COMBINED ANNUAL REPORT FOR THE NORTHERN PROJECT AREA


LICENCEES:

GIANTS REEF EXPLORATION PTY LTD
A.C.N. 009 200 346

SANTEXCO PTY LTD
A.B.N. 002 910 296

AUTHOR:
ADAM WALTERS
SEPTEMBER 2008

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1. SUMMARY

Exploration Licences ("EL's") in the Northern Project Area (NPA), were acquired by Giants Reef Exploration Pty Ltd (Giants Reef), TC8 Pty Ltd (TC8) and Santexco Pty Ltd (Santexco) to search for Tennant Creek style iron oxide copper-gold deposits. Giants Reef, TC8 and Santexco are wholly owned subsidiaries of Emmerson Resources Ltd (Emmerson).

This combined report records the exploration work completed on these EL’s during the NPA Combined Reporting period from 16 August 2007 to the 15 August 2008.

During the reporting period, exploration conducted over the NPA was limited to desktop studies and the reassessment and re-analysis of historical data and models.

Total expenditure on the EL’s during their anniversary dates was $83,564.00 versus covenant of $107,900.00.
2. INTRODUCTION

Exploration Licences (“EL’s”) in the Northern Project Area (NPA), were acquired by Giants Reef Exploration Pty Ltd (Giants Reef), TC8 Pty Ltd (TC8) and Santexco Pty Ltd (Santexco) to search for Tennant Creek style iron oxide copper-gold deposits. Giants Reef, TC8 and Santexco are wholly owned subsidiaries of Emmerson Resources Ltd (Emmerson).

This combined report records the exploration work completed on these EL’s during the NPA Combined Reporting period from 16 August 2007 to the 15 August 2008.

On the 6 August 2005 the Manager of Customer Services – Minerals & Energy Titles (DPIFM) approved the Company’s request to combine the it’s Exploration Licences into four (4) project areas for purposes of combined annual reporting. The 4 areas are divided into the Northern, Southern, Eastern and Western regions, each initially averaging around 750km², but now range between 330km² and 770km². Details of the EL’s under the 4 proposed groups are outlined in Section 4 Tenure.

The aim of creating the 4 tenement groups is to simplify tenement statutory reporting and project management, and also more clearly convey exploration expenditure aligned to the Company’s project work areas, which are not restricted to individual tenements.

3. LOCATION

Exploration Licences making up the NPA cover an area of some 454.40 km² north of the Tennant Creek Township.

The principal access to EL’s in the NPA from Tennant Creek is north via the Stuart Highway, then east and west by various unsealed roads, tracks and fence line tracks. However, much of the Project area is rocky, without tracks and difficult to reach, even in a 4x4 vehicle. The unsealed tracks become impassable during the wet season.

Figure 1 shows the location of the EL’s within the NPA with respect to the town of Tennant Creek.

3.1 EL 10016 GECKO ROAD

Exploration Licence 10016 GECKO ROAD, is located approximately 24km north west of the Tennant Creek Township.
Access to the Licence area is north west via the Warrego Road, which bisects the licence, from here EL 10016 is reached by via a series of unsealed, 4x4 and fence line tracks, either west or east. During and immediately after rain the area is generally inaccessible. EL 10016 is located on the Flynn (5759) 1:100,000 scale map sheet.

Figure 2 shows location EL 10016 and surrounding tenure.

3.2 EL 10017 STONEY DAM

Exploration Licence 10017 STONEY DAM, is located approximately 35km north west of Tennant Creek Township. The Licence falls on the Flynn (5759) 1:100,000 scale map sheet.

There are two principal access routes into EL 10017 from Tennant Creek Township. One is north west via the Warrego road, from which a number of roads run in northerly directions into the licence area from the Gecko and Orlando mines, and from the various roads to the dams and bores that once supplied water to the Warrego mine. The cleared survey line track along the route of the proposed Alice Springs to Darwin railway line is outside the EL's, but roughly parallels their south western boundaries. The other principal access route is from the Stuart Highway, through Phillip Creek homestead. In the eastern part of EL 9909 there are many station tracks that link with tracks in the south and west of the project area, and it is possible to drive from Phillip Creek right through the area to the western side of the area, and on to Warrego.

Figure 3 shows location EL 10017 and surrounding tenure.

3.3 EL 10077 WHIPPET EAST

Exploration Licence 10077 WHIPPET EAST, is located approximately 40km north north-east of Tennant Creek town. The Licence falls on the Flynn (5759) 1:100,000 scale map sheet.

The principal access to the general license area from Tennant Creek is north via the Stuart Highway and then east by various dirt roads and fence line tracks. However, much of the license areas are rocky, without tracks and difficult to reach, even in a 4x4 vehicle. The unsealed tracks become impassable during the wet season.

Figure 4 shows location EL 10077 and surrounding tenure.

3.4 EL 10079 SETTLEMENT

Exploration Licence 10079 SETTLEMENT, is located approximately 38 km north of the township of Tennant Creek on the 1:100 000 scale Flynn map sheet (5759).
Access is via the Stuart Highway and the unsealed all weather track which runs out to the Edna Beryl mine. The summer period is hot with seasonal heavy rainfall between January and March making access very difficult during these periods.

Figure 5 shows location EL 10079 and surrounding tenure.

3.5 EL 10101 BINARY

Exploration Licence 10101 BINARY, is located approximately 34km north of Tennant Creek. EL 10101 is located on the Flynn (5759) 1:100 000 scale map sheet.

The principal access to the general license area from Tennant Creek is north via the Stuart Highway and then east or west by various dirt roads and fence line tracks. However, much of the license areas are rocky, without tracks and difficult to reach, even in a 4x4 vehicle. The unsealed tracks become impassable during the wet season.

Figure 6 shows location EL 10101 and surrounding tenure.

3.6 EL 10129 ALEXANDER

Exploration Licence 10129 ALEXANDER, is located approximately 42km north of Tennant Creek Township. EL 10129 is located on the Flynn (5759) 1:100 000 scale map sheet.

Access from Tennant Creek is north via the Stuart Highway, which bisects the licence, and then east or west via various dirt roads and tracks along fence lines. However, much of the area is rocky, without tracks and difficult to reach, even in a 4WD vehicle. The tracks following the major creek systems become impassable during the wet season.

Figure 7 shows the location of EL 10129 and surrounding tenure.

3.7 EL 10166 WHIPPET NORTH

Exploration License 10166 WHIPPET NORTH, covers a tract of country 43 km north of the township of Tennant Creek, and approximately 19 km north of the Barkly Highway.

The principal access to the general license areas from Tennant Creek is north via the Stuart Highway and then east by various dirt roads and fence line tracks. However, much of the license areas are rocky, without tracks and difficult to reach, even in a 4x4 vehicle. The unsealed tracks become impassable during the wet season.

Figure 8 shows the location of EL 10166 and surrounding tenure.
3.8 EL 10311 GIBSON CREEK

Exploration Licence 10311 GIBSON CREEK, is located approximately 46km north of the Tennant Creek Township on the Flynn (5759) 1:100 000 scale map sheet.

Access from Tennant Creek is north via the Stuart Highway, which runs adjacent to the eastern border of the licence, then west by various dirt roads and tracks along fence lines. However, much of the area is rocky, without tracks and difficult to reach, even in a 4WD vehicle. The tracks following the major creek systems become impassable during the wet season.

Figure 9 shows location EL 10311 and surrounding tenure.

3.9 EL 22165 COPERNICUS

Exploration Licence 22165 COPERNICUS, is located approximately 35km north north-west of the Tennant Creek Township on the Flynn (5759) 1:100 000 scale map sheet.

The principal access to the general license area from Tennant Creek is north via the Stuart Highway and then west via road to the historical Jasper Hill’s, Granites and Northern Star Mine workings, then by various dirt roads and fence line tracks. However, much of the license areas are rocky, without tracks and difficult to reach, even in a 4x4 vehicle. The unsealed tracks become impassable during the wet season.

Figure 10 shows location EL 22165 and surrounding tenure.

3.10 EL 22224 MONZONITE

Exploration Licence 22224 MONZONITE, is located approximately 46km north west of the Tennant Creek Township on the Short Range (5659) 1:100 000 scale map sheet.

There are two principal access routes into EL 22224 from Tennant Creek Township. One is north west via the Warrego road, from which a number of roads run in northerly directions into the licence area from the Gecko and Orlando mines, and from the various roads to the dams and bores that once supplied water to the Warrego mine. The cleared survey line track along the route of the proposed Alice Springs to Darwin railway line is outside the EL’s, but roughly parallels their south western boundaries. The other principal access route is from the Stuart Highway, through Phillip Creek homestead. In the eastern part of EL 9909 there are many station tracks that link with tracks in the south and west of the licence area, and it is possible to drive from Phillip Creek right through the area to the western side of the area, and on to Warrego.

Figure 11 shows location EL 22224 and surrounding tenure.
3.11 EL 22583 MORNING STAR

Exploration Licence 22583 MORNING STAR, is located approximately 32km north northwest of the Tennant Creek Township on the Flynn (5759) 1:100 000 scale map sheet.

The principal access to the general license area from Tennant Creek is north via the Stuart Highway and then west by various dirt roads and fence line tracks. However, much of the license areas are rocky, without tracks and difficult to reach, even in a 4x4 vehicle. The unsealed tracks become impassable during the wet season.

Figure 12 shows location EL 22583 and surrounding tenure.

3.12 EL 22589 WHIPPET HILL

Exploration Licence 22589 WHIPPET HILL, is located approximately 39km north northeast of the Tennant Creek Township on the Flynn 1:100 000 scale map sheet.

The principal access to the general license area from Tennant Creek is north via the Stuart Highway and then east by various dirt roads and fence line tracks. However, much of the license areas are rocky, without tracks and difficult to reach, even in a 4x4 vehicle. The unsealed tracks become impassable during the wet season.

Figure 13 shows location EL 22589 and surrounding tenure.

3.13 EL 22590 STUART HIGHWAY

EL 22590 STUART HIGHWAY is located approximately 39km north of Tennant Creek Township, on the Flynn (5759) 1:100 000 scale map sheet.

The principal access to the general license area from Tennant Creek is north via the Stuart Highway which bisects the licence, and then east or west by various dirt roads and fence line tracks. However, much of the license areas are rocky, without tracks and difficult to reach, even in a 4x4 vehicle. The unsealed tracks become impassable during the wet season.

Figure 14 shows location EL 22590 and surrounding tenure.

3.14 EL 23073 PUMPING STATION

Exploration Licence 23073 PUMPING STATION, is located approximately 29km northwest of the township of Tennant Creek on the 1:100 000 scale Flynn (5759) and Short Range (5659) map sheets.
The principal access to EL 23073 from Tennant Creek is north west via the Warrego road and then by the roads that lead to the historical Gecko and Orlando Mine workings, then from here via various dirt roads and tracks along fence lines. However, much of the area is rocky, without tracks and difficult to reach, even in a 4WD vehicle. The unsealed tracks become impassable during the wet season.

Figure 15 shows the location of EL 23073 and surrounding tenure.

3.15 EL 23183 JUNCTION

Exploration Licence 23183 JUNCTION, covers an irregularly shaped tract of country spanning the Stuart Highway 22km north of Tennant Creek Township, and contains both the Orlando and Gecko mines. EL 23183 lies on the Flynn (5759) 1:100 000 scale map sheet.

The principal access to the general licence areas from Tennant Creek is north via the Stuart Highway then via various secondary unsealed tracks and fence line tracks that extend east and west from the Stuart Highway, the Barkly Highway also runs east through the licence area. However, much of the licence area comprises rugged terrain and many of the tracks become impassable during the wet season.

Figure 16 shows the Location of EL 23183 and surrounding tenure.

3.16 EL 23745 VIVID

Exploration Licence 23745 VIVID, is located approximately 30 km north north-east of Tennant Creek on the Flynn (5759) 1:100 000 scale map sheet.

The principal access to the general Licence area from Tennant Creek is north west via the Warrego Road then north via the Gecko Mine Road, from here access to the licence area is gained north east via various dirt roads and fence lines tracks. However, much of the Licence areas are rocky, without tracks and difficult to reach, even in a 4WD vehicle. The unsealed tracks become impassable during the wet season.

Figure 17 shows the location of EL 23745 and surrounding tenure.

3.17 EL 23746 MARKER

Exploration Licence 23746 MARKER, is located approximately 34km north north-west of the Tennant Creek Township on the Flynn (5759) 1:100 000 scale map sheet.

The principal access to the general Licence area from Tennant Creek is north via the Stuart Highway and then west by various dirt roads and fence lines tracks via the Northern Star Group of Tenements. However, much of the Licence areas are rocky, without tracks
and difficult to reach, even in a 4WD vehicle. The unsealed tracks become impassable during the wet season.

Figure 18 shows the location of EL 23746 and surrounding tenure.

3.18 EL 7810 HAYWARD CREEK

Exploration Licence 7810 HAYWARD CREEK, is located approximately 44km north north-east of the Tennant Creek Township on the Flynn (5759) 1:100 000 scale map sheet.

Access from Tennant Creek is north via the Stuart Highway and then east via various dirt roads and tracks along fence lines. However, much of the area is rocky, without tracks and difficult to reach, even in a 4WD vehicle. The tracks following the major creek systems become impassable during the wet season.

Figure 19 shows location EL 7810 and surrounding tenure.

3.19 EL 8773 LASSO

Exploration Licence 8773 LASSO, lies approximately 40km north of the Tennant Creek township and straddles the Phillip Creek floodplain immediately to the east of the Stuart Highway. EL 8773 lies on the Flynn (5759) 1:100 000 scale map sheet.

Access is via the Stuart Highway and the unsealed all weather track which runs out to the Edna Beryl mine.

Figure 20 shows the location of EL 8773 and surrounding tenure.

3.20 EL 9909 STAR WARS

Exploration Licence 9909 STAR WARS, is located approximately 32 km north east of the township of Tennant Creek on the 1:100 000 scale Flynn (5759) map sheet.

There are two principal access routes into EL 9909 from Tennant Creek Township. One is via the Warrego road, from which a number of roads run in northerly directions into the project area from the Gecko and Orlando mines, and from the various roads to the dams and bores that once supplied water to the Warrego mine. The cleared survey line track along the route of the proposed Alice Springs to Darwin railway line is outside the EL’s, but roughly parallels their south western boundaries. The other principal access route is from the Stuart Highway, through Phillip Creek homestead. In the eastern part of EL 9909 there are many station tracks that link with tracks in the south and west of the project area, and it is possible to drive from Phillip Creek right through the area to the western side of the area, and on to Warrego.
Figure 21 shows location EL 9909 and surrounding tenure.

3.21 EL 9939 BATTERY BLOCK

Exploration Licence 9939 BATTERY BLOCK, is located approximately 26 km north west of Tennant Creek on the Flynn (5759) 1:100 000 scale map sheet.

The principal access from Tennant Creek is via the Warrego road and thence north via secondary unsealed tracks. Most of the access tracks require 4x4 vehicles and even these become impassable during the wet season.

Figure 22 shows the Location of EL 9939 and surrounding tenure.

4. TENURE

Tenure details for the 21 Exploration Licences within the NPA are as follows:

Table 1: NPA Tenure details.

<table>
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<th>Exploration Licence</th>
<th>Licence Holder</th>
<th>Blocks &amp; part-blocks</th>
<th>Area (km²)</th>
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<td>19</td>
<td>61.57</td>
<td>25 September 2007</td>
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<td>GIANTS REEF EXPLORATION PTY LTD *</td>
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Exploration Licences in the NPA lie within both NT Portion 408, Phillip Creek, Perpetual Pastoral Lease 946 and on Inalienable Aboriginal Freehold land held by the Warrumungu Land Trust.

An Agreement referred to as the Wildhorse II Deed for Exploration was signed by the Central Land Council (CLC), Traditional Landowners, Giants Reef and Santexco Pty Ltd on the 25th February 2003. This agreement established land access for mineral exploration upon Warrumungu Land Trust areas, including EL 10079.

EL 8773 falls on Inalienable Aboriginal Freehold land held by the Warrumungu Land Trust. An Agreement referred to as the Areas of Interest Deed for Exploration was signed by the Central Land Council (CLC), Traditional Landowners and NTC on the 9th December 1998. This agreement established land access for mineral exploration upon Warrumungu Land Trust areas, including EL 8773.

Nineteen of the 21 ELs in the NPA are on Perpetual Pastoral Lease and are subject to an Indigenous Land Use Agreement (ILUA), signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council, and Giants Reef.

4.1 EL 10016 GECKO ROAD

Exploration Licence 10016 was granted to Giants Reef Exploration Pty Ltd on the 17th August 2001, for a period of 6 years, and renewed for a term of 2 years on 17 August 2007.

The Exploration Licence area lies within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. Exploration Licence 10016 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council (CLC), and Giants Reef.

At the end of the second, third, fourth, fifth and sixth tenure years waiver of reductions were submitted and granted for EL 10016.

4.2 EL 10017 STONEY DAM

Exploration Licence 10017 was granted to Giants Reef Exploration Pty Ltd on the 20th March 2001, for a period of 6 years, and renewed for a term of 2 years on 20 March 2007.

The Exploration Licence area lies within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. Exploration Licence 10017 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council (CLC), and Giants Reef.
At the end of the fourth tenure year a statuary relinquishment was applied to EL 10017, the licence area was reduced from 4 graticular blocks to 2 graticular blocks.

4.3 EL 10077 WHIPPET EAST

Exploration Licence 10077 was granted to Giants Reef Exploration Pty Ltd on the 25th September 2001, for a period of 6 years, and renewed for a term of 2 years on 25 September 2007.

The Exploration Licence area lies within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. Exploration Licence 10077 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council (CLC), and Giants Reef.

At the end of the fourth tenure year a statuary relinquishment was applied to EL 10077, the licence area was reduced from 10 graticular blocks to 5 graticular blocks.

4.4 EL 10079 SETTLEMENT

Exploration Licence 10079 comprises 1 whole block and 1 part block and was granted to Giants Reef Exploration Pty Ltd on the 1st May 2003 for a period of six years.

The Licence falls on Inalienable Aboriginal Freehold land held by the Warrumungu Land Trust. An Agreement referred to as the Wildhorse II Deed for Exploration was signed by the Central Land Council (CLC), Traditional Landowners, Giants Reef and Santexco Pty Ltd on the 25th February 2003. This agreement established land access for mineral exploration upon Warrumungu Land Trust areas, including EL 10079.

4.5 EL 10101 BINARY

Exploration Licence 10101 was granted to Giants Reef Exploration Pty Ltd on the 25th September 2001, for a period of 6 years, and renewed for a term of 2 years on 25 September 2007.

The Exploration Licence area lies within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. Exploration Licence 10101 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council (CLC), and Giants Reef.

At the end of the fourth tenure year a statuary relinquishment was required for EL 10101, and an application for waiver was applied for, the licence area remained at 12 graticular blocks.
4.6 EL 10129 ALEXANDER

EL 10129 was granted to Giants Reef Exploration Pty Ltd on the 20th March 2001, for a period of 6 years, and renewed for a term of 2 years on 20 March 2007, and covers 13 graticular blocks and part-blocks.

The licence area is situated in NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. EL 10129 is subject to an Indigenous Land Use Agreement (ILUA), signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council, and Giants Reef.

At the end of the second year of tenure the Licence area was reduced from 13 to 7 graticular blocks.

At the end of the third year of tenure the Licence area underwent the statutory relinquishment and was reduced from 7 to 3 graticular blocks.

4.7 EL 10166 WHIPPET NORTH

Exploration Licence 10166 was granted to Giants Reef Exploration Pty Ltd on the 16th November 2004, for a period of 6 years.

The Exploration Licence area lies within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. Exploration Licence 22165 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council (CLC), and Giants Reef.

4.8 EL 10311 GIBSON CREEK

EL 10311 was granted to Giants Reef Exploration Pty Ltd on the 20th March 2001, for a period of 6 years, and renewed for a term of 2 years on 20 March 2007, and covered 45 graticular blocks.

The Licence area lies in NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. EL 10311 is subject to an Indigenous Land Use Agreement (ILUA), signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council, and Giants Reef.

At the end of the second year of tenure the Licence area was reduced from 45 to 23 graticular blocks.
At the end of the third year of tenure the Licence area underwent the statutory relinquishment and was reduced from 23 to 11 graticular blocks.

At the end of the fifth year of tenure the Licence area underwent the statutory relinquishment and was reduced from 11 to 6 graticular blocks.

**4.9 EL 22165 COPERNICUS**

Exploration Licence 22165 was granted to Giants Reef Exploration Pty Ltd on the 25th September 2001, for a period of 6 years, and renewed for a term of 2 years on 25 September 2007.

The Exploration Licence area lies within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. Exploration Licence 22165 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council (CLC), and Giants Reef.

At the end of the fourth and fifth tenure years, statutory relinquishments were required for EL 22165, and an application for waiver was applied for, the licence area remained at 6 graticular blocks.

**4.10 EL 22224 MONZONITE**

Exploration Licence 22224 was granted to Giants Reef Exploration Pty Ltd on the 20th March 2001, for a period of 6 years, and renewed for a term of 2 years on 20 March 2007.

The exploration licence lies within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. Exploration Licence 22224 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council (CLC), and Giants Reef.

At the end of the fourth tenure year a statutory relinquishment was applied to the licence area and EL 22224 was reduced from 3 graticular blocks to 2 graticular blocks.

**4.11 EL 22583 MORNING STAR**

Exploration Licence 22583 was granted to Giants Reef Exploration Pty Ltd on the 25th September 2001, for a period of 6 years, and renewed for a term of 2 years on 25 September 2007.

The Exploration Licence area lies within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. Exploration Licence 22583 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council (CLC), and Giants Reef.
At the end of the fourth and fifth tenure years a statutory relinquishment was required for EL 22583, and an application for waiver was applied for, the licence area remained at 19 graticular blocks.

4.12 EL 22589 WHIPPET HILL

Exploration Licence 22589 was granted to Giants Reef Exploration Pty Ltd on the 25th September 2001, for a period of 6 years, and renewed for a term of 2 years on 25 September 2007.

The Exploration Licence area lies within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. Exploration Licence 22589 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council (CLC), and Giants Reef.

At the end of the fourth and fifth tenure years a statutory relinquishment was required for EL 22589, and an application for waiver was applied for, the licence area remained at 11 graticular blocks.

4.13 EL 22590 STUART HIGHWAY

Exploration Licence 22590 was granted to Giants Reef Exploration Pty Ltd on the 25th September 2001, for a period of 6 years, and renewed for a term of 2 years on 25 September 2007.

The Exploration Licence area lies within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. Exploration Licence 22590 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council (CLC), and Giants Reef.

At the end of the fourth tenure year a statutory relinquishment was applied to EL 22590, the licence area was reduced from 4 graticular blocks to 2 graticular blocks.

4.14 EL 23073 PUMPING STATION

Exploration Licence 23073 was granted to Giants Reef Exploration Pty Ltd on the 17th August 2001, for a period of 6 years, and renewed for a term of 2 years on 17 August 2007.

The Exploration Licence area lies within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. Exploration Licence 23073 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council (CLC), and Giants Reef.
The Alice Springs to Darwin railway runs in a north-westerly direction through EL 23073 and the 40m-wide corridor or easement containing the railway is not part of these Licences.

At the end of the second tenure year a statutory relinquishment was applied to EL 23073, the licence area was reduced from 28 graticular blocks to 14 graticular blocks.

At the end of the fourth tenure year a statutory relinquishment was applied to EL 23073, the licence area was reduced from 14 graticular blocks to 7 graticular blocks.

4.15 EL 23183 JUNCTION

Exploration Licence 23183 Junction, was granted to Giants Reef Exploration Pty Ltd (Giants Reef) on the 8th October 2003 for a period of six years.

The Licence covers an area of 38 graticular blocks (101 km²) and lies within NT Portion 408, Phillip Creek, Perpetual Pastoral Lease 946.

Exploration Licence 23183 is subject to an Indigenous Land Use Agreement (ILUA), signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council, and Giants Reef.

During this, second and third years of tenure, waiver of reductions on EL 23183 were approved by DPIFM.

4.16 EL 23745 VIVID

Exploration Licence 23745 VIVID was granted to Giants Reef Exploration Pty Ltd on 29th June 2004, for a period of 6 years each.

The Exploration Licence lies within NT Portion 4086, Phillip Creek, Perpetual Pastoral Lease 946.

EL 23745 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council, and Giants Reef.

4.17 EL 23746 MARKER

Exploration Licence 23746 MARKER, consists of two graticular blocks and was granted to Giants Reef Exploration Pty Ltd (Giants Reef) on the 21st February 2005 for a period of six years.
EL 23745 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council, and Giants Reef.

4.18 EL 7810 HAYWARD CREEK

Exploration Licence 7810 was granted to Giants Reef Exploration Pty Ltd on the 4th April 2001, for a period of 6 years, and renewed for a term of 2 years on 4 April 2007, and covers 3 graticular blocks.

The Licence area lies in NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. EL 7810 is subject to an Indigenous Land Use Agreement (ILUA), signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council, and Giants Reef.

At the end of the second year of tenure the Licence area was reduced from 83 to 13 graticular blocks.

At the end of the third year of tenure the Licence area underwent the statutory relinquishment and was reduced from 13 to 7 graticular blocks.

At the end of the fifth year of tenure the Licence area underwent the statutory relinquishment and was reduced from 7 to 4 graticular blocks.

4.19 EL 8773 LASSO

Exploration Licence 8773 consists of two graticular blocks. The EL was granted to Normandy Tennant Creek Pty Ltd (now Santexco) on the 8th March 1999 for a period of six years. And renewed for a further two years in 2005 & 2007.

The Licences fall on Inalienable Aboriginal Freehold land held by the Warrumungu Land Trust. An Agreement referred to as the Areas of Interest Deed for Exploration was signed by the Central Land Council (CLC), Traditional Landowners and NTC on the 9th December 1998. This agreement established land access for mineral exploration upon Warrumungu Land Trust areas, including EL 8773.

In June 2001, Giants Reef Mining Limited (Giants Reef) purchased all the assets of Normandy Tennant Creek Pty Ltd (NTC), EL 8773. After the purchase, Normandy Tennant Creek Pty Ltd was re-named Santexco Pty Ltd and is now a wholly-owned subsidiary of Emmerson Resources.

At the end of the third, fourth and fifth tenure year a waiver of reduction was granted for EL 8773.
4.20 EL 9909 STAR WARS

Exploration Licence 9909 was granted to Giants Reef Exploration Pty Ltd on the 20th March 2001, for a period of 6 years, and renewed for a term of 2 years on 20 March 2007.

The exploration licence lies within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. Exploration Licence 9909 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council (CLC), and Giants Reef.

At the end of the fourth tenure year a statutory relinquishment was applied to the licence area and EL 9909 was reduced from 51 graticular blocks to 26 graticular blocks.

4.21 EL 9939 BATTERY BLOCK

Exploration Licence 9939 was granted to Giants Reef Exploration Pty Ltd on the 17th August 2001, for a period of 6 years, and renewed for a term of 2 years on 17 August 2007.

The exploration licence lies within NT Portion 408, Perpetual Pastoral Lease 946, Phillip Creek Station. Exploration Licence 9939 is subject to an Indigenous Land Use Agreement (ILUA) signed in September 2000 between the Native Title holders of the Tennant Creek region, represented by the Central Land Council (CLC), and Giants Reef.

At the end of the second, third, fourth and fifth tenure years waiver of reductions were submitted and granted for EL 9939.
5. GEOLOGY

5.1 Regional Geology

The reader is referred to AusIMM Monograph 14 (Geology of the Mineral Deposits of Australia and Papua New Guinea), Volume 1, pp. 829-861, to gain a good introduction to the regional geology and styles of gold-copper mineralisation of the area.

In 1995 the Northern Territory Geological Survey released a geological map and explanatory notes for the Flynn and Short Range 1:100,000 sheets, which covers the area of the Licences.

The rocks of the Warramunga Formation host most of the orebodies in the region and underlie most of the Exploration Licences.

5.2 Geology of the Northern Project Area

The NPA covers a region of the Tennant Creek Province and includes deformed lower-greenschist facies flyshe sequence (Warramunga Formation) intruded by syn-orogenic granite and granodiorite as well as stratabound felsic porphyry. This sequence is overlain by silicic volcanics and volcaniclastic (Flynn Subgroup) and intruded by late orogenic granite, porphyry and lamprophyre. The Warramunga Formation comprises greywacke, siltstone, shale with interbedded felsic volcanics. Crustal melting resulted in the formation of dry, I-type granodiorite melts and granitic differentiates (Tennant Creek Supersuite), which intruded the Warramunga Formation and lower parts of the Flynn Subgroup during and subsequent to the Barramundi Orogeny. Deformation of the Warramunga Formation produced tight upright folds with a pervasive sub-vertical east-west slaty cleavage accompanied by lower greenschist facies metamorphism. Deposition of the volcanosedimentary Flynn Subgroup more or less coincided with the plutonic events.

Progressive dextral shearing resulted in large-scale east trending open folds, as defined by the stratabound porphyries. Disharmonic folds, angular folds and plunging doubly peaking anticlines with a weak sub-vertical crenulation cleavage developed within the Warramunga Formation. North-west trending open folds of disharmonic style were generated within the Flynn Subgroup.

The youngest igneous events in the Tennant Creek Province were intrusion of the Warrego and Gosse River East granites, as well as lamprophyre dykes and sills.

The NPA is largely covered by Quaternary sands and gravels in relict fluvial systems, active channels, floodplains and quartz-rich dissected colluvial fan deposits.
Outcrop within the NPA is limited to ridges and these comprise scattered outcrops of Palaeoproterozoic Warramunga Formation and Flynn Sub-group/ Tomkinson Creek Sub-group (Ooradidgee Group).

5.3 EL 10016 GECKO ROAD

The majority of the licence area is underlain by turbidite sediments of the Palaeoproterozoic Warramunga Formation (1865-1855 Ma), predominately greywacke and siltstones. This formation is host to virtually all the magnetite-haematite (ironstone–hosted) gold-copper-bismuth mineralisation and ore bodies in the Tennant Creek goldfield. Exposure of the Proterozoic bedrock is fair to poor.

5.4 EL 10017 STONEY DAM

The EL 10017 comprises units of the Ooradidgee Group and these are dominated by the Wundirgi Formation which is comprised of arenite, siltstone, shale, tuff, chert, silicified tuff, rhyolitic lava and ignimbrite. No Warramunga Formation occurs in the EL.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Flynn (5759) 1:100 000 sheet, which covers the area of the license.

5.5 EL 10077 WHIPPET EAST

Outcrop is restricted to east-west trending sediment and quartz-haematite ironstone ridges. The dominant lithologies are Warramunga Formation siltstone, shale and greywacke with minor quartz porphyry in the south. Numerous quartz and quartz-haematite ironstones are present in the ridges. Several east striking shears traverse the area.

5.6 EL 10079 SETTLEMENT

The Exploration Licence is almost entirely covered by Quaternary alluvial deposits of the broad Phillip Creek drainage system. There is very little outcrop within the Licence area. Outcrops of Flynn Sub-group units (Wundirgi and Brumbreu Formations) occur to the south and the north. These formations probably underlie the alluvial deposits.

The Edna Beryl mine, located 1km south west of the Licence area is an ironstone gold copper deposit hosted within Palaeoproterozoic Warramunga Formation metasediment. The contact between the Warramunga Formation sediment and the Flynn Sub-group units is assumed to lie on the southern border of the Licence area, however it is possible that the Warramunga sediments may extend further north into the Licence area.

DISTRIBUTION:
Department of Primary Industry, Fisheries & Mining
Central Land Council
Emmerson Resources Ltd

MAP SHEETS:
- TENNANT CREEK SE53-14
- FLYNN 5759
- SHORT RANGE 5659
- TENNANT CREEK 5758

1:100 000
5.7 EL 10101 BINARY

The geology of Exploration Licence 10101 includes outcropping Warramunga Formation, comprising fine to medium grained lithic arenite, volcanic arenite (metagreywacke), siltstone, shale, slate and terrigenous mudstone. Ooradidgee Group units comprising conglomerate, sandstone, felsic crystal-lithic tuff and lapilli tuff also outcrop within the Licence. Much of the northern and eastern region of the tenement is covered by Quaternary alluvial deposits and includes sandy soil and sheet and dune sand.

5.8 EL 10129 ALEXANDER

The exposed geology in EL 10129 consists of several extensive outcrops of weathered siltstone and greywacke of the Palaeoprotrozoic Warramunga Formation. Much of the Licence is covered by Cainozoic sediments and includes soils and alluvial outwash deposits. Airborne and ground magnetic data and field mapping suggest that metasediments of the Palaeoprotrozoic Warramunga Formation underlie the Licence area.

5.9 EL 10166 WHIPPET NORTH

The project area is located at the northern limit of the Tennant Creek Province. Outcrop within the tenements is limited to ridges and these comprise scattered outcrops of weathered siltstone and greywacke of the Palaeoprotrozoic Warramunga Formation and felsic volcanics or volcanically derived sedimentary rocks of the Flynn Sub-group/ Tomkinson Creek Sub-group (Ooradidgee Group).

More than 90% of the region is covered by Quaternary sands and gravels in relict fluvial systems, active channels, floodplains and quartz-rich dissected colluvial fan deposits.

Known mineralisation in this EL is located along WNW trending structures.

5.10 EL 10311 GIBSON CREEK

The northern region of EL 10311 includes outcrops, which coincide with ridges and isolated hills, dominate the southern region of 10311, these ridges and isolated hills consist of scattered outcrops of weathered siltstone and greywacke of the Paleoprotrozoic Warramunga Formation, which most likely underlies Cainozoic colluvium scree, alluvial red soil plains and less extensive alluvial deposits in active channels and on flood plains.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Flynn 1:100 000 sheet 5759, which covers the area of the license.
5.11 EL 22165 COPERNICUS

The geology of EL 22165 is dominated by Cainozoic colluvium scree, alluvial red soil plains and less extensive quartz rich dissected colluvial fan deposits, alluvial deposits in active channels and on flood plains and also a region of clay soil in a poorly drained depression. Minor outcrops, which coincide with isolated hills are present in the eastern areas of 22165, these isolated hills consist of scattered outcrops of weathered siltstone and greywacke of the Paleoproterozoic Warramunga Formation, which most likely underlies the dominate Cainozoic sediments.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Flynn (5759) 1:100 000 sheet, which covers the area of the license.

5.12 EL 22224 MONZONITE

The EL 22224 comprises units of the Ooradidgee Group and these are dominated by the Wundirgi Formation which is comprised of arenite, siltstone, shale, tuff, chert and silicified tuff. These units are intruded by monzonite and quartz-monzonites of the Treasure Suite. Gold mineralisation is hosted by these felsic intrusives at two small prospects some 2 kms west of the EL and include the Last Hope (415 oz) and Bull Pup (55 oz).

Minor sedimentary and volcanic units of the younger Hatches Creek Group occur in the northern region of the EL. These include sub-lithic to lithic arenites, volcanic arenite, pebbly arenite and intermediate volcanic rocks. No Warramunga Formation occurs in the EL.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Short Range (5659) 1:100 000 sheet, which covers the area of the license.

5.13 EL 22583 MORNING STAR

Outcrops, which coincide with ridges and isolated hills, are dominate through out EL 22583, these ridges and isolated hills consist of weathered siltstone and greywacke of the Paleoproterozoic Warramunga Formation and most likely underlie Cainozoic colluvium scree, alluvial red soil plains, quartz rich dissected colluvial fan deposits and less extensive alluvial deposits in active channels and on flood plains. The Quartz Hill Fault system dominates the structure of the licence, and is the major control on mineralisation and ironstone emplacement.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Flynn (5759) 1:100 000 sheet, which covers the area of the license.
5.14 EL 22589 WHIPPET HILL

The geology of EL 22589 is dominated by outcrops, which coincide with ridges and isolated hills that dominate the central and northern regions of EL 22589. These ridges and isolated hills consist of scattered outcrops of weathered siltstone and greywacke of the Paleoproterozoic Warramunga Formation, and most likely underlie the Cainozoic colluvium scree, alluvial red soil plains and less extensive alluvial deposits in active channels and on flood plains.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Flynn (5759) 1:100 000 sheet, which covers the area of the license.

5.15 EL 22590 STUART HIGHWAY

EL 22590 is largely covered by Tennant Creek drainage system and comprises Cainozoic alluvium and colluvium. The cover sediments include alluvial deposits in active channels and on floodplains, and sheet/dune sand and sandy soil on high floodplain terraces.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Flynn (5759) 1:100 000 sheet, which covers the area of the license.

5.16 EL 23073 PUMPING STATION

The majority of the licence area is underlain by turbidite sediments of the Palaeoproterozoic Warramunga Formation (1865-1855 Ma), predominately greywacke and siltstones. This formation is host to virtually all the magnetite-haematite (ironstone–hosted) gold-copper-bismuth mineralisation and ore bodies in the Tennant Creek goldfield.

The northern extension of EL 23073 covers areas of Flynn Sub-group (also Palaeoproterozoic but overlying the Warramunga Formation); including Warrego Volcanics, and most of its northern end contains (relatively) younger sediments of the Tomkinson Creek Group (Flynn Sub-group).

5.17 EL 23183 JUNCTION

The project area is located in the northern region of the Tennant Creek Province. The geology in the western half of the tenement is characterised by outcropping ridges which comprise scattered outcrops of weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation and felsic volcanics or volcanically derived sedimentary rocks of the Flynn Sub-group/ Tomkinson Creek Sub-group (Ooradidgee Group), quartz-rich dissected colluvial fan deposits with minor, colluvium scree, felsic porphyry and alluvial deposits in active channels and on floodplains. The geology of the
eastern half is characterised by large areas of Quaternary cover, including colluvium, scree, sheet and dune sand and sandy soil and alluvial deposits in active channels and on floodplains.

Known mineralisation in the Licence is generally located along NW trending structures, most notable of these being the "Quartz Hill Fault". These structures also correlate well with the many mapped outcropping Ironstones, which represent potential hosts for ironstone related Au-Cu-Bi mineral deposits.

5.18 EL 23745 VIVID

The project area is on the northern fringe of the established Tennant Creek goldfield. Except in a few localities, bedrock geology within the Licence area is not well revealed due to the discontinuous nature of sparse outcrops. Much of the combined Licence area is underlain by the predominantly felsic volcanics or volcanically derived sedimentary rocks of the Flynn Sub-group, while the more northern parts consist of sediments of the lower Tomkinson Creek Sub-group.

The geology in the southern and eastern Licence areas consists of scattered outcrops of weathered siltstone and greywacke of the Warramunga Formation.

Quaternary sand and gravel covers most bedrock exposures to the east of the Stuart Highway however outcrop occurrence tends to increase to the west of the Stuart Highway.

There are a number of intermittent outcrops of granite, metamorphosed sediments and ironstone throughout the western part of the combined Licence area.

5.19 EL 23746 MARKER

The geology in EL 23746 consists of major outcrops of weathered siltstone and greywacke of the Paleoproterozoic Warramunga Formation forming a series of ridges trending north west. The western region contains quartz rich dissected colluvial fan deposits with less extensive covering by Cainozoic colluvium, scree and alluvial deposits in active channels and on flood plains. The eastern region of the licence is dominated by Cainozoic colluvium, scree and alluvial deposits in active channels and on flood plains with less extensive quartz rich dissected colluvial fan deposits.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Flynn (5759) 1:100 000 sheet, which covers the area of the license.
5.20 EL 7810 HAYWARD CREEK

The geology in EL 7810 consists of minor outcrops of weathered siltstone and greywacke of the Paleoproterozoic Warramunga Formation, limited to central north and north west areas of the licence, these outcrops form a series of north westerly striking low ridges. In the western end of these low ridges the beds all dip steeply southwards with the occasional parasitic fold indicating a variable easterly plunge. Colluvium, scree and alluvial deposits in active channels and on flood plains dominates the geological landscape of the licence, with less extensive alluvial red soil plains confined to the north east area of the licence.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Flynn (5759) 1:100 000 sheet, which covers the area of the license.

5.21 EL 8773 LASSO

Exploration Licence 8773 is mostly covered by Quaternary alluvial deposits in active channels and on floodplains and quartz-rich dissected colluvial fan deposits. Outcrops of the Ooradidgee Group (formerly Flynn Sub-group units Wundirgi and Brumbreu Formations) occur to the south and the north and most likely underlie the alluvial deposits.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Flynn (5759) 1:100 000 sheet 8773, which covers the area of the license.

5.22 EL 9909 STAR WARS

More than 98% of EL 9909 comprises units of the Ooradidgee Group and these are dominated by the Wundirgi Formation which is comprised of arenite, siltstone, shale, tuff, chert and silicified tuff. Other units of the Ooradidgee Group include ignimbrites, lapilli tuff and rhyolitic lava. These units are intruded by monzonite and quartz-monzonites of the Treasure Suite. Gold mineralisation is hosted by these felsic intrusives at two small prospects some 5.5 kms west of the EL and include the Last Hope (415 oz) and Bull Pup (55 oz).

Minor sedimentary and volcanic units of the younger Hatches Creek Group occur at the northern edge of the EL. Less than 2% of Warramunga Formation occurs in the EL, however this comprises sandstone dominated volcano lithic, turbiditic sequences as opposed to the more prospective highly magnetic siltstone dominated Warramunga Formation units.
In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Flynn (5759) 1:100 000 sheet, which covers the area of the license.

5.23 EL 9939 BATTERY BLOCK

The majority of the licence is underlain by turbidite sediments of the Palaeoproterozoic Warramunga Formation (1865-1855 Ma), predominately greywacke and siltstones. This formation is host to virtually all the magnetite-haematite (ironstone–hosted) gold-copper-bismuth mineralisation and ore bodies in the Tennant Creek goldfield.
6. PREVIOUS EXPLORATION

Targets and Concepts

Exploration within the NPA has been aimed at discovering Tennant Creek style iron oxide copper-gold (IOCG) deposits within the Warramunga Formation.

This type of deposit is well documented. Better known examples of the primary copper-gold type in the region include Peko and Argo. These deposits are all hosted in ironstone (magnetite +/- haematite) masses with associated chloritic, dolomitic and silicic alteration. An example of the primary gold type is the Juno deposit. A local examples of the oxide gold type are the Nobles Nob and Eldorado deposits.

There are numerous ironstone outcrops and magnetic anomalies that represent non-outcropping ironstone masses, scattered throughout most of the NPA.

The discovery of the haematite-magnetite Chariot deposit in 1998 has shown the potential for variations on the classic magnetite ironstone hosted gold +/- copper deposits, where lower order magnetic anomalies, plus gravity methods can define new targets. Discoveries by Giants Reef of mineralisation such as at Malbec West, Marathon and Billy Boy further support this. Giants Reef considers the potential for the discovery of mineralisation in hematite dominant ironstones in this group of tenements is excellent.

A large area of the NPA is explored under a statutory exploration Mining Management Plan (MMP) termed Northern Project Area.

6.1 EL 10016 GECKO ROAD

During the first year of tenure under Giants Reef Exploration, exploration work involved assessment of the geology of the area. It was concluded that outcrops of the Warramunga Formation are confined to the northern two blocks of this Licence. The Gecko Shear Zone runs through this part of the EL. The other three blocks are lacking in Proterozoic outcrops, although this basement appears to be quite shallow, and do not show any magnetic features of note. Research into previous geophysical studies has revealed two magnetic anomalies, Explorer 71 and Explorer 88, which are located on the margins of the northern block of the EL.

Explorer 71 (AGD84 co-ords, 402000E 7849100N) lies within Mineral Claims C313, C314, C1201 and C1202, on the northern boundary of the Licence and is thus excluded from EL 10016.
Explorer 88 (AGD84 co-ords, 403500E 7847250N) is situated at the southeast corner of the easternmost block, in an area of no outcrop, and is not under claims or leases. It is possible that the causative body is just outside the EL. Giants Reef has not found any information from GeoPeko or Normandy databases to suggest that this blind anomaly has been tested by drilling, and it is therefore regarded as a future target of some interest. Examination and review of the regional magnetics revealed that it can be construed as lying along a linear feature running SE from the Orlando mine, and although Explorer 88 is 6km along magnetic strike from Orlando, its setting gives it a reasonable to high level of prospectivity. It was planned to investigate the anomaly by magnetic modelling, and if justified a drill program would follow.

Exploration work in the second year of Giants Reef Exploration included tenement rationalisation - Shortly before the grant of the EL, Giants Reef purchased all the shares in Normandy Tennant Creek Pty Ltd (now re-named Santexco Pty Ltd). With the purchase, Giants Reef also acquired the extensive Normandy database containing a very large amount of information on the geology and history of exploration and mining over the greater part of the Tennant Creek goldfield. An internal review of the Giants Reef tenement portfolio and a classification of exploration opportunities in September 2002 assessed the future exploration potential of all the tenements held by Giants Reef. The future exploration potential of the EL and enclosed Mineral Claims and Leases were assessed using an integrated geological, geochemical and geophysical approach. The review was based on the potential to discover high-grade gold mineralisation in both magnetic and haematite-dominant ironstones.

A decision was made by Giants Reef to rationalise the tenement holdings of the company, by substantially reducing the number of Mineral Leases and Claims that were surrounded by existing Exploration Licences and Exploration Licence Applications. Consequently, a number of Mineral Leases and Claims have been surrendered or withdrawn over the past year.

During the second tenure year a program of high-priority definition drilling of the Chariot gold deposit was the immediate focus of Giants Reef. Further exploration focus by Giants Reef for 2002 was on the drilling of the Bluebush Project Area, EL’s 8882 and 8883, which came under an Alliance with BHP Billiton. The focus on the Bluebush area and the definition drilling at Chariot gold deposit prevented Giants Reef from undertaking on-ground exploration over the Licence area.

The third year of tenure under Giants Reef also saw no on-ground exploration over the Licence. Giants Reef’s commitments in establishing mining operations at Chariot, Edna Beryl, Cats Whiskers and Malbec West prevented further exploration over the licences.

The fourth year of tenure under Giants Reef a comprehensive review of the vacuum geochemical data and geophysics over the tenement was undertaken during the year and
this work resulted in the delineation of a highly prospective magnetic anomaly which coincides with a western, albeit low tenure Au anomaly. A reconnaissance survey was undertaken over this area and an inspection of outcrop in the region of the anomaly supports the presence of the prospective Warramunga Formation units. Follow-up exploration on this target was curtailed during the year due to the Company’s commitment in developing the Malbec West, Edna Beryl, Cat’s Whiskers deposits and other higher priority regional targets in the Tennant Creek Mineral Field.

6.2 EL 10017 STONEY DAM

The target in Exploration Licence 10017 is a major base metals or base metals/precious metals deposit. Giants Reef is not applying a precise model to the target, but the style of occurrence is envisaged as being situated in iron oxide-rich lithologies and therefore likely to be associated with a regional or district-scale gravity anomaly and probably also with a magnetic anomaly. A regional gravity high, which Giants Reef refers to as the Rosella Gravity Anomaly, is centred approximately 17km northeast or NNE from Warrego. This gravity anomaly occurs within a much wider zone of elevated magnetic readings centred around the Warrego Granite intrusion to the west. The basement geology of the gravity anomaly area is largely masked by Recent cover sequences, so that the cause of the gravity anomaly is not apparent.

Exploration work conducted during the first year of tenure included a literature search of all previous exploration work conducted of the area of the EL.

Giants Reef made an initial examination of reports on exploration by previous companies in the area of Exploration Licence 10017. The research was not of much direct value in the search for major base metals deposits, but was of assistance in locating possible future targets of the Tennant Creek-style ironstone-associated gold-copper-bismuth type.

Reconnaissance - Several vehicle trips were made to the area around the centre of the Rosella Gravity Anomaly. These trips revealed the difficulties of travelling in this area, without providing much in the way of additional geological knowledge.

NTGS/AGSO gravity survey assessment - In mid-2001, the Northern Territory Geological Survey and the Australian Geological Survey Organisation jointly carried out a gravity survey over the Tennant Creek 1:250,000 sheet and parts of some adjacent sheets. In the EL 10017 area, the station spacing was at 4km by 4km centres. The new survey information was a considerable improvement upon the old 11km by 11km coverage.

Consulting geophysicist Frank Lindeman, of Lindeman Geophysics Pty Ltd, Melbourne, assessed the new NTGS/AGSO gravity data over the Rosella Gravity Anomaly and EL 10017 for Giants Reef. After removing a residual gradient, the Rosella Gravity Anomaly now appears broken up into several separate anomalies and the highest amplitude, or
peak, residual anomaly is located at AGD84 approximate co-ordinates 384000E 7864800N. Mr Lindeman commented that the “Rosella Gravity Anomaly, as defined by the Bouguer gravity and the Bouguer residual, is now part of a large and quite coherent ‘inverted U-shape’, which quite faithfully drapes around the northern edge of the Warrego granite. Its size and location truly does give it the feel of a ‘regional’ feature, probably reflecting the density contrast between the granite and the surrounding geology. The Rosella anomaly is only a part of the eastern section of this response and realistically does not now, in my opinion, constitute a specific or discrete anomaly, which might represent an ore environment.”

This observation downgrades the exploration potential for the kind of target envisaged.

Gravity and magnetics assessment - Further to his comments on the NTGS/AGSO gravity survey results, Mr Lindeman noted that within the Rosella project and adjacent areas, except for the area of the Warrego Granite, there is no correlation between gravity and magnetics. “The magnetic features occurring within the Rosella Gravity Anomaly extend well out of it, particularly as they trend well off to the ENE. Thus there is no reason to presume that the source of the magnetic and gravity bodies are the same.”

The assessment led to the conclusion that “the magnetic and gravity data do not define a specific target worthy of drill testing, whether it be magnetic, gravity or a combination of both. It could be argued that the (new) gravity data are still quite regional with stations many kilometres apart. However, the strong association of the gravity with a great proportion of the northern edge of the low-density Warrego granite, which is unlikely to change with more closely spaced stations, suggests strongly that the gravity is reflecting a regional geological phenomenon and not a potential drill target.”

Further literature search may generate other targets and prospects in the Rosella Project Area. However, these are likely to be of the ‘traditional’ Tennant Creek ironstone-associated gold-copper-bismuth style, or perhaps variants of this, rather than the type of base metals deposits being sought under the alliance with BHP Billiton.

Areas of interest presently known to Giants Reef include the four Mineral Claims at Butchers Waterhole, which cover a complex aeromagnetic anomaly. Another area is the former Metana Minerals prospect once held under Mineral Claims C963 and C964, located in the southeast corner of the northern three blocks of EL 10017 Stoney Dam.

Access clearance from the Central Land Council - A work program under the Indigenous Land Use Agreement was submitted by Giants Reef to the Central Land Council when the three Exploration Licences were still in the application stage. The CLC later conducted a land access clearance of the work proposed. The CLC pointed that the clearance work was made difficult by the fact that Giants Reef did not have firm locations for any possible
drilling at the time. EL 10017 Stoney Dam does not have any exclusion zones or culturally sensitive areas marked.

Exploration during the second year of tenure included:

Exploration Focus under the Alliance - Tennant Creek-style orebodies are regarded as secondary targets, with the focus of exploration, under the Strategic Alliance agreement with BHP Billiton, is to find major base metals or base metals/precious metals deposits. However, assessment of the base metals/precious metals prospect areas within EL 10017 has downgraded the potential for this style of mineralisation occurring at the Rosella prospect.

Exploration - As a result of the downgrading of EL 10017 for base metals or base metals/precious metals deposits, Giants Reef focused their 2002 field season commitments primarily within the Bluebush tenements of EL 8882, 8883 and 10402. These tenements are also under the Alliance with BHP Billiton in which the major targets are base metals and precious metal deposits.

Tenement Review - An internal review of the Giants Reef tenement portfolio and a classification of exploration opportunities in September 2002 assessed the future exploration potential of EL 10017, and the prospects within the Licence. The review recommended that Giants Reef substantially reduce the tenement holding of EL 10017 and retain only the areas covering the targets which may still hold potential for Tennant Creek style shallow or substantial gold mineralisation.

At the end of the second year of tenure the Licence area was reduced from 9 to 5 graticular blocks.

Alliance Meeting - A technical meeting was held between Giants Reef and BHP Billiton in Melbourne on the 2nd December 2002. The meeting focussed on recent drilling results from the Bluebush Project Area. Information was presented to BHP Billiton representatives. There was a general agreement at the meeting that the gravity anomalies in the Rosella area did not rate in comparison with the Bluebush area. The minutes from the meeting were accepted as accurate, and were signed on the 16th December 2002 by Giants Reef and BHP Billiton.

Exploration work conducted during the third year of tenure included:

Termination of Strategic Alliance - In early 2003, BHP Billiton indicated to Giants Reef that they no longer wished to continue with the Strategic Alliance. Giants Reef prepared a summary report for BHP Billiton detailing all the exploration conducted over the joint venture tenements, including EL 10017 during the period of the Strategic Alliance between 1999 to 2003. Correspondence from BHP Billiton on the 25th July 2003, confirmed the termination of the Bluebush Joint Venture and hence the closure of the Strategic Alliance.
Strategic Planing - No on-ground exploration was conducted over the Licences during the year. Giants Reef reviewed the geological targets and models for all three exploration Licences to assess the likelihood of an immediate discovery. The review recognised a number of magnetic anomalies within EL 10017 which are indicative of Tennant Creek style gold-copper occurrences. Giants Reef however, retain the view that the Licence is highly prospective for mineralisation.

Exploration work during the fourth year of tenure included a review and reassessment of all previous exploration, this identified areas considered most prospective for exploration, and include a number of vacuum geochemical anomalies which warrant further investigation.

The prospectivity of the EL to host economic gold/copper mineralisation was recently downgraded for the following reasons;

a.) The EL contains no prospective Warramunga Formation.

b). The areas proposed for reduction have been largely tested by vacuum drilling and no significant results were returned from this work.

c.). The tenement has no recorded occurrences of Au-Cu mineralisation.

d.). The area proposed for reduction includes a western portion of the Rosella Gravity Anomaly, however its prospectivity has been down-graded due to it being interpreted as a regional feature, reflecting a thick package (up to 2km) of sediments (Ooradidgee and Hatches Creek Group) against lower density granites i.e. Warrego granite. The Rosella anomaly appears to be only a part of an extensive anomaly, and appears not to constitute a specific or discrete anomaly which might provide a drill target. Furthermore, magnetic features occurring within the Rosella Gravity Anomaly extend well away from it, suggesting that the magnetic and gravity features do not have a common source.

6.3 EL 10077 WHIPPET EAST

EL 10077 was acquired to search for IOCG deposits hosted in Warramunga Formation units within the Northern Star - Edna Beryl – Whippet trend and to evaluate a dipole magnetic feature identified in a 1993 Western Mining (WMC) aeromagnetic survey. The magnetic feature is located approximately 2 km east of the Whippet Hill mine and is referred to as the “Whippet East” magnetic anomaly.

Exploration during the first year of tenure included:

Magnetic Assessment - Consultant geophysicist Frank Lindeman, of Lindeman Geophysics Pty Ltd, was engaged to examine the 1998 AGSO aeromagnetic data over the
licence area. Several drill targets were produced from this work however most appear to be low-order.

Exploration Licence 10077 was initially applied for to cover a dipole magnetic feature identified in a 1993 Western Mining (WMC) aeromagnetic survey. The magnetic feature is located between 134° 18' 00", 19° 18' 00" and 134° 19' 00", 19° 19' 00" and was subsequently called the “Whippet East” magnetic anomaly by Giants Reef.

Frank Lindeman, of Lindeman Geophysics Pty Ltd modelled the Whippet East anomaly using the 1998 AGSO aeromagnetic data. Mr Lindeman’s assessment was not encouraging, however he suggested that a ground magnetic survey should be completed over the anomaly to provide detailed data which he could then model with more confidence. This recommendation has not yet been followed up on.

The presence of the Whippet Hill mine which produced 18,800 oz Au, located approximately 2km to the west of the anomaly within a highly gold-productive corridor that includes Edna Beryl, Troy, Marathon and others upgrades the anomaly substantially.

This anomaly was considered a future target for magnetic modelling, and for subsequent drilling if warranted.

Exploration conducted during the second tenure year included:

A review and assessment of the exploration potential and prospectivity of the Licence area. The presence of the Whippet Hill mine which produced 18,800 oz Au, located approximately 2km to the west of the anomaly within a highly gold-productive corridor that includes Edna Beryl, Troy, Marathon and others upgrades the anomaly substantially. The review recommended the Whippet East magnetic anomaly for magnetic modelling, and subsequent drilling if warranted.

The proposed magnetic modelling was not undertaken in the second tenure year due to Giants Reef’s commitments being else where in the Tennant Creek goldfield.

The main work completed during the fourth tenure year comprised collection and entry of exploration data into Giant’s Reefs GIS and Micromine databases.

It was decided not to extend the detailed ground gravity survey completed in 2004 over ELs 10101, 22165, 22583 and 22590 further to the west onto EL 10077. This survey has highlighted several promising anomalies, and subject to reconnaissance drilling testing of these, it is planned to extend the ground gravity survey further west.

The 2 graticular blocks proposed for reduction during this tenure year were interpreted as Ooradidgee Group units and as such are not considered to represent an area of high prospectivity. The area proposed for retention and considered most prospective includes
the north eastern region of the tenement which includes Warramunga Formation and the strike extensions to the Whippet deposit.

6.4 EL 10079 SETTLEMENT

Exploration conducted during the first tenure year included;

Generation of targets and concepts - A brief assessment by Giants Reef prior to the grant of the Licence identified a target area within the EL related to a cluster of magnetic anomalies located in the north west corner of the Licence area. The cluster of magnetic anomalies extend out to the west into adjoining EL 8773. While not of high amplitude, these east west elongated features standout noticeably against the magnetically subdued surroundings. Giants Reef’s initial interpretation is that the magnetic features represent basic dykes or sills, probably related to the more numerous and more extensive similar features seen a few kilometres further north. These are assumed to be basic dykes or sills within the Flynn Sub-group. However, it is possible that the target anomalies in EL 10079 could represent, or may include, ironstone bodies (possibly haematite dominated) within the Warramunga Formation, such as are found at Giants Reef’s Troy copper deposit less than 2km from the south-west corner of EL 10079, or at the Edna Beryl gold mine, 1km to the south-west.

Strategic Review - Work completed over EL 10079 in the first tenure year involved no on-ground exploration. The geology and prospectivity of the Licence area was assessed and the Licence was recommended to be included in a package of tenements to be Joint Ventured out. Mining recommenced at the Edna Beryl mine, located just southwest of EL 10079. This will aid in greater geological understanding of the area, and generate significant interest in the vicinity.

Exploration work conducted during the second year of tenure included;

Reconnaissance - During Year 1 a cluster of magnetic anomalies located in the north west corner of the Licence area were identified as potential ironstone bodies (possibly haematite dominated) within the Warramunga Formation, such as are found at Giants Reef’s Troy copper deposit less than 2km from the south-west corner of EL 10079, or at the Edna Beryl gold mine, 1km to the south-west. While not of high amplitude, these east west elongated features standout noticeably against the magnetically subdued surroundings. Giants Reef’s initial interpretation is that the magnetic features represent basic dykes or sills, probably related to the more numerous and more extensive similar features seen a few kilometres further north. These are assumed to be basic dykes or sills within the Flynn Sub-group. A half-day reconnaissance field trip was made to the approximate location of this anomaly cluster, scaled off various magnetic and gravity images in the GRM office. On arrival the area was devoid of any outcrop. Quaternary sands and silt of the broad Phillip Creek drainage system cover the area. Float
(transported) rocks throughout various areas visited typically consisted of basalt, chert and fine to medium grained arenite. One piece of felsic tuff was also identified. Numerous chert and quartz float is seen throughout the Licence Area.

The geology identified in the area agrees with GRM’s initial desktop interpretation in that there is limited potential for ironstone bodies to exist within this geological environment. No samples were collected during this trip. Although the causative body(s) for the magnetic cluster could not be ground located further evaluation of the Licence Area is still required.

Alliance / Joint Venture - The geology and prospectivity of the Licence Area was assessed during Year 1 and the Licence was recommended to be included in a package of tenements to be Joint Ventured out. Giants Reef actively sought a partnership which would focus target generation and exploration over EL 10079. Giants Reef envisaged that once a Partnership or Alliance was established the magnetic anomalies identified within EL 10079 will be geophysically modelled. Results from these efforts were limited and non-effective.

6.5 EL 10101 BINARY

Exploration Licence 10101 was initially applied to cover an area to the south of known mineralisation within Giants Reef’s Marathon, Troy and Edna Beryl prospects. The Licence area covered 8 full and 4 part graticular blocks.

Exploration work conducted during the first tenure year included:

A review of all previous exploration work, this identified that the Licence area contained at least 3 target areas that require further investigation.

- A possible trend of mineralisation form Giants Reef’s North Star mine, running east-northeast through the northwest corner of the Licence into adjoining EL 22165.

- The Rhodes magnetic anomaly east of the Stuart Highway, centred at 415700mE 7861300mN (AMG AGD84). Western Mining completed a large ground magnetic survey over this anomaly but decided not to drill it because it is in an area of low gravity, and not on a gravity ridge. This anomaly remains unexplained.

- Another aeromagnetic anomaly 1.5km southeast of Rhodes, at 417100mE 7860800mN (AMG AGD84). This anomaly was called Rhodes South by Giants Reef. Research indicates no work has been done on this anomaly, even though it appears to be stronger than Rhodes, and more importantly, lies on a northeast-trending gravity ridge which is clearly defined in WMC’s regional gravity survey. This gravity feature, though not as broad as the North Star to Whippet ridge, could well represent a narrower band of concealed Warramunga Formation rocks.
Establishment of an AMG AGD 94 grid over the Rhodes and the Rhodes South anomalies, further geophysical assessment, modelling and the collection of soil and rock samples is planned for these two target areas over the next reporting period. Subsequent drilling of the targets will be done if warranted.

Exploration and the proposed work over the identified anomalies during the second tenure year was limited due to Giants Reef’s commitments being else where in the Tennant Creek goldfield.

Exploration during the third tenure year included:

Continuation of literature review - EL 10101 was examined through an extensive literature review in the first tenure year identified 3 target areas that require further investigation.

• A possible trend of mineralisation form Giants Reef’s North Star mine, running east-northeast through the northwest corner of the Licence into adjoining EL 22165.

• The Rhodes magnetic anomaly east of the Stuart Highway, centred at 415700mE 7861300mN (AMG AGD84). Western Mining completed a large ground magnetic survey over this anomaly but decided not to drill it because it is in an area of low gravity, and not on a gravity ridge. This anomaly remains unexplained.

• Another aeromagnetic anomaly 1.5km southeast of Rhodes, at 417100mE 7860800mN (AMG AGD84). This anomaly was called Rhodes South by Giants Reef. Research indicates no work has been done on this anomaly, even though it appears to be stronger than Rhodes, and more importantly, lies on a northeast-trending gravity ridge which is clearly defined in WMC’s regional gravity survey. This gravity feature, though not as broad as the North Star to Whippet ridge, could well represent a narrower band of concealed Warramunga Formation rocks.

Establishment of an AMG AGD 94 grid over the Rhodes and the Rhodes South anomalies, further geophysical assessment, modelling and the collection of soil and rock samples was proposed for the target areas.

Further exploration on EL 10101 and the proposed exploration over the anomalies was not undertaken in the third tenure year due to Giants Reef’s commitments being else where in the Tennant Creek goldfield.

Exploration during the fourth tenure year included the establishment of an AMG AGD 94 grid over the Rhodes and the Rhodes South anomalies, further geophysical assessment, modelling and the collection of soil and rock samples was proposed for the target areas.

A detailed ground gravity survey of the area stretching from the Northern Star to Carraman/Klondyke deposits was completed. Daishsat Geodetic Surveyors were
contracted to undertake a detailed ground gravity survey over some 7km2 of Warramunga Formation extending from the Northern Star – Edna Beryl to Klondyke prospects. This survey covered 3.2km2 of the north western region of EL 10101, including an area between the Troy and Rising Star prospects. This survey has highlighted several discrete gravity highs requiring follow-up work. Some of these are associated with known but poorly out-cropping ironstones.

During the tenure year Giants Reef completed a scoping study to evaluate all known copper-gold resources and prospects on its tenements. Work comprised:

- Compilation of an inventory of all copper-gold resources and drilled prospects;
- Assessment and ranking of resources and prospects;

Further detailed work was carried out on the Orlando mineral resource including:

- Geological modelling and resource estimation;
- Examination of metallurgical process options for recovery of gold and copper;
- Examination of mining options; and
- Financial modelling.

The Troy deposit, which is located in MCC 908 within the License area, was assessed as part of this study. Further work including delineation drilling, and drilling to test the main shear zone up-dip was identified before any further work is justified.

During the tenure year a desk top evaluation of the License was undertaken to assess the potential of the EL to be included in a package of tenements for JV. Given the location of the EL to Giants Reef’s operational Edna Beryl mine, and in the main north east trending structural corridor, the License was excluded. Additionally a north-west striking magnetic ridge was noted as an additional area of review for exploration targets.

During the tenure year Giants Reef Exploration submitted a Mining Management Plan (MMP) for Exploration within the Northern Project area, which spans from White Devil in the west to the Whippet prospect in the east. This was to initiate a new phase of exploration by Giants Reef within the Northern area of the Tennant Creek field.

### 6.6 EL 10129 ALEXANDER

Introduction and target concept - Exploration within EL 10129 is aimed at discovering large deposits of base metals along with substantial gold and/or silver, probably accompanied or hosted by large volumes of iron oxide minerals. The project area is well away from the
established Tennant Creek goldfield, in the relatively younger and geologically distinct Ashburton Province, and any mineral deposits found here are likely to be very different from the well-known ironstone-related gold-copper deposits of the Tennant Creek Province.

The focus of exploration is within the area of the major Alexander Gravity Anomaly (Giants Reef’s term) which is centred about the Stuart Highway, extending from EL 10129 through neighbouring EL 10311 and north into EL 7810. This gravity anomaly is interpreted as being caused by dense, probably iron-rich, rocks and may be a favourable geological environment in which to be searching for sort of large-scale mineral deposits envisaged.

Exploration during the first year of tenure included;

NTGS/AGSO gravity survey assessment - Consulting geophysicist Frank Lindeman, of Lindeman Geophysics Pty Ltd, Melbourne, assessed the new NTGS/AGSO gravity data over EL 10129. This data came from the NTGS/AGSO gravity survey covering the whole Tennant Creek 1:250,000 sheet, plus some adjoining areas. The survey was conducted in mid-2001. Mr Lindeman’s assessment, dated 28 February 2002, deals with a number of areas both inside and outside the Alexander project area ELs. Mr Lindeman stated “Although the Alexander project area contains a wide gravity station spacing, the broad nature of the anomalous responses, and the lack of convincing and related magnetic anomalism, leads me to the conclusion that no geophysical target exists and no further closer spaced data need to be considered. This conclusion is supported by the absence of any other geoscientific data which could provide some encouragement.”

This observation downgrades the exploration potential of the Alexander Gravity Anomaly target, and the previous intention of drilling a test hole or holes in the centre of the residual Alexander Gravity Anomaly peak is now being reconsidered.

Gravity ridge traverses - An elongate residual gravity anomaly or ‘gravity ridge’ runs east-west through EL 10129. As part of a B.Sc. Honours project for a student (Margarita Norvill), at Curtin University of Technology, WA, two 12km north-south gravity traverses were read across the gravity ridge. To cover sufficient distance north and south of the gravity ridge, the traverse lines had to be extended into tenements not included in the Alexander project area.

One traverse followed the eastern side of the Stuart Highway, from 7860000N (south end) to 7872000N. The line was cleared with a grader along the east side of the road fence line. Its north end is in EL 10311 Gibson Creek and the traverse passed through EL 10209 Alexander and through several other Giants Reef tenements to the south. The other line was approximately 9km east of the Stuart Highway, along ~423500E, from 7860000N to 7872000N. Approximately 3.6km was in EL 10129: the remainder in other adjoining tenements. The line was cleared with a front-end loader. Pegs were put in at
100m intervals along both lines, and optically levelled. The instrument used was a Scintrex CG-3/3M Autograv gravity meter.

The conclusion from the project (Curtin University Department of Exploration Geophysics Report 4/01; November 2001) was that the east-west gravity ridge through EL 10129 was probably caused by a swarm of dolerite dykes.

Hydrogeochemistry - Giants Reef sampled the ground water from three cattle station water bores in the Alexander project area, and the water samples were analysed by the CSIRO. This work was done in conjunction with a much larger groundwater sampling program over the Bluebush Gravity Anomaly, located about 50km southwest of Tennant Creek. The sampling was aimed at finding indications of mineralisation in the and around the regional Alexander Gravity Anomaly. The sampling and analytical techniques used have been developed over many years by the CSIRO, in particular by Senior Principal Research Scientist Angela Giblin, who visited Giants Reef’s Tennant Creek offices to discuss the project. Giants Reef’s field work was conducted under her guidance.

An initial step was to find out the locations of all old bores and drillholes in the Alexander area. This was done by visits to the Water Resources Section of the NT Government Department of Lands, Planning and Environment in Alice Springs, where a database on disk was obtained, and photocopies made of a large number of geological logs of all the relevant drillholes and bores.

Sampling involved making readings at each site for ambient and sample temperature, acidity, conductivity, water depth, sample depth, GPS location and remarks on the water quality. The sample bottles were sent to the CSIRO’s laboratory at North Ryde, NSW for the sensitive analysis work. None of the Alexander water samples displayed pH-redox conditions suggestive of sulphides or magnetite, or any indications of Cu, Pb or Zn in their source rocks. However, given that there were only three samples taken over a very wide area of the Alexander anomaly, these three samples cannot be expected to give a fair indication of the presence or otherwise of anomalous base metals somewhere in the district.

Access clearance from the Central Land Council - The Central Land Council commenced land access clearance for the work proposed by Giants Reef in a program submitted under the ILUA in February 2001.

Exploration during the second tenure year was limited as a result of the downgrading of the Alexander Gravity Anomaly in EL 10129 for a major base metal or base metals/precious metals deposits, the field activities proposed in the first year for the Licences were reprioritised. Giants Reef focused their field season commitments primarily within the Bluebush tenements of EL 8882, 8883 and 10402. These tenements are also
under the Alliance with BHP Billiton in which the major targets are base metals and precious metal deposits.

As a result no on ground exploration was undertaken over the Alexander project area (including EL 10129) in the second tenure year.

A tenement review was conducted as part of an internal review of the Giants Reef tenement portfolio and a classification of exploration opportunities during the tenure year, this assessed the future exploration potential of EL 10129 and the prospects within the Licence. The review recommended that Giants Reef substantially reduce the tenement holding of EL 10129 and retain only the areas covering the targets which may still hold potential for Tennant Creek style shallow or substantial gold mineralisation.

At the end of the second year of tenure the Licence area was reduced from 13 to 7 graticular blocks. Much of the relinquished areas were identified as exclusion zones and culturally sensitive areas by the CLC under instruction from the Native Title holders of the Tennant Creek region. These zones would present considerable difficulties if exploration were to be pursued in these areas.

Alliance Meeting - A technical meeting was held between Giants Reef and BHP Billiton in Melbourne on the 2nd December 2002. The meeting focussed on recent drilling results from the Bluebush Project Area. Information was presented to BHP Billiton representatives. There was a general agreement at the meeting that the gravity anomalies in the Alexander project area did not rate in comparison with the Bluebush project area. The minutes from the meeting were accepted as accurate, and were signed on the 16th December 2002 by Giants Reef and BHP Billiton.

Exploration during the third tenure year included the termination of the Strategic Alliance - In early 2003, BHP Billiton indicated to Giants Reef that they no longer wished to continue with the Strategic Alliance. Giants Reef prepared a summary report for BHP Billiton detailing all the exploration conducted over the joint venture tenements, including EL 10129 during the period of the Strategic Alliance between 1999 to 2003. Correspondence from BHP Billiton on the 25th July 2003, confirmed the termination of the Bluebush Joint Venture and hence the closure of the Strategic Alliance.

Other exploration work during the third tenure year included Strategic Planing - No on-ground exploration was conducted over the Licences during the year. Giants Reef reviewed the geological targets and models for both exploration Licences to assess the likelihood of an immediate discovery. The review recognised a number of magnetic anomalies within EL 10129 which are indicative of Tennant Creek style gold-copper occurrences and require further investigation.

Exploration during the fourth year of tenure included a Geophysical assessment of the Alexander Gravity Anomaly which, suggested that the magnetic and gravity data do not
define a specific target worth drill testing and as such is no longer regarded as having significant potential to host a large base metal deposit.

No on-ground exploration was conducted over the licence during the fourth tenure year.

6.7 EL 10166 WHIPPET NORTH

EL 10166 was acquired to search for IOCG deposits hosted in Warramunga Formation units within the Northern Star - Edna Beryl – Whippet trend and to evaluate a dipole magnetic feature identified in a 1993 Western Mining (WMC) aeromagnetic survey. The magnetic feature is located approximately 2 km east of the Whippet Hill mine and is referred to as the “Whippet East” magnetic anomaly.

The work completed on the nearby Whippet East magnetic anomaly, which includes areas of EL 10166, included modelling the Whippet East anomaly, by Lindeman Geophysics Pty Ltd, using the 1998 AGSO aeromagnetic data, however due to the lack of detailed resolution in this data no encouraging bodies were delineated and a more detailed ground magnetic survey was recommended in order to better define potential ironstone bodies/magnetic anomalies. Pending favourable results from this proposed work, drill testing would be undertaken. The proximity of the anomaly to the Whippet Hill mine (18,800 ounces of gold produced) and other significant prospects such as Edna Beryl, Troy, Marathon lend some support to the prospectively of this particular trend.

Exploration work conducted during the first year of tenure included;

The submission a number of Mining Management Plans (MMP) for exploration programs within the Northern Project Area. Exploration commenced on some of the tenements included in this report once Authorisations (0233-01 & 0233-02) were approved by the Department of Business, Industry & Resource Development.

The main work completed during the first tenure year comprised collection and entry of exploration data into Giant’s Reefs GIS and Micromine databases.

During the year Giants Reef completed a scoping study to evaluate all known copper-gold resources and prospects on its tenements. Work comprised:

- Compilation of an inventory of all copper-gold resources and drilled prospects;
- Assessment and ranking of resources and prospects;
- Further detailed work was carried out on the Orlando mineral resource including:
  - Geological modelling and resource estimation;
• Examination of metallurgical process options for recovery of gold and copper;
• Examination of mining options; and
• Financial modelling.

The area proposed for further and more detailed review and analysis, is considered most prospective includes the southern region of the tenement which includes Warramunga Formation and the strike extensions to the Whippet deposit.

6.8 EL 10311 GIBSON CREEK

Introduction and target concept - Exploration within EL 10311 is aimed at discovering large deposits of base metals along with substantial gold and/or silver, probably accompanied or hosted by large volumes of iron oxide minerals. The project area is well away from the established Tennant Creek goldfield, in the relatively younger and geologically distinct Ashburton Province, and any mineral deposits found here are likely to be very different from the well-known ironstone-related gold-copper deposits of the Tennant Creek Province.

The focus of exploration is within the area of the major Alexander Gravity Anomaly (Giants Reef's term) which is centred about the Stuart Highway, extending from neighbouring EL 10129 through EL 10311 and north into EL 7810. This gravity anomaly is interpreted as being caused by dense, probably iron-rich, rocks and may be a favourable geological environment in which to be searching for sort of large-scale mineral deposits envisaged.

Exploration during the first year of tenure included;

NTGS/AGSO gravity survey assessment - Consulting geophysicist Frank Lindeman, of Lindeman Geophysics Pty Ltd, Melbourne, assessed the new NTGS/AGSO gravity data over EL 10129. This data came from the NTGS/AGSO gravity survey covering the whole Tennant Creek 1:250,000 sheet, plus some adjoining areas. The survey was conducted in mid-2001. Mr Lindeman’s assessment, dated 28 February 2002, deals with a number of areas both inside and outside the Alexander project area ELs. Mr Lindeman stated “Although the Alexander project area contains a wide gravity station spacing, the broad nature of the anomalous responses, and the lack of convincing and related magnetic anomalism, leads me to the conclusion that no geophysical target exists and no further closer spaced data need to be considered. This conclusion is supported by the absence of any other geoscientific data which could provide some encouragement.”

This observation downgrades the exploration potential of the Alexander Gravity Anomaly target, and the previous intention of drilling a test hole or holes in the centre of the residual Alexander Gravity Anomaly peak is now being reconsidered.

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Hydrogeochemistry - Giants Reef sampled the ground water from three cattle station water bores in the Alexander project area, and the water samples were analysed by the CSIRO. This work was done in conjunction with a much larger groundwater sampling program over the Bluebush Gravity Anomaly, located about 50km southwest of Tennant Creek. The sampling was aimed at finding indications of mineralisation in the and around the regional Alexander Gravity Anomaly. The sampling and analytical techniques used have been developed over many years by the CSIRO, in particular by Senior Principal Research Scientist Angela Giblin, who visited Giants Reef’s Tennant Creek offices to discuss the project. Giants Reef’s field work was conducted under her guidance.

An initial step was to find out the locations of all old bores and drillholes in the Alexander area. This was done by visits to the Water Resources Section of the NT Government Department of Lands, Planning and Environment in Alice Springs, where a database on disk was obtained, and photocopies made of a large number of geological logs of all the relevant drillholes and bores.

Sampling involved making readings at each site for ambient and sample temperature, acidity, conductivity, water depth, sample depth, GPS location and remarks on the water quality. The sample bottles were sent to the CSIRO’s laboratory at North Ryde, NSW for the sensitive analysis work. None of the Alexander water samples displayed pH-redox conditions suggestive of sulphides or magnetite, or any indications of Cu, Pb or Zn in their source rocks. However, given that there were only three samples taken over a very wide area of the Alexander anomaly, these three samples cannot be expected to give a fair indication of the presence or otherwise of anomalous base metals somewhere in the district.

Access clearance from the Central Land Council - The Central Land Council commenced land access clearance for the work proposed by Giants Reef in a program submitted under the ILUA in February 2001.

Exploration during the second tenure year was limited as a result of the downgrading of the Alexander Gravity Anomaly in EL 10311 for a major base metal or base metals/precious metals deposits, the field activities proposed in the first year for the Licences were reprioritised. Giants Reef focused their field season commitments primarily within the Bluebush tenements of EL 8882, 8883 and 10402. These tenements are also under the Alliance with BHP Billiton in which the major targets are base metals and precious metal deposits.

As a result no on ground exploration was undertaken over the Alexander project area (including EL 10311) in the second tenure year.

As a result no on ground exploration was undertaken over the Alexander project area (including EL 10311) in the second tenure year.

A tenement review was conducted as part of an internal review of the Giants Reef tenement portfolio and a classification of exploration opportunities during the tenure year,
this assessed the future exploration potential of EL 10311 and the prospects within the Licence. The review recommended that Giants Reef substantially reduce the tenement holding of EL 10311 and retain only the areas covering the targets which may still hold potential for Tennant Creek style shallow or substantial gold mineralisation.

At the end of the second year of tenure the Licence area was reduced from 45 to 23 graticular blocks. Much of the relinquished areas were identified as exclusion zones and culturally sensitive areas by the CLC under instruction from the Native Title holders of the Tennant Creek region. These zones would present considerable difficulties if exploration were to be pursued in these areas.

Alliance Meeting - A technical meeting was held between Giants Reef and BHP Billiton in Melbourne on the 2nd December 2002. The meeting focussed on recent drilling results from the Bluebush Project Area. Information was presented to BHP Billiton representatives. There was a general agreement at the meeting that the gravity anomalies in the Alexander project area did not rate in comparison with the Bluebush project area. The minutes from the meeting were accepted as accurate, and were signed on the 16th December 2002 by Giants Reef and BHP Billiton.

Exploration during the third tenure year included the termination of the Strategic Alliance - In early 2003, BHP Billiton indicated to Giants Reef that they no longer wished to continue with the Strategic Alliance. Giants Reef prepared a summary report for BHP Billiton detailing all the exploration conducted over the joint venture tenements, including EL 10311 during the period of the Strategic Alliance between 1999 to 2003. Correspondence from BHP Billiton on the 25th July 2003, confirmed the termination of the Bluebush Joint Venture and hence the closure of the Strategic Alliance.

Other exploration work during the third tenure year included Strategic Planning - No on-ground exploration was conducted over the Licences during the year. Giants Reef reviewed the geological targets and models for both exploration Licences to assess the likelihood of an immediate discovery. The review recognised a number of magnetic anomalies within EL 10311 which are indicative of Tennant Creek style gold-copper occurrences and require further investigation.

During the fourth tenure year the licence area was reviewed and the conclusion drawn that the tenement contained no prospective Warramunga Formation. A Geological assessment identified the Licence area to be located outside the traditional Tennant Creek goldfield, and within host rock not indicative to the typical Tennant Creek Au-Cu-Bi mineralization. The geology and geophysics over the EL were reviewed and the northern graticular blocks of the tenement reduced.

No on-ground exploration was conducted over the licence during the year.
6.9 EL 22165 COPERNICUS

On 13 June 2001, Giants Reef Exploration Pty Ltd, a wholly owned subsidiary of Giants Reef Mining Limited, purchased all of the shares in NTC and as a result, NTC is now a wholly owned subsidiary of Giants Reef with all NTC tenements held under Santexco Pty Ltd (Santexco).

Exploration Licence 22165 was initially applied to cover a prospective area of land surrounding the North Star mine (102 000t @ 7.9 g/t Au) group of mineral claims that at the time of grant were owned by Normandy Tennant Creek Pty Ltd. These Mineral Claims and Leases cover approximately 40% of Licence area.

In the first tenure year Giants Reef’s contract geophysicist Mr Frank Lindeman of Lindeman Geophysics Pty Ltd, Melbourne geophysically assessed the Licence area. Mr Lindeman’s assessment of the 1998 AGSO aeromagnetic data covering the Licence area was encouraging with several low order magnetic anomalies identified for drill testing. The potential for gold-copper mineralisation in haematite dominant ironstone is considered high and acquisition of detailed gravity data over the area was suggested by Mr Lindeman.

Further geophysical assessment of the EL was not undertaken in the second tenure year due to Giants Reef’s commitments being else where in the Tennant Creek goldfield.

Exploration during the third tenure year was limited to desk top studies, re-evaluations and reviews of all previous exploration conducted over the EL, due to Giants Reef’s commitments being else where in the Tennant Creek goldfield.

Exploration conducted during the fourth year of tenure included the initiation of a program to explore for shallow oxide gold resources. Leases within EL 22165, which include the North Star and Jasper Hill Shallows prospects, were reviewed and RC drilling was planned. A detailed gravity survey was also planned, part of which covered this EL.

A detailed ground gravity survey of the area stretching from the Northern Star to Carraman/Klondyke deposits was completed. The survey was undertaken by Daishsat Geodetic Surveyors over some 7 km2 of Warramunga Formation. This survey covered 4.6 km2 of the northern half of EL 22165, including an area abutting the North Star group of leases. This survey highlighted several discrete gravity highs requiring follow-up work. Some of these are associated with known but poorly out-cropping ironstones along WNW trending structures.

RC drilling planned at Jasper Hills Shallows, as part of Giants Reef’s oxide gold program in the North Star group leases was unable to be implemented as clearances were not forthcoming from the traditional owners.
During the tenure year Giants Reef Exploration submitted a Mining Management Plan (MMP) for Exploration within the Northern Project area, which spans from White Devil in the west to the Whippet prospect in the east.

6.10 EL 22224 MONZONITE

The target in Exploration Licence 22224 is a major base metals or base metals/precious metals deposit. Giants Reef is not applying a precise model to the target, but the style of occurrence is envisaged as being situated in iron oxide-rich lithologies and therefore likely to be associated with a regional or district-scale gravity anomaly and probably also with a magnetic anomaly.

A regional gravity high, which Giants Reef refers to as the Rosella Gravity Anomaly, is centred approximately 17km northeast or NNE from Warrego. This gravity anomaly occurs within a much wider zone of elevated magnetic readings centred around the Warrego Granite intrusion to the west. The basement geology of the gravity anomaly area is largely masked by Recent cover sequences, so that the cause of the gravity anomaly is not apparent.

Exploration work conducted during the first year of tenure included:

Literature search of all previous exploration work - Giants Reef made an initial examination of reports on exploration by previous companies in the area of Exploration Licence 22224. So far this research has not of much direct value in the search for major base metals deposits, but has been of assistance in locating possible future targets of the Tennant Creek-style ironstone-associated gold-copper-bismuth type.

Reconnaissance - Several vehicle trips have been made to the area around the centre of the Rosella Gravity Anomaly. These trips revealed the difficulties of travelling in this area, without providing much in the way of additional geological knowledge.

NTGS/AGSO gravity survey assessment - In mid-2001, the Northern Territory Geological Survey and the Australian Geological Survey Organisation jointly carried out a gravity survey over the Tennant Creek 1:250,000 sheet and parts of some adjacent sheets. In the EL 22224 area, the station spacing was at 4km by 4km centres. The new survey information was a considerable improvement upon the old 11km by 11km coverage.

Consulting geophysicist Frank Lindeman, of Lindeman Geophysics Pty Ltd, Melbourne, assessed the new NTGS/AGSO gravity data over the Rosella Gravity Anomaly and EL 22224 for Giants Reef. After removing a residual gradient, the Rosella Gravity Anomaly now appears broken up into several separate anomalies and the highest amplitude, or peak, residual anomaly is located at AGD84 approximate co-ordinates 384000E 7864800N. Mr Lindeman commented that the “Rosella Gravity Anomaly, as defined by the Bouguer gravity and the Bouguer residual, is now part of a large and quite coherent
‘inverted U-shape’, which quite faithfully drapes around the northern edge of the Warrego granite. Its size and location truly does give it the feel of a ‘regional’ feature, probably reflecting the density contrast between the granite and the surrounding geology. The Rosella anomaly is only a part of the eastern section of this response and realistically does not now, in my opinion, constitute a specific or discrete anomaly, which might represent an ore environment.” This observation downgrades the exploration potential for the kind of target envisaged, and made it unlikely that Giants Reef’s proposal for drilling a deep test hole at the peak of the Rosella Gravity Anomaly, situated in the northern part of EL 22224 Monzonite, will be carried out.

Gravity and magnetics assessment - Further to his comments on the NTGS/AGSO gravity survey results, Mr Lindeman noted that within the Rosella project and adjacent areas, except for the area of the Warrego Granite, there is no correlation between gravity and magnetics. “The magnetic features occurring within the Rosella Gravity Anomaly extend well out of it, particularly as they trend well off to the ENE. Thus there is no reason to presume that the source of the magnetic and gravity bodies are the same.” The assessment led to the conclusion that “the magnetic and gravity and magnetic data do not define a specific target worthy of drill testing, whether it be magnetic, gravity or a combination of both. It could be argued that the (new) gravity data are still quite regional with stations many kilometres apart. However, the strong association of the gravity with a great proportion of the northern edge of the low-density Warrego granite, which is unlikely to change with more closely spaced stations, suggests strongly that the gravity is reflecting a regional geological phenomenon and not a potential drill target.”

Access clearance from the Central Land Council - A work program under the Indigenous Land Use Agreement was submitted by Giants Reef to the Central Land Council when the three Exploration Licences were still in the application stage. The CLC later conducted a land access clearance of the work proposed. The CLC pointed that the clearance work was made difficult by the fact that Giants Reef did not have firm locations for any possible drilling at the time.

A large number of exclusion zones and culturally sensitive areas were marked on the map accompanying the clearance letter, dated 22 March 2002 (CLC map 2001/129a). Approximately 80% of EL 22224 Monzonite is an exclusion zone, leaving only a small triangular area in the southern part free. While the existence of these areas does not entirely rule out exploration in the extensive stretches of the Rosella project area that they cover, they would present considerable difficulties if exploration were to be pursued in these areas.

Exploration work conducted during the second year of tenure included:
Exploration Focus under the Alliance - Tennant Creek-style orebodies are regarded as secondary targets, as the focus of exploration, under the Strategic Alliance agreement with BHP Billiton, is to find major base metals or base metals/precious metals deposits.

However, assessment of the base metals/precious metals prospect areas within EL 22224 has downgraded the potential for this style of mineralisation occurring at the Rosella prospect.

Exploration - As a result of the downgrading of EL 22224 for base metals or base metals/precious metals deposits, the drill targets proposed in the first year of tenure for EL 22224 were reprioritised. Giants Reef focused their 2002 field season commitments primarily within the Bluebush tenements of EL 8882, 8883 and 10402. These tenements are also under the Alliance with BHP Billiton in which the major targets are base metals and precious metal deposits.

Tenement Review - An internal review of the Giants Reef tenement portfolio and a classification of exploration opportunities in September 2002 assessed the future exploration potential of EL 22224, and the prospects within the Licence. The review recommended that Giants Reef substantially reduce the tenement holding of EL 22224 and retain only the areas covering the targets which may still hold potential for Tennant Creek style shallow or substantial gold mineralisation. At the end of the second year of tenure the Licence area was reduced from 6 to 3 graticular blocks. Much of the relinquished area has been identified as exclusion zones and culturally sensitive areas by the Central Land Council under instruction from the Native Title holders of the Tennant Creek region. These zones would present considerable difficulties if exploration were to be pursued in these areas.

Alliance Meeting - A technical meeting was held between Giants Reef and BHP Billiton in Melbourne on the 2nd December 2002. The meeting focussed on recent drilling results from the Bluebush Project Area. Information was presented to BHP Billiton representatives. There was a general agreement at the meeting that the gravity anomalies in the Rosella area did not rate in comparison with the Bluebush area.

Exploration work conducted during the third year of tenure included:

Termination of Strategic Alliance - In early 2003, BHP Billiton indicated to Giants Reef that they no longer wished to continue with the Strategic Alliance. Giants Reef prepared a summary report for BHP Billiton detailing all the exploration conducted over the joint venture tenements, including EL 22224 during the period of the Strategic Alliance between 1999 to 2003. Correspondence from BHP Billiton on the 25th July 2003, confirmed the termination of the Bluebush Joint Venture and hence the closure of the Strategic Alliance.

Strategic Planing - No on-ground exploration was conducted over the Licences during the year. Giants Reef reviewed the geological targets and models for the exploration Licence
to assess the likelihood of an immediate discovery. The review recognised a number of magnetic anomalies within EL 22224 which are indicative of Tennant Creek style gold-copper occurrences.

Exploration work conducted during the fourth year of tenure included a review and reassessment of all previous exploration work, from this the conclusion that the areas considered most prospective for exploration includes a proportion of the Treasure Suite monzonites, which are host to mineralisation at the Last Hope and Bull Pub prospects.

The prospectivity of the EL to host economic gold/copper mineralisation was recently downgraded for the following reasons;

a.) The EL contains no prospective Warramunga Formation.

b.) Although the areas proposed for reduction includes monzonitic units of the Treasure Suite, which is the host to mineralisation at the small Last Hope and Bull Pup prospects, the tenement has no recorded occurrences of Au-Cu mineralisation.

c.) The area proposed for reduction includes the western region of the Rosella Gravity Anomaly, however its prospectivity has been downgraded due to it being interpreted as a regional feature, reflecting a thick package (up to 2km) of sediments (Ooradidgee and Hatches Creek Group) against lower density granites i.e. Warrego granite. The Rosella anomaly appears to be only a part of an extensive anomaly, and appears not to constitute a specific or discrete anomaly which might provide a drill target. Furthermore, magnetic features occurring within the Rosella Gravity Anomaly extend well away from it, suggesting that the magnetic and gravity features do not have a common source.

d.) A review off AAPA data shows that there is an unrecorded registered site (3 small hills) in the EL, however the graticular block containing these is proposed for reduction.

6.11 EL 22583 MORNING STAR

Exploration Licence 22583 was initially applied to cover a prospective area of Warramunga Formation and coincident gravity ridge running from North Star mine south westerly to the Queen of Sheba and Gecko mines. It includes an old prospect called the Morning Star (also known as Queen Alexandria or Ria’s Revenge) as well as Golden Slipper and Last Princess.

Newmont explored this area during 1987 to 1990 under Exploration Licence EL 5066 in joint venture with PosGold. Later, PosGold held the area under EL 8748. Six RAB holes (327m) were drilled at Morning Star by PosGold, with a two-metre best interval of 9.58 g/t Au from 27 metres. The other holes returned no significant result.
Exploration work conducted during the first year of tenure under Giants Reef included a reconnaissance metal detecting trip over the Morning Star workings in July 2002, which produced no nuggets however a great deal of historical iron was discovered. Large areas of quartz scree was also noted scattered over the general area.

Giants Reef do not consider this area as a high exploration priority, however the proximity to many past producing mines and many smaller historical mines in the area still make it an attractive area to explore.

Exploration work conducted during the second year of tenure included a detailed literature review conducted over the area covered by the Licence. As identified during the first tenure year Newmont explored this area during 1987 to 1990 under EL 5066 in a Joint Venture with PosGold. Later, PosGold held the area under EL 8748. Six RAB holes (327m) were drilled at Morning Star by PosGold, with a two-metre best interval of 9.58 g/t Au from 27 metres. The other holes returned no significant result.

Further assessment of the EL and target generation was briefly undertaken in the second tenure year due to Giants Reef’s commitments being else where in the Tennant Creek goldfield.

Further assessment of the EL and target generation was briefly undertaken in the third tenure year due to Giants Reef’s commitments to defining the Chariot, Cats Whiskers, Malbec West deposits, and also the immediate and higher priority drilling and exploration in the Chariot Mineralised Corridor (CMC).

Work planned for Year 4 included RC and RAB drilling at the Golden Slipper and Golden Slipper North prospects. Although drilling was undertaken at Golden Slipper North, clearances for drilling at Golden Slipper were not forthcoming from CLC on the grounds that the area was a significant site.

5 RAB holes for 195m were completed at the Golden Slipper North prospect with the aim of testing the oxide gold potential. The drilling encountered a number of anomalous intercepts including 3m @ 1.41 g/t Au from 18m (GSRB043), 1m @ 5.67 g/t Au from 15m (GSRB044) and 6m @ 2.02 g/t Au from 27m (GSRB046), which included 1m @ 7.13 g/t from 28m. Zones of mineralisation were hosted within altered and sheared siltstone of the Warramunga Formation. Alteration included strong hematisation, weak silicification and minor talc. The mineralised zones in drill holes GSRB44 and 46 also included quartz veining.

A compilation and review of vacuum geochemistry for the License areas was completed. This study defined a number of anomalies in the southwest area of EL 22583 which warrant further investigation. These include two Au anomalies close to the major northwest trending structure, which is associated with the Queen of Sheba prospect. Further investigations are also required on a similar but more discrete Au geochemical
anomaly trending northwest, which is located in a region surrounding the Golden Slipper prospect.

### 6.12 EL 22589 WHIPPET HILL

Exploration Licence 22589 was initially applied to cover a prospective area of Warramunga Formation and coincident gravity ridge running approximately east-west from North Star through Edna Beryl to the Whippet mine. The historical high-grade producing mine, Whippet is contained within this EL. Several deep regional aeromagnetic anomalies also exist along this gravity ridge in an area of soil cover and no outcrop.

The Licence area contains three targets that require further investigation.

- **Mother of Olympus (AMG AGD84 421500mE 7865550mN)** – This magnetic anomaly has a large lateral extent and a peak amplitude of 30 nT. The anomaly is complicated by several magnetic lineaments which cut across it in an ENE direction. Barrett suggested these lineaments are part of the magnetic fabric over a larger area and may reflect stratiform units within the Warramunga Formation. The causative body is sizeable but its modelled depth of more than 600m below surface makes it a difficult exploration target. Frank Lindeman confirmed Barrett’s interpretation that the Mother of Olympus target was going to be deep (he suggested 450-500m to the top) and expensive to explore.

- **Whippet Mine area** – Frank Lindeman conducted a magnetic modelling exercise over the Whippet mine area during the reporting period. His results indicated that “although a shallow, steeply dipping and depth-limited magnetic body appears to quite accurately represent the known and mined ironstone body, a deeper and presumably untested weakly magnetic body appears to exist, just east of the mine”.

A reconnaissance trip was made earlier this year to the Whippet mine site. All drill holes around the mine were picked-up using a differential GPS to an accuracy of 50cm. The collar positions are tabled below:

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Department of Primary Industry, Fisheries & Mining  
Central Land Council  
Emmerson Resources Ltd  

MAP SHEETS:  
- TENNANT CREEK SE53-14  
- 1:250 000  
- FLYNN 5759  
- SHORT RANGE 5659  
- TENNANT CREEK 5758  
- 1:100 000
All drill holes had a star picket belted into the ground and an engraved metal tag bolted to the picket identifying the hole. All holes are capped with cement flower pots and a wire. Small pieces of scrap metal were collected and removed from the immediate Whippet mine site.

- Whippet South – This magnetic anomaly (AMG AGD66 - 429000mE 7862600mN) was identified by GeoPeko as Explorer 48 and occurs as a strong east-west magnetic anomaly in the south eastern corner of EL 22589. Several RC drill holes were drilled by WMC in late 1980 however they all failed to reach target depth. The magnetic anomaly also has a coincident gravity anomaly.

The Whippet South area continues to be intriguing and further interpretation of all available data is required with the aim of successfully drill testing this target in the future.

Further assessment of the EL and target generation was briefly undertaken in the second tenure year due to Giants Reef’s commitments being else where in the Tennant Creek goldfield.

Exploration work conducted on the EL during the third year of tenure included a number of reconnaissance trips to the anomalies and ground truthing was also conducted. Further assessment of the EL and magnetic anomalies was briefly undertaken in the third tenure year due to Giants Reef’s commitments being else where in the Tennant Creek goldfield.

Exploration work conducted on the EL during the fourth year of tenure included all historical geochemical data covering the EL being compiled and entered into Giant’s Reefs database. This work resulted in the delineation of a number of anomalies that warrant further investigation. Higher resolution geophysics being, either high resolution magnetics, or ground gravity is required to better refine drill targets.
It was decided not to extend the detailed ground gravity survey completed in 2004 over ELs 10101, 22165, 22583 and 22590 further to the west onto EL 22589. This survey has highlighted several promising anomalies, and subject to reconnaissance drilling testing of these, it is planned to extend the ground gravity survey further west.

6.13 EL 22590 STUART HIGHWAY

Very little work was completed over EL 22590 during the tenure year. Lindeman Geophysics completed a brief geophysical appraisal, however this resulted in no identification of gravity or magnetic anomalies worthy of follow up ground exploration. Giants Reef planned to complete a literature review with the view of surrendering this tenement during the second tenure year.

Further assessment of the EL and target generation was briefly undertaken in the second tenure year due to Giants Reef’s commitments being elsewhere in the Tennant Creek goldfield.

During the third tenure year further assessment of the EL and target generation was briefly undertaken due to Giants Reef’s commitments being elsewhere in the Tennant Creek goldfield.

Giants Reef commissioned a Gold-Copper Expansion Study which commenced in earnest during the tenure year. The strategy for the study is to compile and review an inventory of potential copper bearing gold deposits as well as copper rich (gold poor) deposits. This will for the basis of selecting process routes and completing a first pass conceptual study. The Marathon prospect forms part of this review due to its high-copper properties.

During the fourth tenure year a compilation of all available exploration data was undertaken. This was followed up by a detailed ground gravity survey of the area stretching from the Northern Star to Carraman/Klondyke deposits. The survey was undertaken by Daishsat Geodetic Surveyors over some 7 km2 of Warramunga Formation. This survey covered only a small area (4.6 km2) in the south eastern corner of EL 22590, directly east of the Marathon prospect and north of the Troy prospect. Results from the gravity survey did not highlight any anomalies of significance outside of these known prospects.

During the tenure year Giants Reef completed a scoping study to evaluate all known copper-gold resources and prospects on its tenements. Work comprised:

- Compilation of an inventory of all copper-gold resources and drilled prospects;
- Assessment and ranking of resources and prospects;
Further detailed work was carried out on the Orlando mineral resource including:

- Geological modelling and resource estimation;
- Examination of metallurgical process options for recovery of gold and copper;
- Examination of mining options; and
- Financial modelling.

The Marathon group of deposits, which are located in MCC 1065 within the License area, were assessed as part of this study. This group comprises 3 large ironstones oriented along a broad northwest trending shear zone over a strike length of 2km. Patchy oxide gold mineralisation occurs in the east side of the main shear, with supergene copper mineralisation appearing at 40-60m below surface. There are also a number of significant copper and patchy gold intersections at depths of 100-200m below surface. Present resources are insufficient to warrant development studies. The location of the Stuart Highway renders any development of potential oxide gold resources problematic. Further work including extension drilling at depth is required to further explore this large system.

6.14 EL 23073 PUMPING STATION

During the first year of tenure under Giants Reef exploration work involved a geological assessment of the licence, results from this assessment concluded that several of the southern and eastern blocks of this Licence cover areas of the Warramunga Formation but as with neighbouring EL’s, the areas of magnetic interest are held under claims and are therefore excluded from the EL. Further examination of the regional magnetics and regional geology indicates that areas of magnetic relief outside the Warramunga Formation are almost certainly due to dolerite sills or dykes in the overlying Flynn sub-group sediments, which appear to cover the northern eighty percent of the EL, and is generally regarded as un-prospective. From these assessments and reviews it was concluded that Giants Reef will need to make a final assessment of this EL in the near future, to decide whether to surrender most of the EL and retain only the southern blocks covering areas of Warramunga Formation, or to surrender all of the EL.

At the end of the second tenure year the geology, geophysics and geochemistry of EL 23073 was assessed to identify target areas within the Licence area.

Several of the southern and eastern blocks of this Licence cover areas of the Warramunga Formation. Examination of the regional magnetics and regional geology indicates that areas of magnetic relief outside the Warramunga Formation are almost certainly due to dolerite sills or dykes in the overlying Flynn sub-group sediments, which appear to cover the northern eighty percent of the EL, and is generally regarded as un-prospective. During the last year of tenure a number of Mineral Leases and Claims within the Warramunga
Formation of the EL were surrendered or allowed to expire (MC C156-161 & 1097-1110). Review of the Claims ranked the Mineral Claims as areas of limited exploration potential based on the criteria that the Mineral Claims have had a history of exploration with no real encouragement.

The review and assessment made during the first year of tenure concluded that areas of the EL would need to looked at for relinquishment due to its lack of prospectivity, therefore at the end of the second year of tenure a statutory relinquishment of 50% of the EL was made, being 14 blocks. The northern portion of the EL, which overlies the Flynn sub-group sediments and partially consumed by the railway corridor was relinquished. This leaves only the southern blocks covering areas of Warramunga Formation for exploration over the EL.

During the third year of tenure no on-ground exploration was completed over the Licence. Giants Reef’s commitments in establishing mining operations at Chariot, Edna Beryl, Cats Whiskers and Malbec West prevented further exploration over the licence.

No on-ground exploration was conducted over the licence during the forth tenure year, however the geology and geophysics were reviewed and the north western half of the tenement was proposed for reduction. The only in-ground work associated with the Exploration Licence was at the Pigale prospect (MCC315) where seven angled RAB holes were drilled for a total of 417 meters. These holes were drilled on the projected up dip component of a shear zone along strike (1.2 km) from Orlando. Whilst some anomalous base metal zones have were intersected, no significant gold mineralisation was encountered.

Giants Reef’s commitments to mining operations at Chariot, Edna Beryl, Cats Whiskers and Malbec West prevented further exploration over EL 23703.

6.15 EL 23183 JUNCTION

EL 23183 was acquired to search for IOCG deposits hosted in Warramunga Formation units, predominately within the region of the Quartz Hill fault zone and to further evaluate magnetic features first identified in the Tennant Creek regional magnetic survey, with the most prominent features identified in greater detail by the 1998 heli-magnetics survey (and are located in the western region of EL 23183), the survey was flown between the Warrego and Gecko deposits and conducted by Kenron at the request of the company in 1998. The prominent magnetic features correlate with the Orlando and Gecko mines.

Previous exploration in EL 23183 was undertaken by several companies, and it fell under various EL’s during this time.

During the early to mid 1970’s using 1:12 000 scale coloured aerial photographs flown in 1969, Australian Development Limited (ADL) compiled detailed geological maps that cover
EL 23183 and other surrounding areas. Newman Australia Limited explored the area in a joint venture with ADL under EL’s 5067 & 5133 (White Hill Project) in the late 1980’s. The work completed by the joint venture partners included: Geological mapping – comprising systematic ground traverses to update and extend the existing ADL 1:12 000 geological maps; Interpretation of the low-level airborne magnetics survey - flown by Austrex in 1984 with a flight line spacing of 200m, sample interval of 30m for magnetics and 60m for radiometrics and sensor height of 80m; Satellite imagery; Regional and detailed soil and outcrop sampling – a total of 96 soil and drainage samples were taken at various localities to provide orientation for the Bulk Cyanide Leach method in this environment. The data demonstrates back-ground values of 0.2ppb AU to below detection for samples taken in residual soils over granitic basement. Anomalous values ranging up to 22.3ppb Au were returned from samples taken adjacent to know mineralised zones and anomalous drainage trains of greater than 1km downstream were detected.

Metana Minerals NL in a joint venture, first with Allender & Lebrun, and then with Placer Exploration Limited (Placer), explored the area in the late 1980’s under EL 5625 (Gecko East Prospect). Work completed by the joint venture partners targeted a magnetic anomaly referred to as ‘M1’ and included: Photogeological interpretation; Ground magnetics survey – carried out by Solo Geophysics to accurately position an identified airborne anomaly. Readings were taken at a height of 2.7m, an interval of 5m, on lines spaced 80m apart. The results suggested an ironstone source steeply plunging south; Soil sampling – a total of 155 samples were taken on a 20m x 80m grid over the M1 anomaly, results weren’t encouraging as no values exceeded the background level set by the partners of 0.2 ppb; Bedrock geochemistry – sampling was conducted with a RAB rig on a 40m x 80m grid over the centre of the M1 anomaly. The sample was taken from the bottom metre of the hole in recognised bedrock. Results reflected that, of the soil sampling results, there were no anomalous values. Bedrock lithologies were dominantly siltstone with minor vein quartz, clay and rare hematite; Rock chip samples – six samples were collected and assayed, no anomalous values were returned; RC drilling – two RC holes (GCRC001 & GCRC002) were targeted on the modelling of the ground magnetic data. The holes were drilled at a spacing of 40m to the north and were angled at -60 to a depth of 139m. GCRC001 intersected massive jasperitic quartz-hematite from 49.5m to 63.5m. Samples were taken every metre and there were no anomalous gold intersections, the best results were GCRC001 1m @ 0.20ppm Au from 135, GCRC002 1m @ 0.10ppm Au from 44m; Stream sediment sampling – a regional stream sediment sampling me was carried out over the entire tenure. A 3kg sample of -2m fraction was collected at each site and analysed by the Bulk Leach Extractable Gold (BLEG) method, a 50g split of -180 microns fraction was taken from each and analysed for copper and bismuth, with the best results relating to EL 23183 being located near the M1 anomaly being 1.3ppb Au, 2ppm Cu, 0.3ppm Bi

PosGold Limited now Normandy Gold Pty Limited, explored the area in the early 1990’s under EL 7099 (Mercury Prospect). Worked completed by PosGold included:
Interpretation of the low-level airborne magnetics survey - flown by Austirex in 1984 with a flight line spacing of 200m, sample interval of 30m for magnetics and 60m for radiometrics and sensor height of 80m, from this survey and contour maps were produced at 1:100 000, 1:50 000 and 1:10 000 scales; Satellite imagery – interpretation of colour clay and colour gossan Landsat Thematic Mapper imagery showed the White Road Prospect as a distinct linear zone of silicification and clay alteration supported by ADL’s regional geological mapping; Regional gravity survey – the survey incorporated EL 7099, a set of 1:50 000 scale Bouguer Gravity Contour Maps were produced to aid in structural understanding. The results only showed one significant feature, a large gravity low, via a ground assessment it was interpreted to possibly represent a volcanic vent associated with the Bernborough Volcanics; Soil geochemistry – soil sampling targeted a zone of quartz veining, testing for hydrothermal gold mineralisation associated with quartz veining, structural setting and altered host volcanics. A total of 336 bulk soil samples were collected on a 50m x 100m grid which was oriented to 320˚ to correspond to the strike of the quartz veining and measures 1 500m x 1 000m. Results didn’t indicate any significant base metal anomalies, copper peaked at 16ppm, with only 6 samples assaying greater than 10ppm, Pb, Bi and As were all below 10ppm, 10 samples assayed in the range of 10ppm – 34ppm Zn, with one spot peak of 210ppm. Au results were generally low with the best assaying at 8ppb, 12.5ppb, and 16.4ppb. Following these results a second soil sampling was conducted over the quartz veining, a total of 76 samples were collected on 4, 200m spaced lines with 50m spaced samples, 14 samples were collected at 50m x 50m to further test the 16.4ppb Au anomalous results region. Gold peaked at 0.78ppb, with the repeat sampling of the initial anomalous 8.0ppb Au and 16.4ppb Au results, returned values of 0.27ppb Au and 0.24ppb Au respectively; Geomorphologic mapping – involving integration of aerial photograph mapping and interpretation with colour tm imagery and field traversing; Aerial photographic interpretation – the results of this work concluded that the Bernborough Volcanics and overlying Flynn Subgroup sediments cover the majority of the tenement area. The main structures in the area are late dextral faults, commonly quartz-filled.

Asarco Australia limited (Asarco) explored the area in a joint venture agreement with North Flinders Mines Ltd (NFM) in the early 1990’s under EL 7181 (Orlando Prospect). The work conducted by the joint venture partners included: Gridding – totalling 76.2 km at either 100m or 200m line spacing and 50m peg spacing; Vacuum drilling – this was carried out to test magnetic flexures identified along the edges of pronounced magnetic ridges. The quoted lower limits used by the partners were, Au 0.001ppm, Cu 0.5ppm and Bi 1.0ppm. Of this extensive me the work carried out in the Orlando South, West Block grid was within EL23183, it totalled 95 holes totalling 309 metres on seven lines. Anomalous Au, Cu and Bi values were identified in a zone that extends 600m in an east west trend and narrows from its widest point at the western edge of the grid to approximately the centre of the grid. Elevated Cu values cover the largest area ranging from 14 to 93.5ppm, averaging 20 to 30ppm. Bi values are less than 1ppm over most of the Orlando south grid but range from 1 to 26ppm in the anomalous zone. Slightly
elevated Au values of 1 to 4ppb, with a 7ppb value, coinciding with the elevated Cu and Bi values. The lower portion of the Queen of Sheeba grid encroaches on EL 23183, but no significant results were returned; Geological mapping – mapping was carried out at 1:10 000 scale over areas which were grided for vacuum drilling; Rock sampling – two samples were taken from the Orlando south region for descriptions and analysis.

Roebuck Resources NL explored the area in a joint venture agreement with NFM in the early 1990’s under EL’s 7407, 7408, 7446 & 7649 (Gecko Cleo group), work completed by the partners included: Bedrock geochemical RAB drilling – only the Gecko east portion of the partners’ mine is within EL23183, this portion of the mine was drilled to determine the source of the 900m long, north-northwest trending, +50ppm copper anomaly defined by the 1991 bedrock geochemical drilling. 8 inclined (60˚) holes were drilled totalling 371m. Results indicated that the +50ppm bedrock copper anomaly relates to mineralised shears within fractured, quartz veined, fine magnetic bearing quartz-felspar porphyry. The mineralisation is copper dominant, gold poor and mainly disseminated but may occur as irregular pods; Geological mapping; Rock sampling. Roebuck furthered explored the area in a joint venture with NFM under SEL 8777 in 1994 – 1997, but no reports are available in Library of Centralian Minerals Limited.

Western Mining Corporation Limited (WMC) explored the area in the early 1990’s under EL 7527. During the period March 1992 – March 1993 work completed included: Gridding – this established a 2km long baseline with 80m spaced lines extending 500m north and south of the baseline; Detailed ground magnetic survey – stations were 10m apart on 80m spaced lines with 40m spaced lines over significant anomalies with a 3m sensor height. The data obtained from the survey reflected, just in more detail, that of the aeromagnetics; Geological mapping and rock chip sampling – both grided areas were mapped at 1:2500 and rock-chipped sampled in August 1992. The results of this revealed an anomalous Bi, Cu and lesser Au region. During the period March 1993 – March 1994 work completed included: a 55 hole RAB drilling (TMMP001 -055), totalling 162m was conducted to test drill the anomalous Bi, Cu and lesser Au rock-chip region. No ironstones were intersected, but a significant number of holes intersected vein quartz. Although some areas of quartzose were anomalous, no results prompted follow-up work.

NFM explored portions of the EL under EL 8640 between June 1994 – June 1996, but no reports on this EL are available in the Centralian minerals library.

Normandy explored areas covering portions of EL 23183 during the mid 1990’s under EL 7661 (Picasso prospect) focussing on the Explorer 85 prospect, but no reports are available from the library of Centralian Minerals Limited.

The Bishops Creek leases contain two old mines (small historical workings): Occidental and Cleo’s Gift. Worked first conducted on these leases was by Nobelex NL, Poseidon Gold Limited and Normandy, the work included: soil sampling; geophysical surveys (IP,
TDEM, aeromagnetics and ground magnetics), shallow RAB and RC drilling. The details of this work aren’t available in the library of Centralian Minerals.

The TC-39 prospect was explored by Nobelex NL in 1974 under EL 96, work conducted included: Geological mapping; Sampling; Geophysical surveying; Diamond drilling. No details of this work are available from the library of Centralian minerals.

PosGold explored a portion of EL 23183 under EL 9150 (Leonardo). Work completed included: Vacuum drilling – holes were drilled along 200m spaced, 1800m lines with hole intervals of 50m. Closer spaced, shorter lines were used over specific targets. Hole depths averaged 5.1m and a total of 204 holes (LEV014-025, 057-076, 128-138, 175-198, 247-270, 089-100, 321-332, 042-043, 390-391, 397-398, 215-216, 378-379, 229-230, 357-358, 117-118, 349-350, 287-288, 304-305), for 1084m was drilled. The results returned anomalous assays of up to 5.2ppb Au, 220ppm Cu, 24ppm Bi, 22ppm Co and 13.4% Fe; RAB drilling – 7 holes, totalling 357m, results returned were not encouraging, with no significant mineralisation detected.

In the first tenure year exploration work involved the combined a quantitative/qualitative ranking, based on geological, geochemical & geophysical characteristics and other parameters covering work status, target type, land status and economics. As part of this work geochemical data sets, including all historical drilling data, were integrated into the Company’s database and GIS for analysis.

Results from this work generated targets for drill testing. This drill testing was to be undertaken in the next year of tenure. The proximity of the magnetic features to the Orlando and Gecko mines (18,800 ounces of gold produced) and other significant features such as the Quartz Hill Fault lend some support to the prospectively of these generated targets.

Exploration work conducted during the second year of tenure was limited due to Giants Reef commitments elsewhere in the Tennant Creek Mineral Field. The work conducted included the submission of a number of Mining Management Plans (MMP) for exploration within the Northern Project Area. Exploration commenced on EL 23183 once Authorisations (0233-01 & 0233-02) were approved by the Department of Business, Industry & Resource Development.

6.16 EL 23745 VIVID

A geological re-assessment by Normandy, Tennant Creek (1991) of earlier drilling, which involved detailed re-logging of diamond core and geophysical reinterpretation, suggested that the existing 40m spaced drill sections were too broad to delineate the mineralised zone accurately.
GeoPeko (1970 – 1990) - GeoPeko explored the general Phillip Creek region intermittently from 1970 through to 1990. One moderate magnetic anomaly, Explorer 166 (Vivid), was defined from aeromagnetics and was pegged for mineral leases in 1975, these applications were withdrawn prior to grant.

Australian Development Limited (pre-1991) - Exploration by ADL included the flying of a low level aeromagnetic survey in 1973, from which four magnetic features interpreted to possibly represent concealed magnetite-haematite ironstones, were chosen for detailed investigation. These anomalies were named PC1 to PC4. These anomalies do not lie within the Licence Area.

Newmont Australia Limited (1987-1990) - Newmont completed an extensive exploration program encompassing the region from 1987 to 1990. This work was predominantly completed under a Joint Venture Agreement with ADL. Initially Newmont decided to undertake an empirical, non-model specific exploration program, aimed at detecting mineralisation associated with subtle magnetic signatures or structurally-controlled non-magnetic settings. The typical ‘Tennant Creek style’ magnetite ironstone target was not pursued. Exploration included regional geochemical ‘BLEG’ soil surveys and follow-up soil sampling and RAB drilling, a low level airborne magnetic and radiometric survey, semi-regional gravity surveys and regional geological mapping. Anomaly P2 (GeoPeko’s Explorer 166) was flagged for further work.

The Vivid magnetic anomaly (anomaly P2 / Exp 166) was investigated further in 1989, with geophysical modelling undertaken to determine the size, depth and attitude of the source of the dipolar aeromagnetic anomaly. A program of RC drilling and downhole magnetic probing led to the discovery of the buried P2 ironstone (in the second hole), which was subsequently renamed Vivid. Encouraging Au-Cu mineralisation was encountered in Newmont’s initial drilling, and a total of nine combined RC and diamond drillholes were completed into the ironstone. All holes intersected anomalous Au and Cu and better results include:

- **VIRC-002:** 30m @ 2.45% Cu from 159m downhole
- 8m @ 4.76 g/t Au from 177m downhole
- 2m @ 3.48 g/t Au from 203m downhole
- **VIVD-003:** 1.9m @ 3.11 g/t Au, 2.07% Cu from 255.1m downhole
- **VIVD-005:** 10m @ 2.65% Cu from 239m downhole
- 12m @ 2.10% Cu from 267m downhole
- 10m @ 10.11 g/t Au from 268m downhole
VIVD-006: 3m @ 5.07 g/t Au from 327m downhole
VIVD-007: 1m @ 4.73 g/t Au from 334m downhole
VIVD-008: 7.5m @ 3.00% Cu from 278.5m downhole
10m @ 1.83 g/t Au from 348m downhole incl.
1m @ 6.00 g/t Au from 355m downhole

In a concerted effort to understand the geometry of the ironstone and its geochemical and geophysical expression, detailed soil sampling, RAB drilling, IP, EMP, ground magnetics and gravity surveys were completed over the ironstone. Angled RAB drilling to a vertical depth of 70m was successful in outlining a geochemical ‘halo’ in the weathered sediments above the ironstone, above 20 ppm Cu.

The IP and EMP surveys did not conclusively identify conductive anomalies which could be directly attributed to the ironstone. The gravity survey was successful in indicating the position of several structures thought to control the location of the ironstone, but did not define the body as a discrete anomaly of high density. It was concluded that the surface and downhole magnetics were the best geophysical tools for direct detection of the ironstone.

All RC / Diamond drillholes were probed with the downhole magnetometer, and detailed modelling and interpretation of this data was undertaken. Modelling indicated the ironstone was a westerly plunging body, which flattened in plunge from the centre of the ironstone. A mass in the order of 2Mt of ‘ironstone’ was estimated. The magnetite-quartz ironstone displays a characteristic alteration envelope of magnetite-chlorite, chlorite, an upper haematite-talc-jasper-carbonate zone, and an upper dolomite-rich zone.

Newmont concluded that the Vivid ironstone system had the potential to host a significant tonnage of Au and/or Cu mineralisation. Recommendations were made for close spaced pattern drilling of the ironstone to determine the existence and continuity of a high grade zone. The ironstone was not closed off down plunge by Newmont's drilling, and had a strike extent in excess of 200m.

Modelling of the residual magnetics resulted in the recognition of a small magnetic anomaly located approximately 300m to the north of Vivid, at a depth of 235m vertical.

Normandy Tennant Creek (1991 - 2002) - Normandy Tennant Creek (NTC) explored the Licence Area under EL 5066 (containing the Vivid Prospect) which expired and then continued under EL 7451 which was granted to NTC in its place, thus enabling continuation of exploration of the Vivid Prospect and surrounds.
A reassessment of the potential of the Vivid prospect was undertaken to determine if the system was capable of hosting a significant tonnage of mineralisation. It was determined that the maximum target size in the ironstone was 80,000t at between 10 – 15 g/t Au. The review involved detailed re-logging of the Newmont diamond core, and reinterpretation of the magnetics in conjunction with L.Farrar. This work concluded that the ironstone system was probably smaller than originally thought (2Mt), due to non-distinction between chlorite-magnetite alteration and chlorite-rich sediments. A factor of magnetic remanence also complicated the interpretation and enhanced the magnetic anomaly relative to the size of the ironstone. It was also felt that the 40m spaced drill sections were too broad to provide an accurate assessment of mineralisation.

A further four RC/Diamond drillholes were completed into the ironstone in 1991, infilling the 40m sections in the upper (eastern) part of the body to 20m spacings. Drillholes VIVD-010 to 013 were completed in 1991. Holes VIVD-010 and VIVD-013 failed to lift and passed beneath the ironstone, intersecting altered sediments only. Holes VIVD-011 and VIVD-012 intersected the body, encountering 60m and 40m (downhole) of ironstone and alteration respectively.

These holes returned mildly encouraging assay results:

VIVD-010: 1m @ 2.34% Cu from 178m downhole
1m @ 1.00 g/t Au from 181m downhole
2m @ 2.75% Cu from 216m downhole

VIVD-011: 1m @ 0.91 g/t Au from 167m downhole
1m @ 2.86% Cu from 208m downhole

VIVD-012: 1m @ 1.31% Cu from 209.15m downhole
1m @ 3.00% Cu from 214.50m downhole
1m @ 1.12% Cu from 227.70m downhole

VIVD-013: N.S.R – Au (all < 0.01 ppm), Cu (all < 0.27%)

Several conclusions were drawn from this drilling:

- the ironstone body was significantly smaller than originally interpreted.
- the mineralisation is patchy and discontinuous, with an upper Cu-(Au) zone within the ironstone proper, and a lower Au-(Cu) zone on the 'keel' of the ironstone.
- The tonnage / grade potential for these zones were estimated to be small.

No further drilling of the ironstone has been undertaken since 1991. A conservative ‘estimate’ of the potential of the gold and copper pods is:

- Lower Au pod: 10060E to 9980E, -230m to –350m vertical depth, open down-plunge to the west of 9980E, and possibly up-plunge to 10100E. Dimensions in the order of 80m x 40m x 5m x 3.5 (SG) = 60,000t @ 5 – 7 g/t Au.

- Upper Cu pod: 10060E to 10100E, -150m to –250m vertical depth, open down-plunge to the west of 10060E (intersection of 7.5m @ 3.0% Cu in VIVD-008 on section 9980E, in the same position of the ironstone). Dimensions in the order of 40m x 40m x 10m x 4 (SG) = 60,000t @ 2.5% Cu. (Possibly up to 180,000t if strike extended to 9980E).

Exploration work conducted during the first year of tenure included:

Reconnaissance - Several geological field trips were conducted during the reporting year. These reconnaissance trips confirm low-lying nature of the area with very little outcrop identified. No rock chip samples were collected however the project geologist considers the Licence area to be suitable to conduct shallow geochemical surveying by either soil sampling or shallow vacuum drilling. Regional vacuum drilling has been conducted by Normandy, Tennant Creek on surrounding tenure with variable results. Strong geological control plus correct sample media sampling would enhance the potential to identify subtle geochemical relationships and anomalism.

Data Compilation - Data compilation utilising both paper reports and various digital format databases is nearing completion for the Vivid Prospect within EL 23745. The complete validated database should be available for inclusion within the Second Year Annual Report.

Geophysical Assessment - A review of the aeromagnetic and gravity data within the Licence area and focussed on the Vivid Prospect was completed by Mathew Cooper, of Resource Potentials, Perth, Western Australia during the year. Resource Potentials commented that a 0.3 mgal gravity anomaly, associated with the previously explored Vivid aeromagnetic anomaly, had not been tested. The gravity anomaly lies on the eastern half of the Vivid aeromagnetic anomaly, which has been previously drilled and intersected mineralised ironstone at depth. The gravity anomaly is further enhanced in the first vertical derivative image, with the peak being approximately 40m to the east of previous RAB drilling at GDA 94 408930E, 7857270N.

To estimate the depth, modelling was trialled using density contrasts of 0.5g/cc and 1g/cc. For both cases the model body was an ellipse 100m long striking 65° with a 100m depth extent. At 0.5 g/cc the model body was 120m wide and located at 35m depth, while for 1.0 g/cc the model body was 75m wide at 45m depth. The 1.0 g/cc model appears to be more
geologically plausible as the ironstone is not likely to be greater than 100m in width. Figure 3 shows the position of the model with respect to the 1VD gravity image and figure 4 the modelled profile.

Previous RAB drill holes (VIB1-3) targeting the Vivid magnetic anomaly, are collared very close to the position of the modelled body, and did not intersect ironstone within 87m of surface. If the peak of the gravity anomaly is drilled and mineralised ironstone intersected, then some of the smaller residual gravity anomalies may also be of interest.

Reverse Circulation Drill Program - A two hole reverse circulation (VIB014-VIB015) program was planned, budgeted and scheduled to commence in October 2004. Unfortunately, due to rig breakdown this program never commenced. Proposed hole detail is tabulated below.

<table>
<thead>
<tr>
<th>Hole ID</th>
<th>Easting (GDA)</th>
<th>Northing (GDA)</th>
<th>Depth (m)</th>
<th>Azimuth (Grid)</th>
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<td>120</td>
<td>North</td>
<td>-60</td>
<td>Deepen old holes into upper plunge of ore zone</td>
</tr>
</tbody>
</table>

Access clearance from the Central Land Council - An addendum to the approved Northern Project Mining Management Plan (MMP) and issued Authorisation 0233-02 outlining the proposed two-hole drill program was submitted by Giants Reef to the Central Land Council (CLC) in September 2004 as per terms and conditions under the Indigenous Land Use Agreement.

The CLC later conducted a land access clearance of the work proposed. The CLC, under instruction from the Traditional Owners conducting the site clearance provided written consent to commence drilling providing no large, mature trees were disturbed.

**6.17 EL 23746 MARKER**

Exploration Licence 23746 is in its second year of tenure (both during administration and Emmerson’s purchase), therefore no previous exploration on this licence has been conducted by Emmerson Resources or any of its subsidiaries (inc. Giants Reef Exploration).

**6.18 EL 7810 HAYWARD CREEK**
Introduction and target concept - Exploration within EL 7810 is aimed at discovering large deposits of base metals along with substantial gold and/or silver, probably accompanied or hosted by large volumes of iron oxide minerals. The project area is well away from the established Tennant Creek goldfield, in the relatively younger and geologically distinct Ashburton Province, and any mineral deposits found here are likely to be very different from the well-known ironstone-related gold-copper deposits of the Tennant Creek Province.

The focus of exploration is within the area of the major Alexander Gravity Anomaly (Giants Reef’s term) which is centred about the Stuart Highway, extending from neighbouring EL 10129 through EL 10311 and north into EL 7810. This gravity anomaly is interpreted as being caused by dense, probably iron-rich, rocks and may be a favourable geological environment in which to be searching for sort of large-scale mineral deposits envisaged.

Exploration during the first year of tenure included:

Literature search and secondary targets - Apart from the Alexander Gravity Anomaly, which is the most important target in the Alexander project area, there are five other prospects or anomalies that Giants Reef has identified from various reports on previous work and the geology of the region, all within EL 7810. These are all outside the central area of the Alexander Gravity Anomaly, and are therefore regarded as secondary targets. They are:

1. The Explorer 98 magnetic anomaly, located in the Hayward Creek drainage about 9km east of the highway, in an area of no outcrop. GeoPeko identified this anomaly in the 1970s and attributed it to a magnetic basic dyke, but Giants Reef does not have reports of the work that led to this conclusion.


3. A “dark gossanous rock” at the head of the northern branch of Phillip Creek (same reference, page 24).

4. A magnetic anomaly in the north-central part of EL 7810, at (AGD84) AMG 408800E 788800N.

5. A linear east-west residual gravity anomaly running the length of EL 10129.

These are regarded as secondary targets, as the focus of exploration, under the alliance agreement with BHP Billiton, is to find major base metals or base metals/precious metals deposits possibly associated with the Alexander Gravity Anomaly.
Figure 5 shows the locations of the above target areas on a background of residual Bouguer gravity contours.

Reconnaissance and rock sampling - A ground reconnaissance trip was made to locate and sample the magnetic anomaly in the north-central part of EL 7810. The anomaly stands out well on the old 1970’s magnetic contours, but is not so clearly visible on the 1999 AGSO aeromagnetic images. The target wasn’t reached because the old tracks were very overgrown or had disappeared altogether, and there were still patches of soft ground along the Attack Creek valley. Six rock samples (74585-74590) were taken from very ferruginous exposures of the Morphett Creek Formation at several locations. This material is probably a duricrust or ferricrete.

On a later occasion, a helicopter was used to visit several of the above target areas in EL 7810. The target 5 magnetic anomaly was located and sampled. It occupies an area of dark recessive outcrops of basic or intermediate volcanics, probably belonging to the Whittington Range Member at the top of the Hayward Creek Formation, a unit that includes volcanic lithologies.

Finding the gossanous laterite outcrops (target 2) reported by Dunnet and Harding 1967, from “near the confluence of Phillip Creek and Gibson Creek” prove unsuccessful, perhaps because the location description covers a rather broad area.

Target 3 in the headwaters of the northern branch of Phillip Creek, where Dunnet and Harding had reported gossanous-looking exposures, was also visited and sampled. The exposures were very ferruginised, and were probably dolerite sills or dykes.

Another area of EL 7810 visited and sampled during the helicopter reconnaissance was a road metal quarry a few hundred metres west of the Stuart Highway at (very approximately) 412300E 7885600N. These very dark weathered and ferruginised outcrops, probably of Tertiary ferricrete developed on the Brumbreu Formation.

In all, 24 rock samples (422757-780) were taken from the areas visited by helicopter. Nearly all of them were iron-rich (20% to 44% Fe) but none of them showed any notable base metals or gold anomalism. This was also true of the earlier ground reconnaissance rock samples (74585-74590).

NTGS/AGSO gravity survey assessment - Consulting geophysicist Frank Lindeman, of Lindeman Geophysics Pty Ltd, Melbourne, assessed the new NTGS/AGSO gravity data over ELs 7810, 10129 and 10311. This data came from the NTGS/AGSO gravity survey covering the whole Tennant Creek 1:250,000 sheet, plus some adjoining areas. The survey was conducted in mid-2001.

Mr Lindeman’s assessment, dated 28 February 2002, deals with a number of areas both inside and outside the Alexander project area ELs, and is therefore not appended to this
The (Alexander project) ground holdings ... were designed to cover a discrete N-S trending lozenge-shaped Bouguer gravity response as defined on the original gravity data. Although many of the gravity stations in the area are from the original regional 11 km station interval survey, the regional stations, which define this anomaly, were augmented by a roughly N-S road gravity traverse. It had been hoped that any additional data would have produced a more confined and definite anomaly on which to focus. The new 4 km spaced gravity data however failed to "deliver" for this anomaly, but appears to have developed a small response of some interest to the east of the original response. The Bouguer gravity response in the Alexander tenements should be discussed at two levels; from the Bouguer gravity and residual Bouguer gravity perspectives. The new Alexander Bouguer gravity data divides the original response into (1) two separate responses plus (2) the new anomaly to the east. The first anomaly is a >35 km NNE trending response, the southern half of which parallels, some 30 km to the NW, the eastern “leg” of the inverted U-shape of the Rosella Bouguer response (located about 25km to the west). The second is a small response centred at 412000E, 7889000N and which emanated from the northern end of the original response. Neither of these responses is compelling from a targeting perspective, as they appear to be more like part of the same regional response than being caused by possible ore deposits. The processed Bouguer residual for both these anomalies, while showing the anomalous responses discussed above without the anomalous background, also shows that the broad station density of mostly ~ 4 km, which defines this anomaly. It is my contention that it is this station density, rather than being due to a series of higher density “possible ore deposit geology” which is principally responsible for the individual anomaly peaks within this response. It is likely that more data would smooth out these responses into much more convincing looking regional responses. So despite the insufficient station spacing, the gravity data fails to enthuse enough to demand closer station follow-up, which would be necessary to define possible targets. Centred at 425000E 78976000N, (a separate) small and discrete response is well located within the gradient of the large gravity response. It is defined by both some of the recent 4km-spaced data and several additional stations, probably read by Normandy. Despite this coverage, more data would need to be collected if it was thought that this anomaly maintained some potential. Comparison of the three gravity responses above with the aeromagnetic data shows ... that there is little correlation between the two data sets. The strongly magnetic sediment horizons are seen within and outside of the gravity anomalies although locally it does appear that there appears some relationship between magnetic and gravity responses. However it would be magnetic responses from other than from these sediments and coincident with gravity responses that could constitute an area of interest. It is therefore difficult to find an area in the Alexander holdings where interesting co-incident gravity and magnetic responses could be seen as a possible drill target. The anomaly described in (2) above is devoid of any coincident magnetic response, sediment or otherwise. Although the Alexander project area contains a wide gravity station spacing, the broad nature of the anomalous responses, and the lack of convincing and related magnetic anomalisim, leads me to the conclusion that no
geophysical target exists and no further closer spaced data need to be considered. This conclusion is supported by the absence of any other geoscientific data which could provide some encouragement."

This observation downgrades the exploration potential of the Alexander Gravity Anomaly target, and the previous intention of drilling a test hole or holes in the centre of the residual Alexander Gravity Anomaly peak is now being reconsidered.

Explorer 98 magnetic anomaly - The Explorer 98 magnetic anomaly (refer Section 5.2) is centred at approximate AGD84 co-ordinates 422400E 7883000N. In images of the AGSO 1999 aeromagnetic data, this anomaly does not stand out very clearly from the strong neighbouring magnetic activity, whereas in the old 1970’s magnetic contours, it appears as a more discrete or isolated anomaly. This may simply be a function of the broader flight line spacing of the older survey. On images of the residual Bouguer gravity data from the mid-2001 NTGS/AGSO gravity survey, Explorer 98 shows a moderate amplitude one-station gravity high. Giants Reef has not examined the Explorer 98 magnetic anomaly in any detail at this stage, but the apparent coincidence of elevated magnetic and gravity responses at this locality suggests that a short study may be warranted.

Hydrogeochemistry - Giants Reef sampled the ground water from three cattle station water bores in the Alexander project area, and the water samples were analysed by the CSIRO. This work was done in conjunction with a much larger groundwater sampling program over the Bluebush Gravity Anomaly, located about 50km southwest of Tennant Creek. The sampling was aimed at finding indications of mineralisation in the and around the regional Alexander Gravity Anomaly. The sampling and analytical techniques used have been developed over many years by the CSIRO, in particular by Senior Principal Research Scientist Angela Giblin, who visited Giants Reef’s Tennant Creek offices to discuss the project. Giants Reef’s field work was conducted under her guidance.

An initial step was to find out the locations of all old bores and drillholes in the Alexander area. This was done by visits to the Water Resources Section of the NT Government Department of Lands, Planning and Environment in Alice Springs, where a database on disk was obtained, and photocopies made of a large number of geological logs of all the relevant drillholes and bores. Sampling involved making readings at each site for ambient and sample temperature, acidity, conductivity, water depth, sample depth, GPS location and remarks on the water quality. The sample bottles were sent to the CSIRO’s laboratory at North Ryde, NSW for the sensitive analysis work.

None of the Alexander water samples displayed pH-redox conditions suggestive of sulphides or magnetite, or any indications of Cu, Pb or Zn in their source rocks. However, given that there were only three samples taken over a very wide area of the Alexander anomaly, these three samples cannot be expected to give a fair indication of the presence or otherwise of anomalous base metals somewhere in the district.
Access clearance from the Central Land Council - The Central Land Council commenced land access clearance for the work proposed by Giants Reef in a program submitted under the ILUA in February 2001.

Exploration during the second tenure year was limited as a result of the downgrading of the Alexander Gravity Anomaly in EL 7810 for a major base metal or base metals/precious metals deposits, the field activities proposed in the first year for the Licences were reprioritised. Giants Reef focused their field season commitments primarily within the Bluebush tenements of EL 8882, 8883 and 10402. These tenements are also under the Alliance with BHP Billiton in which the major targets are base metals and precious metal deposits.

As a result no on ground exploration was undertaken over the Alexander project area (including EL 7810) in the second tenure year.

A tenement review was conducted as part of an internal review of the Giants Reef tenement portfolio and a classification of exploration opportunities during the tenure year, this assessed the future exploration potential of EL 7810 and the prospects within the Licence. The review recommended that Giants Reef substantially reduce the tenement holding of EL 7810 and retain only the areas covering the targets which may still hold potential for Tennant Creek style shallow or substantial gold mineralisation.

At the end of the second year of tenure the Licence area was reduced from 83 to 13 graticular blocks. Much of the relinquished areas were identified as exclusion zones and culturally sensitive areas by the CLC under instruction from the Native Title holders of the Tennant Creek region. These zones would present considerable difficulties if exploration were to be pursued in these areas.

Alliance Meeting - A technical meeting was held between Giants Reef and BHP Billiton in Melbourne on the 2nd December 2002. The meeting focussed on recent drilling results from the Bluebush Project Area. Information was presented to BHP Billiton representatives. There was a general agreement at the meeting that the gravity anomalies in the Alexander project area did not rate in comparison with the Bluebush project area. The minutes from the meeting were accepted as accurate, and were signed on the 16th December 2002 by Giants Reef and BHP Billiton.

Exploration during the third tenure year included the termination of the Strategic Alliance - In early 2003, BHP Billiton indicated to Giants Reef that they no longer wished to continue with the Strategic Alliance. Giants Reef prepared a summary report for BHP Billiton detailing all the exploration conducted over the joint venture tenements, including EL 7810 during the period of the Strategic Alliance between 1999 to 2003. Correspondence from BHP Billiton on the 25th July 2003, confirmed the termination of the Bluebush Joint Venture and hence the closure of the Strategic Alliance.
Other exploration work during the third tenure year included Strategic Planing - No on-ground exploration was conducted over the Licences during the year. Giants Reef reviewed the geological targets and models for both exploration Licences to assess the likelihood of an immediate discovery. The review recognised a number of magnetic anomalies within EL 7810 which are indicative of Tennant Creek style gold-copper occurrences and require further investigation.

During the fourth tenure year Giants Reef reviewed the company’s data base and cross referenced old geographic data with the current data in the system. After extensively studying the geology and geophysics over the Licence area it was recommended that Giants Reef Exploration relinquish the northern half of the tenement.

No on-ground exploration was conducted over the licence during the year.

6.19 EL 8773 LASSO

Previous exploration work conducted on the EL occurred under Normandy Tennant Creek, the EL was initially taken up because of a cluster of magnetic anomalies that in part may be caused by typical Tennant Creek ironstone masses, possibly associated with gold or gold-copper mineralisation.

The proximity of several known deposits, prospects and magnetic anomalies, all within two or three kilometres to the south and southwest of the magnetic features within EL 8773, influenced the ground selection. These include the high grade Marathon gold-copper prospect, the Troy deep copper deposit, the Thace and Macedon magnetic anomalies with gold and copper drill intersections, and the (non-magnetic) Edna Beryl gold deposit. All these occurrences are held by Giants Reef.

An agreement, The Area of Interest Agreement, with the Central Land Council (CLC) was signed on 9th December 1998. This agreement, between CLC, Traditional Landowners and NTC, establishes land access for mineral exploration upon Warrumungu Land Trust areas.

Since the granting of the EL, Normandy’s work in the area consisted of target generation/assessment, without any significant field work being carried out.

Exploration work conducted by Santexco

Towards the end of the tenure year, Giants Reef requested geophysical consultant Frank Lindeman, of Lindeman Geophysics Pty Ltd, to examine Giants Reef’s detailed magnetic data covering EL 8773 and interpret whether any of the anomalies within the EL might be caused by ironstone masses.
The magnetic data for this exercise came from a detailed aeromagnetic survey flown by Western Mining Corporation in 1993, under a joint venture agreement with Giants Reef. The key specifications of this survey were north-south flight lines 80m apart, at a mean flying height of 60m above the terrain. This information would not have been available to NTC during the first years of EL 8773.

Results from the geophysical assessment are:

1. One of the magnetic anomalies is almost certainly caused by an old Government bore, windmill and water tank situated beside Phillip Creek,

2. An elongate east-west anomaly may be a negatively polarised magnetic dyke or sill, related to a more intense grouping of similar linear magnetic features to the north of EL 8773,

3. A third feature in the cluster of anomalies is possibly a concealed ironstone mass.

Exploration work conducted during the fourth year of tenure included

Targets and Concepts - A brief assessment by Santexco late in 2001 indicated that target(s) identified within the EL by NTC were probably a cluster of magnetic anomalies within the centre of the Licence area. While not of high amplitude, these east-west elongated features standout noticeably against the magnetically subdued surroundings. Giants Reef’s initial interpretation is that the magnetic features represent basic dykes or sills, probably related to the more numerous and more extensive similar features seen a few kilometres further north. These are assumed to be basic dykes or sills within the Flynn Sub-group. However, it is possible that the target anomalies in EL 8773 could represent, or may include, ironstone bodies (possibly haematite dominated) within the Warramunga Formation, such as are found at Giants Reef’s Troy copper deposit less than 1km from the south-west corner of EL 8773, or at the Edna Beryl gold mine, 1km to the south-east.

Literature Review and Data Processing - A detailed literature review was completed during the fourth tenure year, which revealed that very little work had been done within the Licence area by past explorers. Data was collated and validated into Micromine (Giants Reef’s data management system).

The proximity of the Licence area to the known mineralisation at the Edna Beryl mine is not only interesting but also geologically, encouraging.

Target Generation - Magnetic Anomalies: A number of magnetic anomalies in EL 8773 have been identified by Giants Reef using the data from a detailed aeromagnetic survey flown by Western Mining Corporation in 1993, under a Joint Venture agreement with Giants Reef. This information would not have been available to NTC during the first years of EL 8773.
No geophysical modelling has been completed yet on this group of small anomalies. Preliminary research and assessment has shown that these anomalies are one of a number of anomalies of similar intensity along a subtle east-west “magnetic ridge”. For this reason alone, further geophysical investigation is required. This feature may be due to a sequence of magnetite-bearing sediments or individual magnetic highs along the east-west trend. The anomalies may relate to ironstone bodies which therefore makes them significantly prospective. The magnetic anomalies may however simply be the result of dykes and sills of the Flynn Group.

Work completed over EL 8773 in the fifth tenure year involved no on-ground exploration. The geology and prospectivity of the Licence area was assessed and the Licence was recommended to be included in a package of tenements to be Joint Ventures out.

Mining recommenced at the Edna Beryl mine, located just south of EL 8773. This will aid in greater geological understanding of the area, and generate significant interest in the vicinity.

Although no field work was carried on EL 8773 during the sixth year of tenure, it was included within a package of tenements which were subject to a combined quantitative/qualitative ranking, based on geological, geophysical & geochemical characteristics and other parameters covering work status, target type, land status and economics. The tenement was ranked “Intermediate A” which includes regions of Warramunga Formation with moderate magnetic anomalies and proximal to historical workings.

6.20 EL 9909 STAR WARS

The target in Exploration Licence 9909 is a major base metals or base metals/precious metals deposit. Giants Reef is not applying a precise model to the target, but the style of occurrence is envisaged as being situated in iron oxide-rich lithologies and therefore likely to be associated with a regional or district-scale gravity anomaly and probably also with a magnetic anomaly.

A regional gravity high, which Giants Reef refers to as the Rosella Gravity Anomaly, is centred approximately 17km northeast or NNE from Warrego. This gravity anomaly occurs within a much wider zone of elevated magnetic readings centred around the Warrego Granite intrusion to the west. The basement geology of the gravity anomaly area is largely masked by Recent cover sequences, so that the cause of the gravity anomaly is not apparent.

Exploration work conducted during the first year of tenure included:

Literature search and previous work - Giants Reef made an initial examination of reports on exploration by previous companies in the area of Exploration Licence 9909. So far this
research has not of much direct value in the search for major base metals deposits, but has been of assistance in locating possible future targets of the Tennant Creek-style ironstone-associated gold-copper-bismuth type.

Reconnaissance - Several vehicle trips have been made to the area around the centre of the Rosella Gravity Anomaly. These trips revealed the difficulties of travelling in this area, without providing much in the way of additional geological knowledge.

NTGS/AGSO gravity survey assessment - In mid-2001, the Northern Territory Geological Survey and the Australian Geological Survey Organisation jointly carried out a gravity survey over the Tennant Creek 1:250,000 sheet and parts of some adjacent sheets. In the EL 9909 area, the station spacing was at 4km by 4km centres. The new survey information was a considerable improvement upon the old 11km by 11km coverage.

Consulting geophysicist Frank Lindeman, of Lindeman Geophysics Pty Ltd, Melbourne, assessed the new NTGS/AGSO gravity data over the Rosella Gravity Anomaly and EL 9909 for Giants Reef. After removing a residual gradient, the Rosella Gravity Anomaly now appears broken up into several separate anomalies and the highest amplitude, or peak, residual anomaly is located at AGD84 approximate co-ordinates 384000E 7864800N. Mr Lindeman commented that the “Rosella Gravity Anomaly, as defined by the Bouguer gravity and the Bouguer residual, is now part of a large and quite coherent ‘inverted U-shape’, which quite faithfully drapes around the northern edge of the Warrego granite. Its size and location truly does give it the feel of a ‘regional’ feature, probably reflecting the density contrast between the granite and the surrounding geology. The Rosella anomaly is only a part of the eastern section of this response and realistically does not now, in my opinion, constitute a specific or discrete anomaly, which might represent an ore environment.” This observation downgrades the exploration potential for the kind of target envisaged.

Gravity and magnetics assessment - Further to his comments on the NTGS/AGSO gravity survey results, Mr Lindeman noted that within the Rosella project and adjacent areas, except for the area of the Warrego Granite, there is no correlation between gravity and magnetics. “The magnetic features occurring within the Rosella Gravity Anomaly extend well out of it, particularly as they trend well off to the ENE. Thus there is no reason to presume that the source of the magnetic and gravity bodies are the same.”

The assessment led to the conclusion that “the magnetic and gravity and magnetic data do not define a specific target worthy of drill testing, whether it be magnetic, gravity or a combination of both. It could be argued that the (new) gravity data are still quite regional with stations many kilometres apart. However, the strong association of the gravity with a great proportion of the northern edge of the low-density Warrego granite, which is unlikely to change with more closely spaced stations, suggests strongly that the gravity is reflecting a regional geological phenomenon and not a potential drill target.”
Other targets - A second major geophysical target area is partly within the extreme eastern end of EL 9909, where a small portion of the Alexander Gravity Anomaly is located. The target here is a very large base metals deposit, similar to the target originally considered for the Rosella Anomaly.

Further literature search may generate other targets and prospects in the Rosella Project Area. However, these are likely to be of the ‘traditional’ Tennant Creek ironstone-associated gold-copper-bismuth style, or perhaps variants of this, rather than the type of base metals deposits being sought under the alliance with BHP Billiton.

Areas of interest presently known to Giants Reef include the four Mineral Claims at Butchers Waterhole, which cover a complex aeromagnetic anomaly.

Access clearance from the Central Land Council - A work program under the Indigenous Land Use Agreement was submitted by Giants Reef to the Central Land Council when the three Exploration Licences were still in the application stage. The CLC later conducted a land access clearance of the work proposed. The CLC pointed that the clearance work was made difficult by the fact that Giants Reef did not have firm locations for any possible drilling at the time. A large number of exclusion zones and culturally sensitive areas were marked on the map accompanying the clearance letter, dated 22 March 2002 (CLC map 2001/129a). Approximately 40% of EL 9909 Star Wars is either under large exclusion zones or culturally sensitive areas that cover its northern and western areas, and there are exclusion zones around Lily Dam and Butchers Waterhole in the southern parts.

While the existence of these areas does not entirely rule out exploration in the extensive stretches of the Rosella project area that they cover, they would present considerable difficulties if exploration were to be pursued in these areas.

Exploration during the second year of tenure included:

Exploration Focus under the Alliance - Tennant Creek-style orebodies are regarded as secondary targets, as the focus of exploration under the Strategic Alliance agreement with BHP Billiton, is to find major base metals or base metals/precious metals deposits. However, assessment of the base metals/precious metals prospect areas within EL 9909 has downgraded the potential for this style of mineralisation occurring at the Rosella prospect.

Exploration - As a result of the downgrading of EL 9909 for base metals or base metals/precious metals deposits Giants Reef focused their 2002 field season commitments primarily within the Bluebush tenements of EL 8882, 8883 and 10402. These tenements are also under the Alliance with BHP Billiton in which the major targets are base metals and precious metal deposits.
Tenement Review - An internal review of the Giants Reef tenement portfolio and a classification of exploration opportunities in September 2002 assessed the future exploration potential of EL 9909 and the prospects within the Licence. The review recommended that Giants Reef substantially reduce the tenement holding of EL 9909 and retain only the areas covering the targets which may still hold potential for Tennant Creek style shallow or substantial gold mineralisation. At the end of the second year of tenure the Licence area was reduced from 102 to 51 graticular blocks. Much of the relinquished areas have been identified as exclusion zones and culturally sensitive areas by the Central Land Council under instruction from the Native Title holders of the Tennant Creek region. These zones would present considerable difficulties if exploration were to be pursued in these areas.

Alliance Meeting - A technical meeting was held between Giants Reef and BHP Billiton in Melbourne on the 2nd December 2002. The meeting focussed on recent drilling results from the Bluebush Project Area. Information was presented to BHP Billiton representatives. There was a general agreement at the meeting that the gravity anomalies in the Rosella area did not rate in comparison with the Bluebush area.

Exploration during the third year of tenure included:

Termination of Strategic Alliance - In early 2003, BHP Billiton indicated to Giants Reef that they no longer wished to continue with the Strategic Alliance. Giants Reef prepared a summary report for BHP Billiton detailing all the exploration conducted over the joint venture tenements, including EL 9909 during the period of the Strategic Alliance between 1999 to 2003. Correspondence from BHP Billiton on the 25th July 2003, confirmed the termination of the Bluebush Joint Venture and hence the closure of the Strategic Alliance.

Surrender of Mineral Claims - Mineral Claims C1147-C1149 Butchers Waterhole were not renewed by Giants Reef at the end of their second tenure and were allowed to expire on the 31st December 2003. The Claims were located in EL 9909 and the area will now be explored and reported under EL 9909. No on-ground work over the Claim area was conducted by Giants Reef in the ten year tenure, and no prospect areas were identified.


Strategic Planing - No on-ground exploration was conducted over the Licences during the year. Giants Reef reviewed the geological targets and models for all three exploration Licences to assess the likelihood of an immediate discovery. The review recognised a number of magnetic anomalies within EL 9909 which are indicative of Tennant Creek style gold-copper occurrences.
Exploration work conducted during the fourth year of tenure included a review and reassessment of all previous exploration work, from this a conclusion was reached; the area considered most prospective includes the south eastern region of the tenement which comprises units of the Warramunga Formation. These units are however more low magnetic variants and include more sandstone dominated volcano lithic turbiditic sequences (Pws). The far south-eastern corner of the EL includes a small segment of the more siltstone dominated volcano lithic sequence (Pw m (lm)) of the Warramunga. These areas containing units of Warramunga are, however, some 3 kms northeast of the Orlando-Gecko-Golden Slipper line of mineralisation. A number of cohesive vacuum gold anomalies that have a general North West trend and align with Orlando – Gecko – TC35.

The prospectivity of the EL to host economic gold/copper mineralisation was recently and downgraded for the following reasons;

a.) The EL contains less than 13% of prospective Warramunga Formation, with the remainder of the geology comprising younger units of the Ooradidgee Group. The former comprise low magnetic variants, sandstone dominated units which have been found to be less prospective in the field. The area proposed for reduction includes only units of the Oorididgee and Hatches Creek Group.

b.) Although the areas proposed for reduction includes monzonitic units of the Treasure Suite, which is the host to mineralisation at the small Last Hope and Bull Pup prospects, the tenement has no recorded occurrences of Au-Cu mineralisation.

c.) The area proposed for reduction includes the northern region of the Rosella Gravity Anomaly, however its prospectivity has been down-graded due to it being interpreted as a regional feature, reflecting a thick package (up to 2km) of sediments (Ooradidgee and Hatches Creek Group) against lower density granites i.e. Warrego granite. The Rosella anomaly appears to be only a part of an extensive anomaly, and appears not to constitute a specific or discrete anomaly which might provide a drill target. Furthermore, magnetic features occurring within the Rosella Gravity Anomaly extend well away from it, suggesting that the magnetic and gravity features do not have a common source.

Geophysical assessments of the Rosella Gravity Anomaly suggested that the magnetic and gravity data do not define a specific target worth drill testing and as such is no longer regarded has having significant potential to host a large base metal deposit.

6.21 EL 9939 BATTERY BLOCK

Shortly before the grant of this EL, Giants Reef purchased all the shares in Normandy Tennant Creek Pty Ltd (now re-named Santexco Pty Ltd). With the purchase, Giants Reef also acquired the extensive Normandy database containing a very large amount of
information on the geology and history of exploration and mining over the greater part of the Tennant Creek goldfield.

During the first year of tenure, studies of the ex-Normandy database and other public domain information were conducted, they suggest that there are no magnetic targets in EL 9939 that might warrant follow up outside the various Mineral Claims and Mineral Leases that cover parts of the northern two blocks of the EL. These leases and claims cover the Olive Wood, Ellen Ruby, One-Oh-Two, Havelock-Talisman and Orlando Extended workings.

There are several un-named workings on haematite outcrops within EL 9939 that are not under claims or leases, but the current practice of the Central Land Council is to regard all ironstone outcrops in the Tennant Creek region as sites of importance to the Aboriginal people, and hence Giants Reef had reservations about considering these occurrences as exploration targets.

The proximity of EL 9939 to the major Gecko and Orlando copper-gold mines, and the many old workings within the EL boundaries and nearby, gives this Licence a high level of prospectivity. It was planned to make further assessments of the ex-Normandy database to target non-magnetic and probably non-outcropping, structurally-controlled targets within EL 9939. A major magnetic linear, which corresponds with the NW-SE shear zone through the Gecko mine (Gecko Shear Zone), may host such targets, although Giants Reef is aware that much previous exploration work has been done along this complex structure.

During the second tenure year studies of the ex-Normandy database and other public domain information continued. Results again indicated that there are no magnetic targets in EL 9939 that might warrant follow up outside the various Mineral Claims and Mineral Leases that cover parts of the northern two blocks of the EL. These Leases and Claims cover the Olive Wood, Ellen Ruby, One-Oh-Two, Havelock-Talisman and Orlando Extended workings. Due to the highly prospective nature of EL 9939, few of the Leases and Claims with the Licence were recommended for surrender during the tenement rationalisation review. Consequently the northern 2 blocks of the EL remain covered by Leases and Claims which are excluded from exploration under the EL. However, ML C693-Olivewood, and ML C20-One Oh Two, that cover the northern 2 blocks of EL 9939 were ranked as first class prospect areas for shallow gold exploration and recommended for near future Reverse Circulation (RC) drill programs to test the shallow target zones previously identified. Success from these programs could possibly lead to mineralisation extensions within the southern portion of the EL.

On expiry in December 2002, the Mineral Claims C1211-C1215 were subsumed by EL 9939.
During the third year of tenure no on-ground exploration was completed over the Licence. Giants Reef’s commitments in establishing mining operations at Chariot, Edna Beryl, Cats Whiskers and Malbec West prevented further exploration over the licences. A review of prospects within EL 9939 was conducted and the conclusions from the detailed assessment of Olivewood, One-Oh-Two, Havelock-Tailsman and Orlando Extended workings generated drill targets for twelve (12) Reverse Circulation drill holes. Giants Reef Management have ranked these prospects as first class exploration targets, and recommended them for immediate drilling. A drill contractor was secured, and CLC land clearances sought for the proposed drill sites. Drilling was expected to commence early within the fourth tenure year of the Licence. Success from these programs could possibly lead to mineralisation extensions within the southern portion of the EL.

Work during the fourth year of tenure included a compilation and database integration of all previous exploration data for tenement including the Olivewood and One-oh-Two prospects. This work highlighted several drill targets however upon inspection by CLC and traditional elders approval was not given for this work as the sites were considered to be sacred sites. One-Oh-Two coincides with a recorded sacred site however the Olivewood is approximately 250m from a registered sacred site.

The Olivewood prospect has an inferred resource of 19,050 t (SG3.0) at a grade of 18.0 g/t Au (uncut) and negligible copper (71 ppm) to 80 meters depth. This resource is some 33 meters below surface to the top of the resource. The resource strikes ~300 degrees and dips steeply south. Mineralization occurs with a package of chlorite-clay-ironstone alteration. Ironstone is dominant nearer the surface but is not necessarily auriferous. The One-oh-two prospect is North West and on strike to the Olivewood prospect and probably occurs within the same structure. Two en echelon ironstone lenses occur in a similar orientation to Olivewood (strike ~300).

Work completed over EL 9939 in the fourth tenure year included an inspection of outcropping ironstones in the eastern region of the tenement however while these do not appear to coincide with any known sacred sites, no further work is planned as their nature would suggest that CLC/indigenous clearance would not be obtained to explore these.

A review of airborne geophysics in the south western region of EL 9939 has delineated a low tenure anomaly which warrants further investigation.
7. WORK DONE DURING THE REPORT PERIOD

Exploration Licences ("ELs") in the Northern Project Area (NPA) were explored by Emmerson Resources Ltd, parent company of Giants Reef, Santexco and TC8, for Tennant Creek style iron oxide copper-gold deposits (IOCG deposits).

The following sections records the exploration work completed on these ELs during the NPA Combined Reporting period from 16 August 2007 to the 15 August 2008.

7.1 EL 10016 GECKO ROAD

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 10016. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 10016 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.

7.2 EL 10017 STONEY DAM

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 10017. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 10017 in the next tenure term following...
analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.

7.3 EL 10077 WHIPPET EAST

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 10077. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 10077 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.

7.4 EL 10079 SETTLEMENT

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 10079. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 10079 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.
million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.

7.5 EL 10101 BINARY

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 10101. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 10101 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.

7.6 EL 10129 ALEXANDER

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 10129. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 10129 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.

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MAP SHEETS:
☐ TENNANT CREEK SE53-14
☐ FLYNN 5759
☐ SHORT RANGE 5659
☐ TENNANT CREEK 5758
1:100 000
7.7 EL 10166 WHIPPET NORTH

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 10166. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 10166 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.

7.8 EL 10311 GIBSON CREEK

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 10311. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 10311 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.
7.9 EL 22165 COPERNICUS

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million. Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff, Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 22165. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 22165 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.

7.10 EL 22224 MONZONITE

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million. Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff, Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 22224. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 22224 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.
7.11 EL 22583 MORNING STAR

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 22583. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 22583 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.

7.12 EL 22589 WHIPPET HILL

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 22589. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 22589 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.
7.13 EL 22590 STUART HIGHWAY

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million. Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff, Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 22590. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 22590 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.

7.14 EL 23073 PUMPING STATION

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million. Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff, Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 23073. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 23073 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.
7.15 EL 23183 JUNCTION

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million. Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff, Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 23183. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 23183 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration, and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.

7.16 EL 23745 VIVID

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million. Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff, Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 23745. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 23745 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration, and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.
7.17 EL 23746 MARKER

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 23746. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 23746 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.

7.18 EL 7810 HAYWARD CREEK

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 7810. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 7810 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.
7.19 EL 8773 LASSO

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 8773. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 8773 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.

7.20 EL 9909 STAR WARS

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 9909. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 9909 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.
7.21 EL 9939 BATTERY BLOCK

Emmerson Resources purchased a set of assets, including Giants Reef Exploration on 1st August 2006, following a successful Initial Public Offer (IPO) raising $20 million Emmerson listed on the ASX on 17 December 2007. With the employment of new administration and geological staff Emmerson Resources Ltd will reassess all previous exploration work conducted over the licence area.

Emmerson’s aggressive exploration activities commenced during March 2008 with the start of a detailed Ground Gravity Survey, and May 2008 with the start of an Airborne Geophysical Survey, both geophysical surveys have coverage over all Emmerson tenure and will include EL 9939. Drilling of prospective targets generated from this captured data and the remodelling and reprocessing of historical data has also begun in Emmerson’s tenure package and may include EL 9939 in the next tenure term following analysis of the data. These geophysical surveys have the aim of generating targets for further geophysical surveys and/or drill testing. As a result of the recruitment of quality management, administration and geological staff, preparations and execution of the $20 million IPO and listing on the ASX, all tenements had no in-ground exploration during the reporting period.

8. REHABILITATION

Exploration within the Licences of the NPA was limited to non-invasive literature reviews, compilation and data entry of previous exploration over the NPA, and as such no rehabilitation was required.
9. CONCLUSIONS

Further work is planned to refine the data captured for gravity and geochemical anomalies. Several of these targets are located on poorly prospected west-northwest trending structures. The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd over the Northern Project Area, which includes extensive detailed geophysical surveys and the possible generation of drilling programs.

Review of historical exploration data and geophysical modelling of magnetic data during the year has highlighted deeper primary targets requiring further work. The size of the ironstone, and consequent target size may have previously been underestimated, and depths to target overestimated. This is interpreted to be due to higher haematite content, which typifies some of the known ironstones below the oxide zone in this area (e.g. Marathon). Further refinement of the target geological and geophysical models is planned preparatory to drilling in the next reporting year.

9.1 EL 10016 GECKO ROAD

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 10016. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. haematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.2 EL 10017 STONEY DAM

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 10017. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. haematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.3 EL 10077 WHIPPET EAST

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 10077. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of
historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.4 EL 10079 SETTLEMENT

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 10079. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.5 EL 10101 BINARY

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 10101. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.6 EL 10129 ALEXANDER

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 10129. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.7 EL 10166 WHIPPET NORTH

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 10166. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.8 EL 10311 GIBSON CREEK

MAP SHEETS:
- TENNANT CREEK SE53-14
- TENNANT CREEK 1:250 000
- FLYNN 5759
- SHORT RANGE 5659
- TENNANT CREEK 5758

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The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 10311. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.9 EL 22165 COPERNICUS

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 22165. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.10 EL 22224 MONZONITE

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 22224. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.11 EL 22583 MORNING STAR

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 22583. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.12 EL 22589 WHIPPET HILL

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 22589. Previous exploration work completed has indicated the potential for
the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.13 EL 22590 STUART HIGHWAY

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 22590. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.14 EL 23073 PUMPING STATION

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 23073. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.15 EL 23183 JUNCTION

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 23183. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.16 EL 23745 VIVID

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 23745. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.
9.17 EL 23746 MARKER

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 23746. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.18 EL 7810 HAYWARD CREEK

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 7810. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.19 EL 8773 LASSO

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 8773. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.20 EL 9909 STAR WARS

The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 9909. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.

9.21 EL 9939 BATTERY BLOCK
The next reporting period will encompass the commencement of exploration activities by Emmerson Resources Ltd which includes extensive detailed geophysical surveys and pending favourable results drilling programs over Emmerson’s Northern Project Area, including EL 9939. Previous exploration work completed has indicated the potential for the discovery of concealed oxide (i.e. hematite) gold deposits. Geophysical modelling of historical magnetic data and newly captured data in the next tenure year will be aimed at modelling primary targets for drill testing.
## EMMERSON RESOURCES LTD

### HARD COPY REPORT META DATA FORM

**REPORT NAME:** COMBINED ANNUAL REPORT FOR THE NORTHERN PROJECT AREA 16 AUGUST 2007 – 15 AUGUST 2008

**PROSPECT NAMES(s):** GECKO ROAD, STONEY DAM, WHIPPET EAST, SETTLEMENT, BINARY, ALEXANDER, WHIPPET NORTH, GIBSON CREEK, COPERNICUS, MONZONITE, MORNING STAR, WHIPPET HILL, STUART HIGHWAY, PUMPING STATION, JUNCTION, VIVID, MARKER, HAYWARD CREEK, LASSO, STAR WARS, BATTERY BLOCK

**GROUP PROSPECT NAME:**

**TENEMENT NUMBERS(s):** EL 10016, EL 10017, EL 10077, EL 10079, EL 10101, EL 10129, EL 10166, EL 10311, EL 22165, EL 22224, EL 22583, EL 22589, EL 22590, EL 23073, EL 23183, EL 23745, EL 23746, EL 7810, EL 8773, EL 9909, EL 9939

**ANNIVERSARY DATE:** 15 AUGUST

**OWNER/JV PARTNERS:** EMMERSON RESOURCES LTD, GIANTS REEF EXPLORATION PTY LTD, SANTEXCO PTY LTD, TC8 PTY LTD

**AUTHOR(s):** A. WALTERS

**COMMODITIES:** GOLD, COPPER

**MAPS 1:250 000:** TENNANT CREEK SE53-14

**MAPS 1:100 000:** FLYNN 5759, SHORT RANGE 5659

**TECTONIC UNIT(s):** TENNANT CREEK INLIER

**STRATIGRAPHIC NAME(s):** WARRAMUNGA FORMATION, CAMBRIAN WISO BASIN

**AMF GENERAL TERMS:**

**AMF TARGET MINERALS:** GOLD, COPPER, LEAD, ZINC

**AMF GEOPHYSICAL:** MAGNETIC INTERPRETATION, GRAVITY SURVEY

**AMF GEOCHEMICAL:**

**AMF DRILL SAMPLING:**

### DISTRIBUTION:

- Department of Primary Industry, Fisheries & Mining
- Central Land Council
- Emmerson Resources Ltd
- MAP SHEETS:
  - TENNANT CREEK SE53-14
  - FLYNN 5759
  - SHORT RANGE 5659
  - TENNANT CREEK 5758
  - 1:250 000
  - 1:100 000
HISTORIC MINES:

DEPOSITS:

PROSPECTS: GECKO ROAD, STONEY DAM, WHIPPET EAST, SETTLEMENT, BINARY, ALEXANDER, WHIPPET NORTH, GIBSON CREEK, COPERNICUS, MONZONITE, MORNING STAR, WHIPPET HILL, STUART HIGHWAY, PUMPING STATION, JUNCTION, VIVID, MARKER, HAYWARD CREEK, LASSO, STAR WARS, BATTERY BLOCK

KEYWORDS: