

**May 2007**



**Annual Exploration Report**

**Retention Licence 5/1997**

**Period Ending June 2007**

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## 1 Location and Tenure

The Zeehan or Queen Hill tin deposit is located on retention licence RL 5/1997 on the outskirts of the town of Zeehan in Tasmania. The project is accessible by sealed roads and existing tracks. The licence is located on Crown Land and some Private Property.

The licence is held as a joint venture between Western Metals Limited and Gippsland Limited. Western Metals interest is derived from that companies acquisition of Aberfoyle Limited in the 1990's. Gippsland Limited have had an interest in the tenement for many years, originally as Gippsland Oil.

Western Metals holds a 60% interest which can be extended to 70% on completion of a Bankable Feasibility Study. Gippsland Limited holds a 40% interest and is free carried to Bankable Feasibility Study level. Western Metals is the project manager

## 2 Previous Work

Significant previous work has been conducted by various companies with Aberfoyle completing the majority. The deposit has had a significant amount of drilling conducted primarily on the Queen Hill lens with lessor drilling on the Montana and Severn lenses. These 3 lenses have had mineral resource estimates conducted. Some isolated intersections occur on other mineralised zones although these have not had sufficient to define a resource.

The reported resource was estimated by Aberfoyle in 1982 and is listed in Table 1.

**Table 1** Zeehan Resource Estimate (Aberfoyle 1982).

| Lens  | Category  | Million Tonnes | Sn (%)      | Cu (%) | Zn (%) | Pb (%) | Ag (g/t)    |
|---|-----------|----------------|-------------|--------|--------|--------|-------------|
| <b>Total mineralised Envelope (0.1% Sn cut off)</b> |           |                |             |        |        |        |             |
| Queen Hill  | Indicated | 1.8            | 0.82        | 0.08   | 0.45   | 0.77   | 33          |
| Severn  | Inferred  | 5.1            | 0.6         | -      | -      | -      | -           |
| Montana   | Inferred  | 0.4            | 1.22        | 0.02   | 2      | 1.41   | 51          |
| <b>Total</b>  |           | <b>7.3</b>     | <b>0.69</b> |        |        |        | <b>10.9</b> |
| <b>0.3% Sn cut off</b>                              |           |                |             |        |        |        |             |
| Queen Hill  | Indicated | 0.93           | 1.39        | 0.1    | 0.47   | 0.55   | 28.9        |
| Severn  | Inferred  | 2.37           | 1.11        | -      | -      |        | -           |
| Montana   | Inferred  | 0.31           | 1.45        | 0.02   | 2.61   | 1.59   | 58          |
| <b>Total/avg</b>                                    |           | <b>3.61</b>    | <b>1.21</b> |        |        |        |             |

1 Palmer, K.G. 1982. 97\_4072 - Geological Resource Assessment - RL 9705 - Zeehan Project. Aberfoyle.

Aberfoyle conducted metallurgical evaluations that concluded that the tin bearing minerals are cassiterite and stannite. The grain size of these minerals and the presence of significant amounts of stannite limit processing recovery using traditional methods significantly. The studies concluded that recoveries can be increased by applying matte fuming however this adds significantly to the capital cost. The project was deemed economic in 1985. This has been considered to be the case since.

Western Metals was placed in receivership in 2003 and little work was conducted on the tenement between that date and June 2006.

In June 2006 Western Metals was re-listed and a new board and management put in place. An increase in the tin price and an active technical group has led Western Metals to re instigate evaluation of the deposit.

### **3 2006/2007 Activities**

Activities conducted in the reporting period have been focussed on conducting economic evaluation of the known deposits. To complete this the historic data required review followed by digitisation and construction of a resource model. This work will allow economic evaluation including conceptual mine design to be conducted.

Mineralogical studies were commenced near the end of the reporting period. These studies are aimed at gaining a detailed understanding of the distribution of tin minerals and gaining an understanding of the processing requirements. This work remains ongoing at the end of the reporting period.

The following sections of the report detail the activities undertaken in generating the resource model for the deposits.

#### **3.1 Data Compilation and Validation**

Maxwell Geoservices was contracted in October 2006 to compile data from the Western Metals and Gippsland Limited Zeehan project into a Microsoft Access database. A total of 92 holes were compiled for all collar coordinate, down-hole survey, and lab assay data. All coordinates in the database refer to the AGS66 Geodetic Datum. At this stage no geological data has been entered into the database.

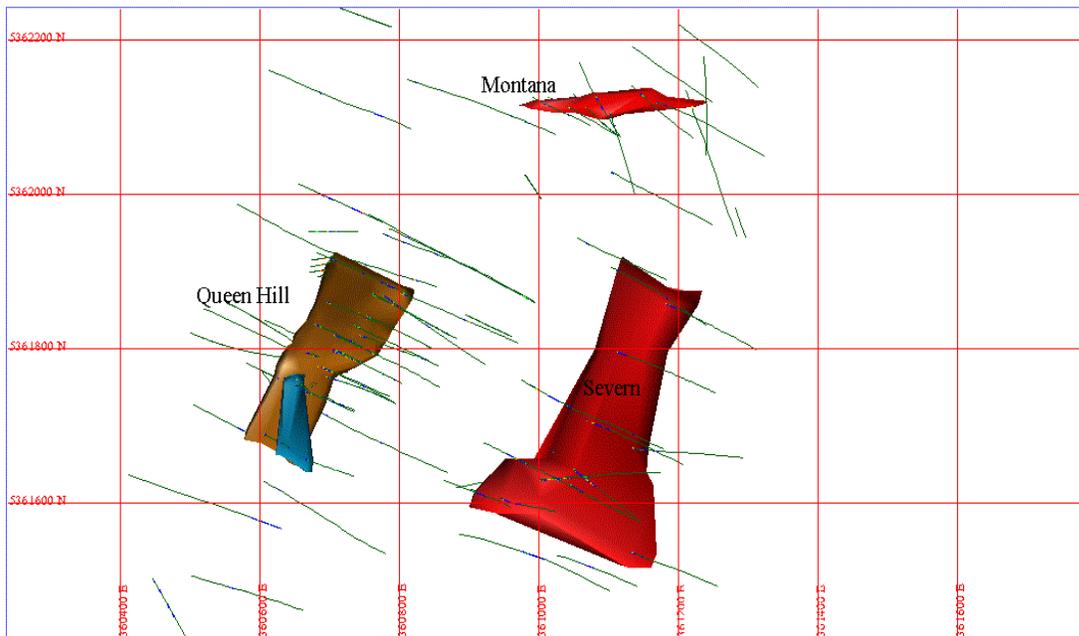
A geological consultant from BM Geological Services was employed in January 2007 to review and validate all of the data, and to then to produce a geological interpretation of the project. All data has been extracted from the Access database into ASCII tab delimited text files and included in the Appendices.

#### **3.2 Interpretation**

The Zeehan Project area is made up of three separate lenses: Queen Hill, Severn and Montana. Previous company reports, geological sections, and long sections from Aberfoyle Exploration Pty Ltd were reviewed during interpretation process. According to these reports the mineralisation of the lenses is neither stratabound, apart from

Montana, nor spatially related to the pyrite / pyrrhotite mineralisation within the ore-zones. As a result a low grade assay cut-off grade of 0.1% Sn was used by Aberfoyle to define the total mineralised envelope. This assay cut-off again was used by BM Geological Services.

All drilling was plotted on 1:500 scale sections on 100m spacing for interpretation, although the more densely spaced drilling at the Queen Hill lense also required sections plotted on 20m sections. For the purpose of this report, the Montana, Severn and Queen Hill lenses have each been interpreted separately. Each section was digitised outlining the 0.1% Sn envelope, ensuring that no zones low mineralisation outside the main zones or structures were included. From these sections a wireframe was produced for each lense.



*Plan view of Queen Hill Deposits*

### **3.3 Resource Modelling**

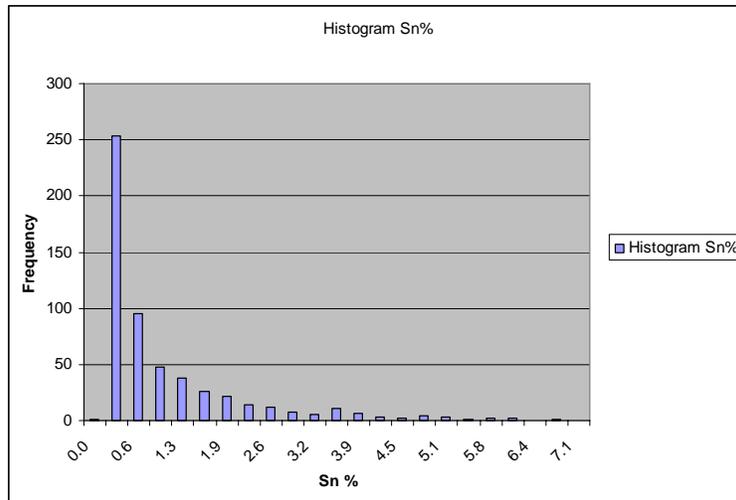
BMGS were employed to complete a resource estimate on the Zeehan Project. The Queen Hill, Severn and Montana deposits have been modeled separately.

### **3.4 Resource Methodology**

The wireframes were checked in plan and sectional view to ensure continuity of mineralisation and that they were correctly snapped to drillholes and did not encompass areas of low mineralisation. From the interpreted wireframes, 1m downhole composites were extracted and coded to represent the deposits within the interpretation.

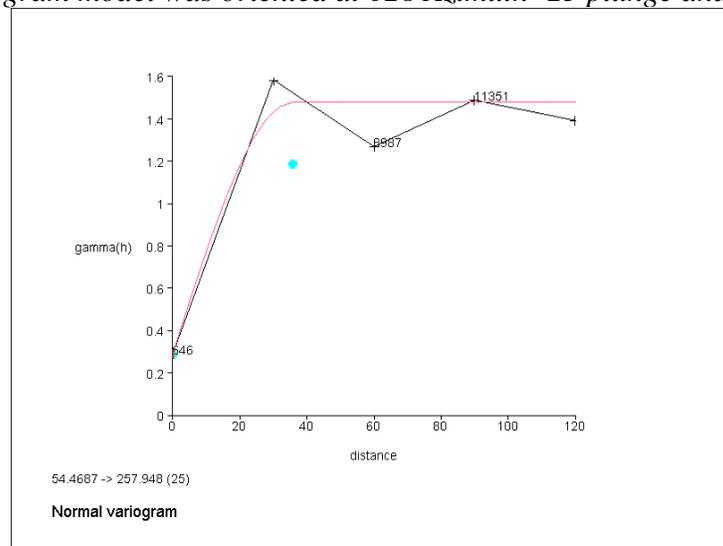
Geostatistical analysis of the Sn grades in the Queen Hill deposit indicated the following:

1. The ore domain data is positively skewed.
2. Top cutting was not applied due to style of mineralisation and the low grade 0.1% Sn used to define the ore boundaries.



*Histogram of Queen Hill deposit Sn grades showing positive Skew*

3. Variography of the main Queen Hill deposit was completed to try and determine optimal grade continuity directions.
4. A best fit variogram model for Queen Hill was selected with the following parameters  
*Type of model - Spherical*  
*Nugget - 0.29*  
*Sill - 1.6*  
*Range - 65*  
*The variogram model was oriented at 028 Azimuth -25 plunge and -60 dip.*



*Variogram model of Queen Hill deposit showing grade continuity*

5. The composites of the Severn and Montana deposits were considered too small to be of any value for variogram modeling.

The table below documents the raw statistics for the 3 deposits.

|          | Queen Hill | Montana | Severn |
|----------|------------|---------|--------|
| Max      | 7.40       | 6.89    | 6.92   |
| Min      | 0.00       | 0.01    | 0.012  |
| Count    | 560        | 78      | 284    |
| Average  | 0.88       | 1.03    | 0.57   |
| Median   | 0.38       | 0.43    | 0.270  |
| St Dev   | 1.171      | 1.385   | 0.889  |
| Variance | 1.371      | 1.918   | 0.791  |

*Raw statistics of the Queen Hill deposits*

Due to the varying orientation and dimensions of the three deposits separate block models were constructed for each deposit to align with the individual orientation. The table below describes the block parameters for each of the models created.

| Type                | Severn  |        |           | Queen Hill |        |           | Montana |        |           |
|---------------------|---------|--------|-----------|------------|--------|-----------|---------|--------|-----------|
|                     | North   | East   | Elevation | North      | East   | Elevation | North   | East   | Elevation |
| Minimum Coordinates | 5361500 | 360860 | 680       | 5361630    | 360550 | 840       | 5362070 | 360960 | 760       |
| Maximum Coordinates | 5361940 | 361260 | 1140      | 5361940    | 360830 | 1250      | 5362160 | 361260 | 1120      |
| User Block Size     | 8       | 8      | 4         | 2          | 2      | 1         | 2.5     | 10     | 2         |
| Min. Block Size     | 8       | 8      | 4         | 2          | 2      | 1         | 2.5     | 10     | 2         |
| Rotation            | 0       | 0      | 0         | 0          | 0      | 0         | 0       | 0      | 0         |

*Blockmodel parameters for the queen Hill deposits*

Two methods of estimation were used in the interpolation of grades into the Zeehan deposits. For Queen Hill ordinary kriging was used for the main zone, utilising the variogram parameters defined earlier. Inverse Distance Squared (ID2) interpolation was used for both the Montana and Severn deposits. For both styles of estimation a minimum of 2 and a maximum of 6 samples with a search ellipse aligned parallel to the 'orientation' and the dip of the interpreted mineralisation was used. The following table defines the search parameters used for each of the models created.

|                        | Severn | Queen Hill | Montana |
|------------------------|--------|------------|---------|
| Min samples            | 2      | 2          | 2       |
| Max samples            | 6      | 6          | 6       |
| Search radius          | 100    | 50         | 60      |
| Major axis azimuth     | 025    | 028        | 085     |
| Major axis dip         | -30    | -25        | -45     |
| Major axis plunge      | -50    | -60        | -77     |
| Major/Semi axis ratio  | 2      | 2          | 2       |
| Major/Minor axis ratio | 5      | 8          | 8       |

*Search/sample parameters for the Queen Hill deposits*

Specific Gravity (SG) data is not comprehensive throughout the Zeehan dataset. Assumptions were made based on previous resource estimates (Aberfoyle Geological Resource Assessment, 31 August 1982) about the SG values. Each deposit was assigned a uniform SG value as stated below:

Severn: 3.21  
Montana: 3.72  
Queen Hill: 3.27

### 3.5 Results

The models are reported above 0.1% Sn. Due to the drill data density, the lack of SG information and limited geological information used in the interpretation process, the models should be classed as inferred, but not to JORC standards.

#### Queen Hill Deposit

| Ore                | Sn% Grade Range | Volume | Tonnes  | Sn % | Metal |
|--------------------|-----------------|--------|---------|------|-------|
| QH_West            | 0.1-0.5         | 11896  | 38900   | 0.4  | 156   |
|                    | 0.5-0.7         | 4444   | 14532   | 0.57 | 83    |
|                    | 0.7-1.0         | 4684   | 15317   | 0.84 | 129   |
|                    | >1.00           | 14956  | 48906   | 1.28 | 626   |
| <i>Sub Total</i>   |                 | 35980  | 117655  | 0.84 | 993   |
| QH_Main            | 0.1-0.5         | 289476 | 946587  | 0.3  | 2840  |
|                    | 0.5-0.7         | 71584  | 234080  | 0.59 | 1381  |
|                    | 0.7-1.0         | 73028  | 238802  | 0.84 | 2006  |
|                    | >1.00           | 192624 | 629880  | 1.82 | 11464 |
| <i>Sub Total</i>   |                 | 626712 | 2049349 | 0.86 | 17691 |
| QH_East            | 0.1-0.5         | 10672  | 34897   | 0.28 | 98    |
|                    | 0.5-0.7         | 336    | 1099    | 0.59 | 6     |
|                    | 0.7-1.0         | 1892   | 6187    | 0.9  | 56    |
|                    | >1.00           | 9192   | 30058   | 1.11 | 334   |
| <i>Sub Total</i>   |                 | 22092  | 72241   | 0.68 | 494   |
| <i>Grand Total</i> |                 | 684784 | 2239245 | 0.86 | 19177 |

*Queen Hill deposit >0.1% Sn*

#### Montana Deposit

| Sn% Grade Range    | Volume | Tonnes | Sn % | Metal |
|--------------------|--------|--------|------|-------|
| 0.1-0.5            | 32650  | 121458 | 0.28 | 340   |
| 0.5-0.7            | 14500  | 53940  | 0.61 | 329   |
| 0.7-1.0            | 21600  | 80352  | 0.81 | 651   |
| >1.00              | 59100  | 219852 | 1.88 | 4133  |
| <i>Grand Total</i> | 127850 | 475602 | 1.15 | 5469  |

*Montana deposit >0.1% Sn*

#### Severn Deposit

| Sn% Grade Range    | Volume  | Tonnes  | Sn % | Metal |
|--------------------|---------|---------|------|-------|
| 0.1-0.5            | 1104384 | 3545073 | 0.29 | 10281 |
| 0.5-0.7            | 377088  | 1210452 | 0.61 | 7384  |
| 0.7-1.0            | 203776  | 654121  | 0.81 | 5298  |
| >1.00              | 338176  | 1085545 | 1.45 | 15740 |
| <i>Grand Total</i> | 2023424 | 6495191 | 0.60 | 38703 |

*Severn deposit >0.1% Sn*

### Summary all Deposits

| Sn% Grade Range | Volume  | Tonnes  | Sn % | Metal |
|-----------------|---------|---------|------|-------|
| >0.1% Sn        | 2836058 | 9210038 | 0.69 | 63334 |
| >0.5% Sn        | 1386980 | 4523123 | 1.10 | 49620 |
| >0.7% Sn        | 919028  | 3009020 | 1.34 | 40437 |
| >1.0% Sn        | 614048  | 2014241 | 1.60 | 32297 |

*All deposits >0.1% Sn*

### 3.6 Conclusion

The resource estimates completed on these deposits are not to be considered as JORC compliant. Areas that will need addressing before a compliant resource can be made include the following.

1. The interpretation needs to be checked with relation to geology. The drillhole database needs to be updated with all relevant geological information to ensure that mineralisation trends are indeed related.
2. Specific gravity needs to be carefully considered with respect to geology and mineralisation. The uniform SG's assigned in the models are very questionable and unrealistic. A brief SG vs. SN regression showed that there was a lot of inconsistencies in the SG data, and it is possible that regression work may not be helpful
3. The surveys of the holes would have to be considered as doubtful. Magnetic minerals in the deposit will have affected survey readings, the location of drillholes would need to be tested with twin drilling and modern non magnetic gyroscopes.

### 4 Activities 2007/2008

Activities planned for the 2007/2008 year include

- Completion of mineralogical mapping study
- Research on metallurgical processes
- Conceptual mine design, costing and scheduling
- Desktop economic evaluation
- Metallurgical testwork if required
- Validation, metallurgical sample and geotechnical drilling if required.

The level of work conducted will be dependant on the out comes of the desktop economic evaluation and the prevailing sentiment of the tin price.

### 5 References

BMGS Memo: Queen Hill Resource Estimation: BM Geological Services 02/05/2007