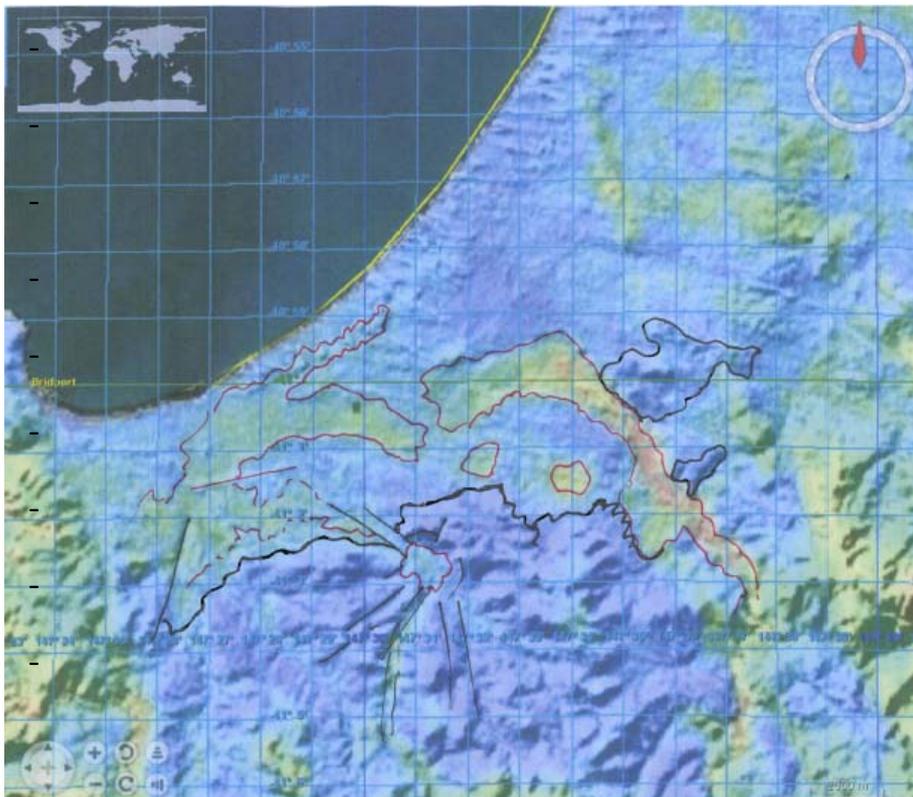
- 
- "Dose Rate" draped on 40% Hill Shade (long E-W striations are unexplained but are interpreted to be joint planes and recent Aeolian sand vestiges?)



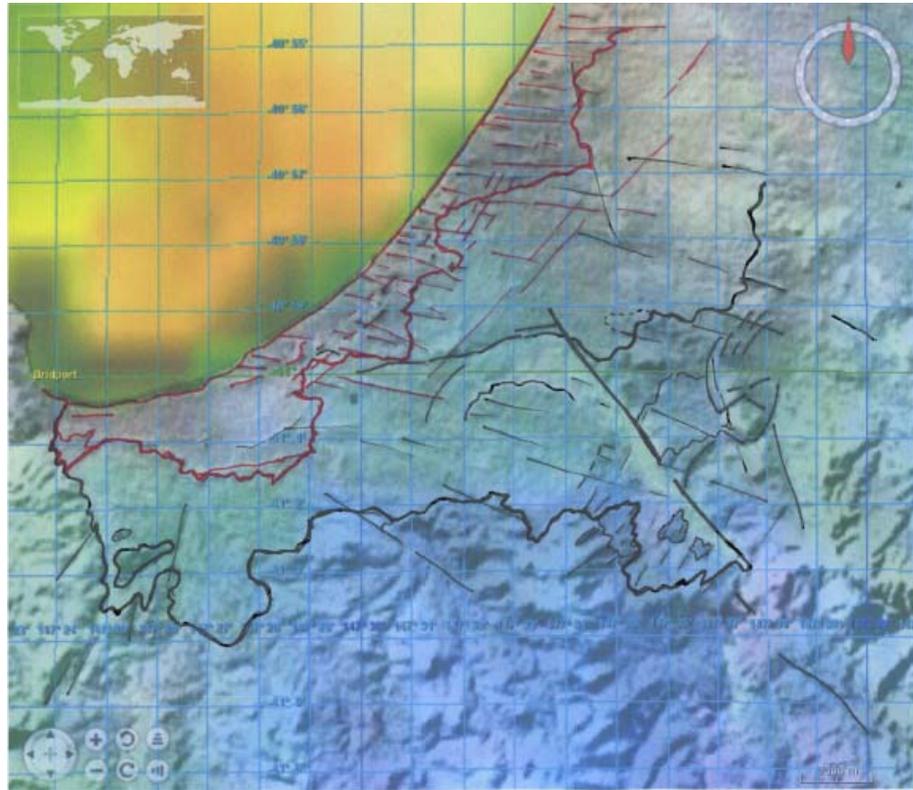
- Potassium radiometrics on 75% Hill Shade



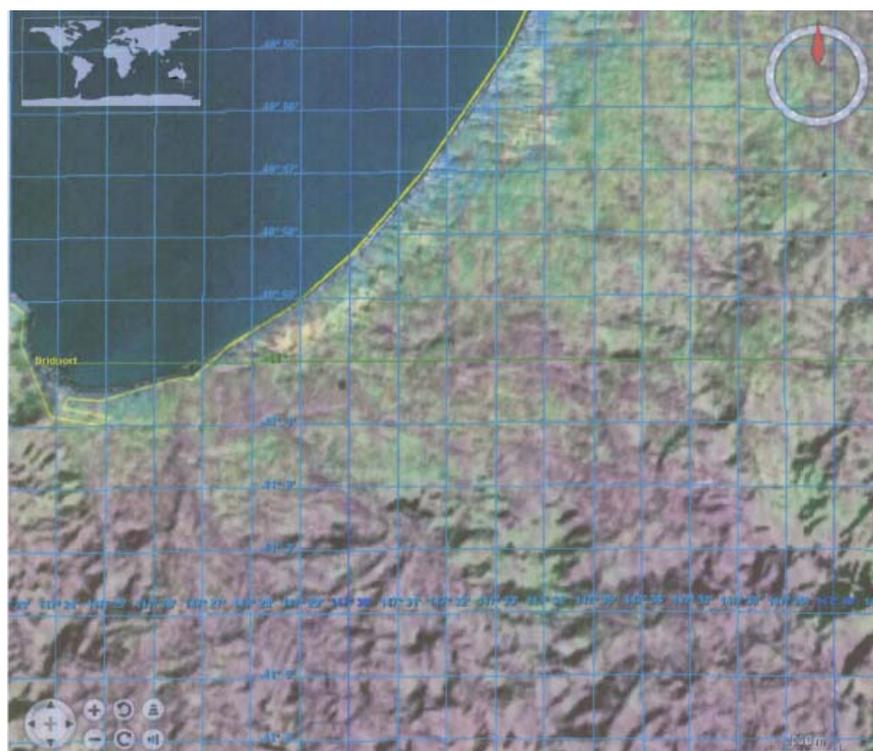
- Total Radioactive Dose on 62% Hill Shade



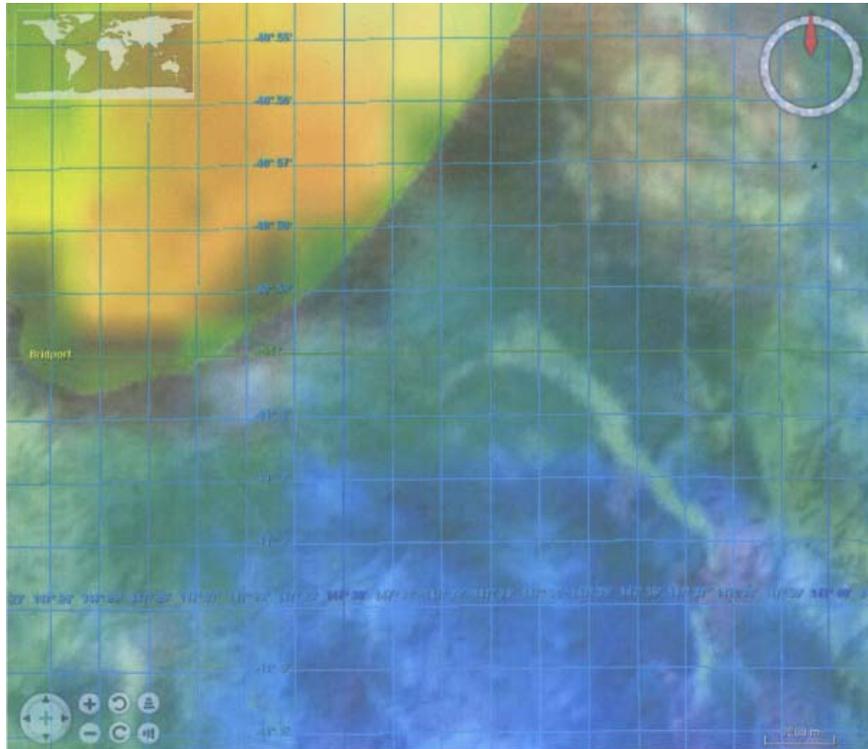
- Ternary Radiometrics on 40% Hill Shade (possible Quaternary sands and partially exhumed underlying marine sediments VS consolidated basement ? –joint pattern)



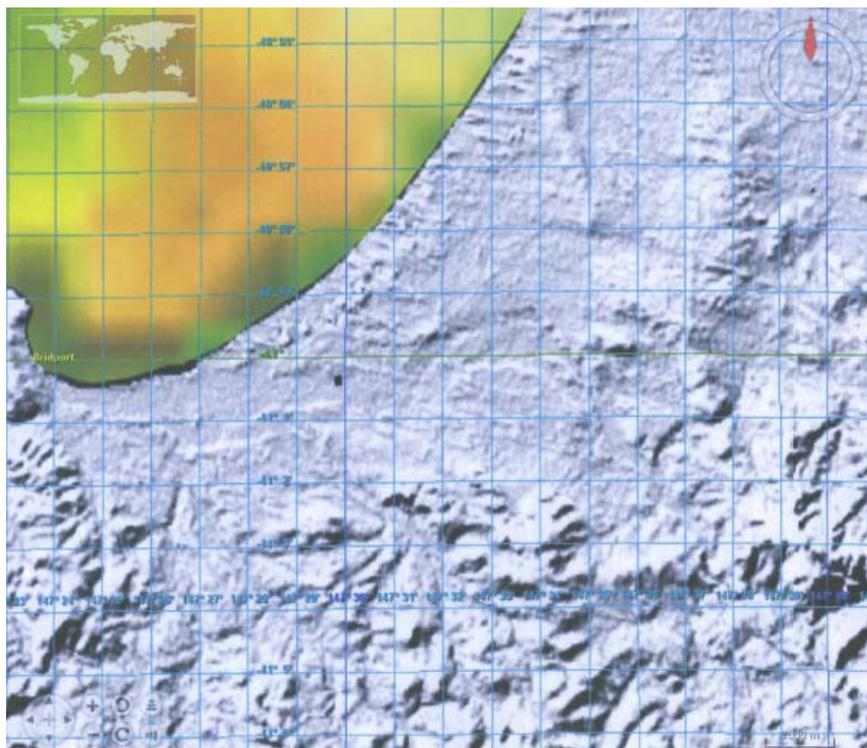
- Ux2/Th on a 40% Hill Shade



- 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 .



## **Prospect based exploration Activities**

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 embayments. 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.

## **5.DISCUSSION OF RESULTS**

Utilising 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.

Consequently part of the Exploration Licence can be surrendered forthwith .

## **6.CONCLUSIONS**

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

- 1.Further examination of sites representative of the uranium and thorium anomalies. Panning of surficial materials may again provide evidence of buried heavy mineral bearing Strand Lines.
- 2.Seeking Joint Venture assistance for detailed seismic to map the barriers etc
- 3.Possibly shallow churn or auger drilling to test the heavy mineral enrichment in suitable trap positions.

## 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**

<b>PERIOD 16<sup>th</sup> Dec-2010 to 16<sup>th</sup> Nov.2011.</b>	
<b>1.GEOSCIENTIFIC COSTS</b>	
	26630
<b>2.DRILLING AND GRIDDING COSTS</b>	
<b>3.LAND ACCESS COSTS</b>	1000
<b>4 REHABILITATION COSTS</b>	
<b>5 FEASIBILITY STUDY COSTS</b>	
<b>6.OTHER COSTS</b>	13198
<b>7.ADMINISTRATION COSTS</b>	0
	1315
<b>8 TOTAL COSTS</b>	33843
<b>Admin.</b>	2626
	<b>36469</b>

## **9.REFERENCES**