

**BARNES HILL WEST PROJECT  
TASMANIA  
EL 53/2008**

ANNUAL REPORT  
28<sup>TH</sup> APRIL 2009 TO 27<sup>TH</sup> APRIL 2010

**Tenement Holder/Manager**  
Proto Resources & Investments Ltd

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**Distribution:** Mineral Resources Tasmania  
Proto Resources & Investments Ltd

**Note: All figures and grids are according to the GDA94 datum and MGA94 grid system.**

## **SUMMARY**

The Barnes Hill West Project (EL53/2008) is located in northern Tasmania, 10km west of the township of Beaconsfield. The exploration licence covers an area of 44km<sup>2</sup>.

The exploration licence was applied for to explore for nickel laterite mineralisation in ultramafic rocks of the Cambrian Andersons Creek Ultramafic Complex and also to explore for copper-gold mineral deposits in Proterozoic rocks of the Oonah formation.

During the reporting period geological reconnaissance trips were undertaken to the areas of mapped Anderson Creek Complex ultramafics and also to the historic Pandora Copper Mine. Two rock chip samples were taken at the Pandora Copper Mine and at the time of reporting these assay results were still pending.

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## **1 INTRODUCTION**

The Barnes Hill West Project is located in northern Tasmania approximately 10km west of the township of Beaconsfield. Proto Resources & Investments Ltd holds the adjoining exploration licence EL17/2006 to the east which contains the Barnes Hill Project with known nickel laterite resources of 12.1 Mt @ 0.83% nickel & 0.07% cobalt.

## **2 TENEMENT DETAILS**

The Barnes Hill West Project on Exploration Licence 53/2008 covers an area of 44km<sup>2</sup> and was granted on 28<sup>th</sup> April 2009 for a period of five years. A mining lease application number 1872P/M by Proto Resources & Investments Ltd overlies a small portion of the Barnes Hill West Project area.

## **3 LOCATION AND ACCESS**

The Barnes Hill West EL53/2008 licence is located approximately 35km north of Launceston and 10km west of Beaconsfield near the Tamar River in northern Tasmania (Figure 1).

The Barnes Hill West tenement can be accessed via a number of gazetted roads on the western side of the Tamar River including Tattersall's Roads and Coppermine Road.

A wide range of infrastructure and heavy industry occurs in the district including the nearby Beaconsfield Gold mining operation, the Bell Bay Power Station, the Temco Magnesium Refinery and the Bell Bay Alumina Refinery. The area also has deep water port facilities at Bell Bay and Beauty Point along with rail facilities. The regional City of Launceston has a population of over 90 thousand people and offers all the services of a major regional city including airport, university and advanced engineering facilities.

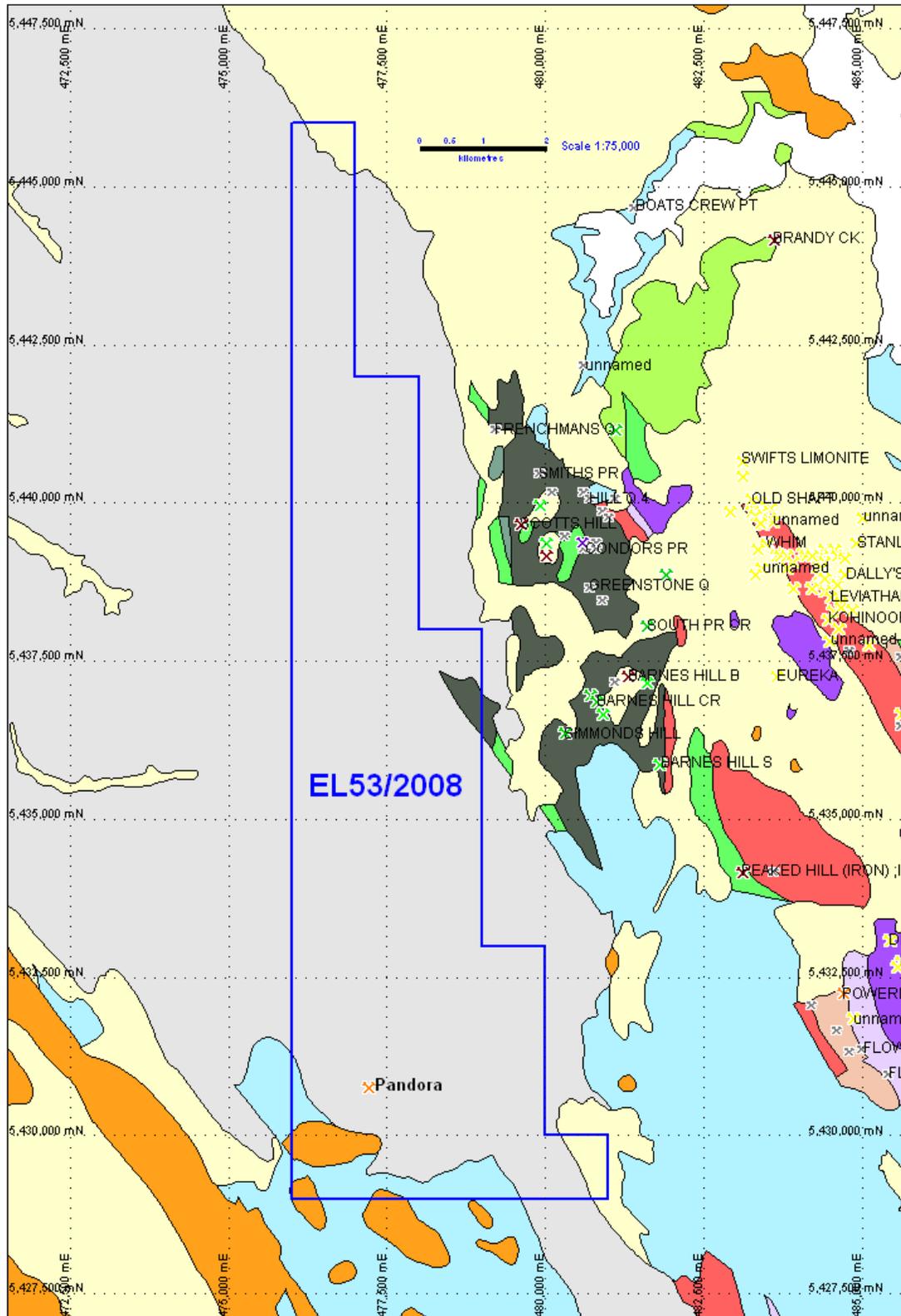
## **4 GEOLOGICAL SETTING**

The Barnes Hill West Project occurs in the Badger Head region of northern Tasmania, an important structural location, considered to be the area in which the Tamar Fracture System separates the western and eastern Tasmanian terrains. The area has a complex nature, a result of thrusting during the Devonian and later normal faulting in the Jurassic and Tertiary.

The geology of the Barnes Hill West Project area is dominated by Proterozoic sedimentary rocks of the Oonah Formation (Figure 2). A small portion of the Cambrian Andersons Creek Ultramafic Complex is mapped on the eastern side of the licence area. The Andersons Creek Ultramafic Complex is considered to be a thrust slice. The airborne magnetic data over the area is dominated by the response of the Anderson Creek Ultramafic Complex with much of the surrounding geology having only subtle responses. Sediments of the Permian to Carboniferous Lower Parmeener Super Group along with Jurassic dolerite are mapped in the southwest corner of the licence.



Figure 1 Location Diagram.



**Figure 2** Geology of the Barnes Hill West EL53/2008 licence area. Onah Formation in grey. Andersons Creek Ultramafic Complex in green. Lower Parmeener Super Group in blue. Jurassic dolerite in orange.

## **5 EXPLORATION HISTORY**

A review of previous exploration on the Barnes Hill West licence and the significant findings of previous work is still underway. The area has though been explored previously. The main known mineral occurrence in the licence area is the Pandora Copper Mine which was mined on a small scale in the 1890's.

Explorers in the area have included:

- BHP Co Ltd who in 1967 undertook a regional drainage stream sediment survey.
- Geopeko Ltd who in 1983 undertook pan concentrate and stream sediment sampling.
- Beaconsfield Gold Mines Ltd between 1987 to 1989 undertook drainage surveys for gold.
- Resolute Ltd between 1996 to 1997 undertook follow-up gold drainage surveys.
- Gujarat NRE Resources NL (formerly Zelos) between 2006 to 2007 undertook literature reviews of previous exploration and geophysical interpretation and stream sediment surveys.

## **6 EXPLORATION COMPLETED**

Exploration completed during the reporting period included a review of historic exploration activity. This review is continuing. Exploration also included field trips and rock chip sampling.

### **6.1 Geological Reconnaissance**

The Barnes Hill West Project was acquired for two main reasons which were the occurrence of mapped ultramafic rocks in the area and thus perceived potential for nickel laterite style mineralisation and secondly because of the presence of the historic Pandora Copper Mine in the area (Figure 2).

A field trip was undertaken to the area of mapped Andersons Creek Ultramafic Complex. No outcropping rocks were found but the soil was dark red to brown and had similarities to the soils further east in the region of the Barnes Hill nickel deposit.

A field trip was also undertaken to try to locate the Pandora Copper Mine workings. The workings at Pandora in the form of an adit and a shaft were found in the base of a creek named Copper Mine Creek. The adit went in approximately 4m and was linked to a 4m deep shaft. The area was heavily vegetated.

### **6.2 Rock Chip Sampling**

Two rock chip samples numbered BHWR01 and BHWR02 were taken at the Pandora Copper Mine workings. Both samples are of mudstone with pyritic quartz vein material.

The samples were submitted to ALS Laboratories in Adelaide for multi-element analysis. At the time of reporting assay results had not been received.

Further information on the rock chip samples is provided in Appendix A.

## 7 EXPENDITURE

Expenditure from 28<sup>th</sup> April 2009 to 27<sup>th</sup> April 2010 is tabulated below for the Barnes Hill West EL53/2008 exploration licence.

**Table 1 Expenditure 28 April 2009 to 27 April 2010.**

	<b>Apr-09 to Apr-10</b>
<b>Administration</b>	\$190
<b>Geology – Data Compilation/Reporting</b>	\$1,500
<b>Geology – Field Trips</b>	\$2,250
<b>TOTAL - ELIGIBLE</b>	<b>\$3,940</b>

## 8 PROPOSED EXPLORATION

A variety of activities are proposed to be undertaken at the Barnes Hill West Project in the coming term including:

- Further compilation of historical exploration data
- Geological mapping and soil sampling
  - Andersons Creek Ultramafic nickel target
  - Oonah formation copper-gold targets
- Possible aircore or RC drill testing of soil sampling anomalies or structural targets

**APPENDIX A**  
**ROCK CHIP SAMPLING DATA**