MINCOR ZINC PTY LTD
GEORGINA BASIN PROJECT

Combined Annual Report
EL25089, EL25090, EL25091, EL25092, EL25093, EL25094
and EL25143

2 October 2008 to 1 October 2009

22 October 2009
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1. ABSTRACT

The combined tenements currently comprising the Georgina Basin Project are EL25089 to EL25094 and EL25143, with the more recently granted EL26933, amount to nearly 9500 km². The project is located on the southern margin of the Georgina Basin, in which a succession of limestone, dolomite, calcareous sandstones, shales and arenites is highly prospective for MVT style Zn-pb deposits. In this reporting period, detailed high-level interpretation of the gravity data acquired in the previous period contributed to modelling of the 3-dimensional form and structure of the basin, numerical simulation of fluid flow activity, and identification of faults. This was completed by april 2009. Thereafter, more than 4 500 soil samples were collected and analysed using Ionic Leach and Ultra Trace ICPMS methods. The results have allowed identification of at least 4 target areas, each approximately 100 km² in extent, in which fertile fluid activity probably occurred in the fault zones. Further work involving grid soil sampling for Ionic Leach analysis, IP ground geophysics to assess the possibility of mineralisation in depth, and drilling of stratigraphic holes to determine the lithostratigraphic controls on possible mineralisation is planned.

2. INTRODUCTION

The Annual Reporting period for these tenements is 2 October to 1 October. The tenement schedule is given as Table 1 below.

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<th>Licence</th>
<th>Name</th>
<th>Grant</th>
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<th>Blocks</th>
<th>Commitment</th>
<th>Current</th>
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<td>Derry Downs</td>
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<td>1/10/2012</td>
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<td>$360,000</td>
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<tr>
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<td>Mt Teitkens</td>
<td>2/10/2006</td>
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<td><strong>$2,200,000</strong></td>
<td><strong>$895,875.</strong></td>
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</table>

*Table 1: Georgina Basin Project Tenement Schedule*

The current total expenditure for the Group is $895 875.00.

In the reporting period, exploration work completed involved the detailed interpretation of the new geophysical data to identify significant structural breaks or faults, completion of a preliminary 3-dimensional model of the southern Georgina Basin based partly on this work, numerical modelling of fluid flow within a simplified/empirical equivalents of this architecture, and soil chemistry studies to identify faults with a possible fertile history.
This investigation by the Mincor Zinc Pty Ltd – JOGMEC joint venture of the mineral potential of the southern Georgina Basin has developed with several advances on the regional and local characteristics of more than 9,000km$^2$ in tenements. Examination of this extensive area along the southern margin of the basin through geophysical modelling and geochemical assessment of the inferred structures has allowed identification of areas worthy of more detailed applications.

![Location map showing Georgina tenement block.](image)

Figure 1: Location map showing Georgina tenement block.

3. REGIONAL GEOLOGY

The Georgina Basin is a broad, northwest-southeast trending, intracratonic depression underlying an area of approximately 325,000km$^2$ in the Northern Territory and Queensland. Approximately 60 percent of the basin area (195,000km$^2$) lies within the Northern Territory (Figure 2). The present extent of the Georgina Basin is an erosional remnant of a much larger, early Palaeozoic sedimentary province that once covered much of central Australia. The basin is entirely confined by Palaeo- to NeoProterozoic metamorphic and igneous rocks. The southern and western limits of the Georgina Basin are Palaeoproterozoic metamorphic rocks of the Arunta Block, while it is bounded by the Mt Isa Block to the east, and to the north the basin extends as a thin sequence that overlies the Antrim Plateau Volcanics and the Proterozoic McArthur Basin.
As explained in the combined report for the 2007/2008 period, the basin contains prospective Cambrian to Ordovician marine sediments and Devonian continental sediments, with underlying Neoproterozoic (Vendian) deposits that are also locally prospective. This sedimentary sequence of the basin proper appears to have been neither metamorphosed nor intruded by igneous rocks.

Figure 2: The Centralian Superbasin and the component basins and the project area.

The recognised tectonic evolution of the basin has involved minor to moderate folding and faulting, particularly in the south and east, with folding, faulting and local overthrusting along the southern margin. Most of the deformation occurred during the Late Devonian to Early Carboniferous Alice Springs Orogeny.

4. LOCAL GEOLOGY

The project area and the geology of the Georgina Basin are shown in Figure 3. An outline of the stratigraphy and distribution of the sedimentary rocks in the present study area was provided in the previous report. The present project aims at identifying prospective areas in proximity to faults units, such as the platform/shelf deposits of the Arrinthrunga Formation and basal shale of the Arthur Creek Formation. The widely distributed soil chemistry survey may assist in identifying other prospective horizons.
Considerable faulting inferred in the present study represents three different principal orientations: northeast, northwest, and north-south trending. The age relations of these faults are uncertain as there appears to have been some reactivation. The earliest are likely to be the northwest trending faults, as these show apparent displacement by those trending northeast, while the north-south structures are indeterminate.

Figure 3: The geology of the Georgina Project area.

5. ABORIGINAL HERITAGE

Mincor Resources NL executed the final Exploration Deed (with the Central Land Council) in respect of the Georgina Project on 16 August 2007. In recognition of Aboriginal interests in the region, the Deed allows for Heritage Protection Protocols and Compensation for future ground disturbing exploration over the entire project area, irrespective of the presence of a Registered Native Title Claim.

Heritage clearances were obtained through CLC for the major activity in the reporting period: the soil sampling programme. A map of all the proposed sample sites was provided to CLC, who then delegated an anthropologist to consult with the traditional owners. The initial outcome was the denial of about 25% of the proposed sites, and an interim veto on another 20% for which no suitable aboriginal spokesperson was available. The resolution of the sites on hold was only partly resolved in August, when notification was received that work may proceed on the sample traverses in south western Lucy Creek, already too late in the year to allow completion of the current stage in the exploration process.

The veto requested by CLC on numerous traverses on Arapunya led to the proposal of alternative sites by Mincor Zinc, and subsequently an application for a
clearance survey of the area. This could not be achieved by the organisation and they could not provide any further information about sites in the area in question.

Although Mincor expressed a willingness to employ local indigenous labour for the project and 2 persons applied for work, they were unfortunately unable to satisfy the essential health standards of personnel employed in remote and difficult situations.

6. EXPLORATION

Results of the stream sediment project conducted in 2007/2008 (Figure 4, and provided on DVD as Georgina_Sed_cheMincor2008.xls) provided very low concentrations of Zn and Pb in the samples. Anomalies greater than 3 standard deviations from the average were recognised, particularly in the western part of EL25091, but no further work was undertaken because the concentrations of the metals were still very low (less than 100ppm).

Structural features were identified by processing of the geophysical data (Appendix 1), particularly the detailed gravity survey conducted by the Mincor in the previous reporting period. The breaks in geological continuity were identified using wavelet analysis of potential field data to look at the horizontal gradients at different continuation levels. This method of multiscale edge detection, commonly known as "worming", is an aid to identifying structural controls and the depth to anomalies. Calculation of the potential gradients at multiple levels allows recognition of the attitude of the edges, interpreted as the orientation of contacts or fault planes. The faults identified in this work are the main preliminary areas of interest for mineralisation potential (Figure 5).

The construction of a 3-Dimensional model of the basin (Appendix 2) involved an integration of the new geophysical data with all pertinent diamond drillhole logs and historical seismic traverses. It was found that much of the data are inconsistent with the architecture of the basin modelled in earlier work (Seebase). The 3D model is based on and closely matches the stratigraphic relations defined in the NTGS DIP007 report (Dunster et al., 2007). Numerical modelling of fluid flow, using petrophysical properties collected in the DIP007, and in conjunction with the 3D architecture and the stress orientations of the Alice Springs Orogeny, predicts mineralisation locii relative to lithostructural configurations for different strain orientations (Appendix 3). The DVD for this Appendix contains the html files for the Mincor Georgina Basin project, as updated at the end of April 2009, including both stage 1 and stage 2 results. The Appendix must be started using the file "Webhome.html" (in the “MincorZn_TWiki_April09” directory) and follow the links

Further constraints on this modelling are required to identify the faults in which there was activity of solutions enriched in the base metals, and whether any particular generation or orientation was favoured. This is being addressed through the chemical analysis of samples collected from 2-3 km long traverses across the fault zones inferred in the geophysical interpretation.
Figure 4: Sample sites for stream geochemistry study, principally of the Elkedra Shelf area. Samples were collected at stream confluences, sieved to the 80# to 200# fraction and analysed by 4 acid dissolution and ICPMS.
Figure 5: Detailed terrain corrected Bouguer filtered gravity image for the study area comprising new data obtained by helicopter supported ground measurements on the Mincor tenements, combined with NTGS and GA datasets.
Figure 6: Major faults in the Southern Georgina Basin identified by WORM analysis of detailed gravity data and modelled to conform with features in outcrop and from aeromagnetic interpretations.
Figure 7: The soil sample localities and Zn concentrations in the Mincor Georgina Basin project.
Fieldwork was undertaken during the 2008/2009 reporting period to collect more than 4,500 soil samples. These samples were subjected to Ionic Leach® to extract mobile ions, and the leachate was then analysed using ICPMS to detect ultra-trace concentrations of the elements. This work was done to identify whether or not any particular fault zone shows evidence of anomalous zinc and/or lead concentrations. Some traverses have indicated anomalous enrichment in Zn or Pb, thus providing possible target areas for detailed examination.

The target areas of interest are as follows (Figure 8):
- Tomahawk
- Putta Putta
- East Lucy Creek
- North Tarlton

No drilling was completed in the 2008/2009 period because it was decided to postpone this until completion of the soil survey. This survey was in turn delayed by the difficulty in obtaining clearance from the CLC.

7. CONCLUSIONS AND RECOMMENDATIONS

The highly conceptual Georgina Basin Project is generating targets within the > 9,000 km² tenement area on the grounds that numerical modelling of fluid flow in the modelled 3D geometry strongly contrains mineralisation potential to a close proximity to fault structures. A detailed gravity survey and sophisticated geological interpretation thereof has identified numerous structures with significant basement penetration. Soil chemistry studies using ionic leach and ultratrace analyses have identified particular faults as having a fertile fluid flow history. These are now being subjected to detailed study in 4 areas, where areas of approximately 100 km² will be sampled on 100 x 500 m grids for ultratrace concentrations of Zn, Pb, Ag, Pge, and Mn. If there are indications of anomalous sections along the fault zones, then Induced Polarization studies and diamond drilling will be carried out to determine the physical and geochemical characteristics of stratigraphic units will allow recognition of likely levels at which mineralisation may be generated by fluid flow through these structures.
Figure 8: Map of part of the Mincor Zinc tenements (heavy blue line outline) showing the areas of intended detailed study (highlighted in blue) and the areas to be relinquished (shaded grey).