

# **ZZ** EXPLORATION<sub>Pty Ltd</sub>

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**Zeehan Mineral Field  
Exploration Licence 30-2002  
Part-relinquishment Report**

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**Appendix 1** Ochre Australia., 2003. Investigation of geophysical and image data over the Zeehan field. Unpublished Report.

**Appendix 2** Aerial photography flown November 2003

**Appendix 3** Structural air photo interpretation

**Appendix 4** Location sketch map and available of EL20/2002

## **Introduction**

The relinquished area of Exploration Licence 30/2002 (EL 30/2002) covers a total of 4.87 square kilometres is located directly west of Zeehan, western Tasmania (Figure 1, Appendix 4). ZZ Exploration is a wholly owned subsidiary of Zeehan Zinc Limited, and holds 100% exploration rights to EL30/2002.

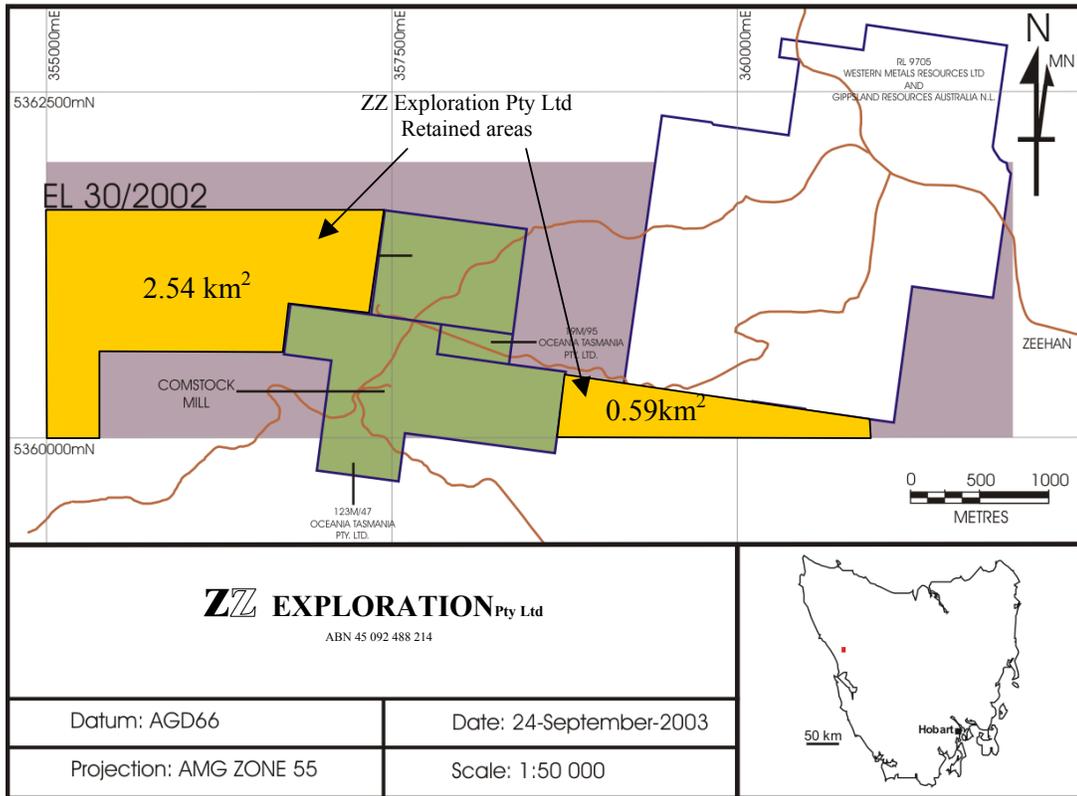
The main access to EL30/2002 is via Trial Harbour Road and a 4WD is required to negotiate the numerous partially overgrown former tramways that cross the area. EL30/2002 is dominated by flat open button grass plains, rolling hills, swamps, tea-tree scrubland and dense eucalyptus regrowth. The latter is particularly dense along creek beds and in other low-lying areas.

This report covers the period from January 2003 to June 2004. Work completed over the relinquished areas during this period includes:

- 1) Collation and review of existing datasets
- 2) Preliminary investigation of geophysical, image, company and map data to determine a) areas of greater significance for future exploration b) prioritise ground held under EL30/2002 and c) facilitate decisions regarding future possible relinquishments (Appendix 1).
- 3) Structural air photo interpretation (Appendix 3)
- 4) Aerial photography flown November 2003 (Appendix 4).

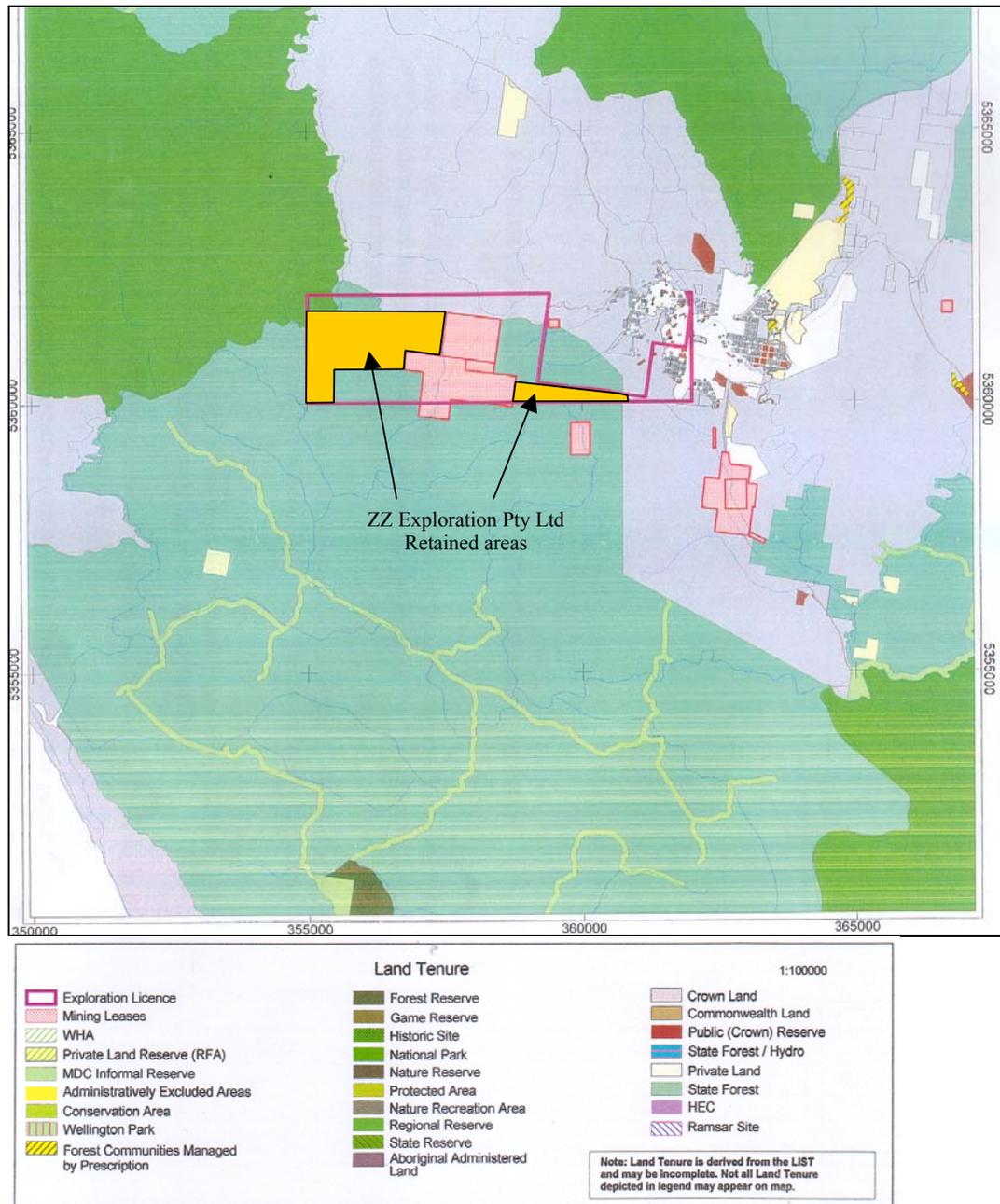
ZZ Exploration has focused on finding minable extensions of the known Devonian granite-related deposits extending from the Comstock Mining Leases, as well as deposits of similar and/or litho-stratigraphic position.

Location



**Figure 1.** Original area (EL30/2002) issued to ZZ Exploration = 8km<sup>2</sup> (combined purple and yellow areas). **purple** = EL30/2002 surrendered by ZZ Exploration Pty. Ltd (4.87km<sup>2</sup>); **yellow** = area retained by ZZ Exploration (3.13km<sup>2</sup>) **green** = ML's 123M/47, 19M/95, 43M/85 held by Oceania Tasmania Pty. Ltd.; **white** with blue outline = RL 9705 held by Western Metals Resources and Gippsland Resources Australia N.L.; **red** = roads and tramways).

Tenure



**Figure 2.** Land Tenure within and around EL30/2002. The area to be retained by ZZ Exploration is represented by the yellow area (3.13 km<sup>2</sup>).

## **Exploration Objectives**

The principal commodities sought by ZZ Exploration within the relinquished areas of EL30/2002 (Figures 1 & 2) was zinc, lead and silver. ZZ Exploration focussed on exploring for small (<0.5Mt) to large-scale (>100Mt) economic resources based on previously identified anomalies. The exploration program included the search for carbonate-hosted metallic minerals of possible Devonian granite-related origin (similar to those located on the Comstock mining leases) and Ordovician Irish-type (such as Oceana deposit).

## **Previous Exploration and Mining**

A review of previous mining and exploration is documented in Farrell (2001), Taylor, (1993) and Crossing (1992).

## **Geology**

### Regional Geology

EL30/2002 is geologically complex. It is dominated by deformed turbidites, carbonates and volcanics of the Neoproterozoic Oonah Formation. Sediments and volcanics of the Crimson Creek Formation and Dundas Group occupy the central and eastern portions; while gabbros, basalt flows and massive serpentinite of the McIvor Hill Complex (bounded by the Tenth Legion Fault) crop out in the SW portion of EL30/2002. Siluro-Devonian sediments of the Zeehan Sub-basin including the Crotty Quartzite, Amber Slate, Keel Quartzite, Austral Creek Siltstone, Florence Quartzite and Bell Shale are exposed in the eastern portion of EL30/2002. An ENE-trending Devonian granitoid spine associated with the Heemskirk Granite is shown to extend beneath EL30/2002 (Leaman & Richardson, 1989). The regional geology is described in Farrell (2001), Taylor (1993), Crossing (1992) and Blissett (1962).

## **Work Completed January 2003 – December 2004**

### Review

ZZ Exploration's program has focussed on 1) open file search and compilation of newly acquired data and models into coherent maps and sections, and 2) review of regional and localised magnetic, electromagnetic and gravity anomalies identified from data collation to evaluate the base-metal priority target definition potential.

### Regional exploration activities

#### *Newly acquired aerial photography*

An aerial survey (Appendix 2) was commissioned by ZZ Exploration to be flown over EL30/2002 at 1:12000 during November 2003. This was completed in conjunction with a regional survey (Zeehan area) conducted by the Department of Primary Industry, Water and Environment. The photographs will be used to evaluate conditions of tracks, vegetation growth, and geological mapping.

#### *Structural air photo interpretation*

EL30/2002 is traversed by a series of NW-WNW trending faults including the Tenth Legion, Balstrup, Bendall's and Sylvester Faults, which have been interpreted to be major fluid conduits for the Comstock massive sulfide deposits. A series of unnamed NW-WNW and NE-NNE trending faults have been identified through field mapping and as lineaments on aerial photographs (1984 aerial photograph) (Appendix 3).

#### *Consultant geophysical review (EL30/2002)*

In December 2003, ZZ Exploration commissioned Ochre Australia Pty. Ltd. to complete a Phase 1: 'Image Processing and Target generation' map over EL30/2002 (Appendix 1).

## **Results**

Refer to Appendix 1- 4

## **Environmental disturbance and rehabilitation**

Exploration over the relinquished area of EL30/2002 was environmentally low impact due to the existence of numerous sealed and unsealed roads and tracks. No rehabilitation work is required by ZZ Exploration.

## **Conclusions**

A review of previous data and evaluation of geophysical data by ZZE, believe the relinquished areas within EL30/2002 (Appendix 4) are of lowest priority for the development of an economic zinc-lead-silver deposit.

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