COMBINED ANNUAL REPORT FOR THE EASTERN PROJECT AREA

16 NOVEMBER 2007 – 15 NOVEMBER 2008

LICENCEES:

EMMERSON RESOURCES LTD
A.C.N. 117 086 745

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

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

AUTHOR:
ADAM WALTERS

15 DECEMBER 2008

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

MAP SHEETS:
TENNANT CREEK SE53-14
TENNANT CREEK 1:250 000
TENNANT CREEK 5758
1:100 000
Table of Contents

1. SUMMARY 1

2. INTRODUCTION 4

3. LOCATION 4
   3.1 EL 8199 Carlsberg 4
   3.2 EL 8279 Bintang 5
   3.3 EL 8280 San Miguel 5
   3.4 EL 8430 Red Back 5
   3.5 EL 8705 Boseiver 5
   3.6 EL 8786 First Light 6
   3.7 EL 8879 Mount Cleland 6
   3.8 EL 8991 Sun Rise 6
   3.9 EL 9293 Joker 6
   3.10 EL 9403 Jess 7
   3.11 EL 9930 New Moon 7
   3.12 EL 9958 Running Bear 7
   3.13 EL 10113 Ivory 8
   3.14 EL 10114 McDougall Ranges 8
   3.15 EL 10118 Rocky Range 8
   3.16 EL 10124 Speedway 8
   3.17 EL 10203 White Hill Bore 9
   3.18 EL 10312 Hopeful 9
   3.19 EL 10313 Kodiak 9
   3.20 EL 10324 Panda 9
   3.21 EL 10406 Montana 10
   3.20 EL 22285 Snappy Gum 10
   3.21 SEL 25912 Volk 10

4. TENURE 11
   4.1 EL 8199 Carlsberg 12
   4.2 EL 8279 Bintang 13
   4.3 EL 8280 San Miguel 13
   4.4 EL 8430 Red Back 14
   4.5 EL 8705 Boseiver 14
   4.6 EL 8786 First Light 15
   4.7 EL 8879 Mount Cleland 15
   4.8 EL 8991 Sun Rise 16
   4.9 EL 9293 Joker 16
   4.10 EL 9403 Jess 17
   4.11 EL 9930 New Moon 17
   4.12 EL 9958 Running Bear 17
   4.13 EL 10113 Ivory 18
   4.14 EL 10114 McDougall Ranges 18
   4.15 EL 10118 Rocky Range 18
4.16 EL 10124 Speedway 19
4.17 EL 10203 White Hill Bore 19
4.18 EL 10312 Hopeful 19
4.19 EL 10313 Kodiak 20
4.20 EL 10324 Panda 20
4.21 EL 10406 Montana 20
4.20 EL 22285 Snappy Gum 20
4.21 SEL 25912 Volk 21

5. GEOLOGY 22

5.1 Regional Geology 22
5.2 Geology of the Eastern Project Area 22
5.3 EL 8199 Carlsberg 23
5.4 EL 8279 Bintang 23
5.5 EL 8280 San Miguel 23
5.6 EL 8430 Red Back 24
5.7 EL 8705 Boseiver 24
5.8 EL 8786 First Light 25
5.9 EL 8879 Mount Cleland 25
5.10 EL 8991 Sun Rise 26
5.11 EL 9293 Joker 26
5.12 EL 9403 Jess 26
5.13 EL 9930 New Moon 27
5.14 EL 9958 Running Bear 27
5.15 EL 10113 Ivory 27
5.16 EL 10114 McDougall Ranges 28
5.17 EL 10118 Rocky Range 28
5.18 EL 10124 Speedway 29
5.19 EL 10203 White Hill Bore 29
5.20 EL 10312 Hopeful 30
5.21 EL 10313 Kodiak 31
5.22 EL 10324 Panda 31
5.23 EL 10406 Montana 31
5.24 EL 22285 Snappy Gum 32
5.25 SEL 25912 Volk 32

6. PREVIOUS EXPLORATION 33

6.1 Concepts & Targets 33
6.2 EL 8199 Carlsberg 33
6.3 EL 8279 Bintang 34
6.4 EL 8280 San Miguel 35
6.5 EL 8430 Red Back 37
6.6 EL 8705 Boseiver 37
6.7 EL 8786 First Light 39
6.8 EL 8879 Mount Cleland 41
6.9 EL 8991 Sun Rise 46
6.10 EL 9293 Joker 47
6.11 EL 9403 Jess
6.12 EL 9930 New Moon
6.13 EL 9958 Running Bear
6.14 EL 10113 Ivory
6.15 EL 10114 McDougall Ranges
6.16 EL 10118 Rocky Range
6.17 EL 10124 Speedway
6.18 EL 10203 White Hill Bore
6.19 EL 10312 Hopeful
6.20 EL 10313 Kodiak
6.21 EL 10324 Panda
6.22 EL 10406 Montana
6.23 EL 22285 Snappy Gum
6.24 SEL 25912 Volk

7. WORK DONE DURING THE REPORT PERIOD

7.1 EL 8199 Carlsberg
7.2 EL 8279 Bintang
7.3 EL 8280 San Miguel
7.4 EL 8430 Red Back
7.5 EL 8705 Boseiver
7.6 EL 8786 First Light
7.7 EL 8879 Mount Cleland
7.8 EL 8991 Sun Rise
7.9 EL 9293 Joker
7.10 EL 9403 Jess
7.11 EL 9930 New Moon
7.12 EL 9958 Running Bear
7.13 EL 10113 Ivory
7.14 EL 10114 McDougall Ranges
7.15 EL 10118 Rocky Range
7.16 EL 10124 Speedway
7.17 EL 10203 White Hill Bore
7.18 EL 10312 Hopeful
7.19 EL 10313 Kodiak
7.20 EL 10324 Panda
7.21 EL 10406 Montana
7.22 EL 22285 Snappy Gum
7.23 SEL 25912 Volk

8. REHABILITATION

93

9. CONCLUSIONS

9.1 EL 8199 Carlsberg
9.2 EL 8279 Bintang
9.3 EL 8280 San Miguel
9.4 EL 8430 Red Back

EMMERSON RESOURCES LTD
| 9.5  | EL 8705 Boseiver         | 95 |
| 9.6  | EL 8786 First Light      | 95 |
| 9.7  | EL 8879 Mount Cleland    | 96 |
| 9.8  | EL 8991 Sun Rise         | 97 |
| 9.9  | EL 9293 Joker            | 97 |
| 9.10 | EL 9403 Jess             | 98 |
| 9.11 | EL 9930 New Moon         | 98 |
| 9.12 | EL 9958 Running Bear     | 99 |
| 9.13 | EL 10113 Ivory           | 99 |
| 9.14 | EL 10114 McDougall Ranges| 99 |
| 9.15 | EL 10118 Rocky Range     | 100|
| 9.16 | EL 10124 Speedway        | 100|
| 9.17 | EL 10203 White Hill Bore |101 |
| 9.18 | EL 10312 Hopeful         | 101|
| 9.19 | EL 10313 Kodiak          | 102|
| 9.20 | EL 10324 Panda           | 102|
| 9.21 | EL 10406 Montana         | 103|
| 9.20 | EL 22285 Snappy Gum      | 103|
| 9.21 | SEL 25912 Volk           | 103|
FIGURES

Figure 1.  EASTERN PROJECT AREA LOCATION MAP
Figure 2.  EL 8199 CARLSBERG LOCATION
Figure 3.  EL 8279 BINTANG LOCATION
Figure 4.  EL 8280 SAN MIGUEL LOCATION
Figure 5.  EL 8430 RED BACK LOCATION
Figure 6.  EL 8705 BOSEIVER LOCATION
Figure 7.  EL 8786 FIRST LIGHT LOCATION
Figure 8.  EL 8879 MOUNT CLELAND LOCATION
Figure 9.  EL 8991 SUN RISE LOCATION
Figure 10.  EL 9293 JOKER LOCATION
Figure 11.  EL 9403 JESS LOCATION
Figure 12.  EL 9930 NEW MOON LOCATION
Figure 13.  EL 9958 RUNNING BEAR LOCATION
Figure 14.  EL 10113 IVORY LOCATION
Figure 15.  EL 10114 McDougall Ranges Location
Figure 16.  EL 10118 ROCKY RANGE LOCATION
Figure 17.  EL 10124 SPEEDWAY LOCATION
Figure 18.  EL 10203 WHITE HILL BORE LOCATION
Figure 19.  EL 10312 HOPEFUL LOCATION
Figure 20.  EL 10313 KODIAK LOCATION
Figure 21.  EL 10324 PANDA LOCATION
Figure 22.  EL 10406 MONTANA LOCATION
Figure 23.  EL 22285 SNAPPY GUM LOCATION
Figure 24.  SEL 25912 VOLK LOCATION
Figure 25.  EPA GROUND GRAVITY SURVEY STATIONS
Figure 26.  EPA AIRBORNE GEOPHYSICAL SURVEY COVERAGE
Figure 27. EL 8199 CARLSBERG GRAVITY STATIONS & AIRBORNE COVERAGE
Figure 28. EL 8279 BINTANG GRAVITY STATIONS
Figure 29. EL 8279 BINTANG
Figure 30. EL 8280 SAN MIGUEL GRAVITY STATIONS
Figure 31. EL 8430 RED BACK GRAVITY STATIONS
Figure 32. EL 8705 BOSEIVER GRAVITY STATIONS
Figure 33. EL 8786 FIRST LIGHT GRAVITY STATIONS
Figure 34. EL 8879 MOUNT CLELAND GRAVITY STATIONS & AIRBORNE COVERAGE
Figure 35. EL 8991 SUN RISE GRAVITY STATIONS
Figure 36. EL 9293 JOKER GRAVITY STATIONS
Figure 37. EL 9403 JESS GRAVITY STATIONS
Figure 38. EL 9958 RUNNING BEAR GRAVITY STATIONS & AIRBORNE COVERAGE
Figure 39. EL 10113 IVORY GRAVITY STATIONS & AIRBORNE COVERAGE
Figure 40. EL 10114 McDougall Ranges Gravity Stations & Airborne Coverage
Figure 41. EL 10118 ROCKY RANGE GRAVITY STATIONS & AIRBORNE COVERAGE
Figure 42. EL 10124 SPEEDWAY GRAVITY STATIONS & AIRBORNE COVERAGE
Figure 43. EL 10203 WHITE HILL BORE GRAVITY STATIONS & AIRBORNE COVERAGE
Figure 44. EL 10312 HOPEFUL GRAVITY STATIONS & AIRBORNE COVERAGE
Figure 45. EL 10313 KODIAK GRAVITY STATIONS & AIRBORNE COVERAGE
Figure 46. EL 10324 PANDA GRAVITY STATIONS & AIRBORNE COVERAGE
Figure 47. EL 10406 MONTANA GRAVITY STATIONS
Figure 48. EL 22285 SNAPPY GUM GRAVITY STATIONS & AIRBORNE COVERAGE
Figure 49. SEL 25912 VOLK GRAVITY STATIONS & AIRBORNE COVERAGE
1.0 SUMMARY

Exploration Licences (ELs) in the EPA, were acquired by Giants Reef Exploration Pty Ltd (Giants Reef) and Santexco Pty Ltd (Santexco) to search for Tennant Creek style iron oxide copper-gold deposits. Giants Reef and Santexco are wholly owned subsidiaries of Emmerson Resources Ltd (Emmerson).

This combined report records the exploration work completed on these ELs during the EPA Combined Reporting period from 16 November 2007 to the 15 November 2008.

Emmerson opened the reporting period with its successful Initial Public Offering (IPO), raising $20 Million and listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy of the Tennant Creek Mineral Field, including the EPA tenure, in accordance to its business plan and strategy developed during December 2008.

Exploration work during the Initial part of the reporting period was limited to desktop studies and included; the commencement of the compilation of all historical drilling data from the Tennant Creek Mineral Field into a robust database, this continued throughout the reporting period and will continue into the next reporting period; the reassessment and remodelling of historical prospects with the aim of generating early targets for drill testing. This initial work generated a number of targets for drill testing and in-ground exploration work commenced in the EPA on 18 May 2008 at Golden Kangaroo East and continued throughout the entire reporting term. Exploration drilling in the EPA during the reporting period was focused at the following prospects:

- Golden Kangaroo East (MLC 577)
- Golden Forty Mine (MLC 36, 136, 584 - 586, & SEL Application 25890)
- Muscadel (MLC 52)
- East Peko (EL 8279)

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included the EPA tenements. The survey was conducted on quad bikes with support from a Toyota Landcruiser 4WD. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South with a 250m station offset. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. Figure 25 displays the Gravity Reading Stations over the EPA.

A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The survey included areas of the EPA and is detailed in Figure 26. The survey was flown with
a FU24 – 954 fixed wing survey aircraft on 75m line spacing’s, with 750m tie line spacing’s and a sensor height of 25m for a total Line KM of 38,278, with 2,461km’s (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson with data never captured before in the Tennant Creek field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position to conduct effective and aggressive exploration of the Tennant Creek Mineral Field and the EPA.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA for further analysis, assessment and interpretation, provided good outcomes, drill testing during the next tenure term.

Emmerson engaged the ‘Centre for Exploration Targeting’ (CET), School of Earth & Geographical Sciences, FNAS, based at the University of Western Australia (UWA) to undertake some focused geological studies of the Tennant Creek Mineral Field, in collaboration with geologists from Emmerson, through a 3 phase program. The Primary focus of the these programs is to undertake structural analysis at a deposit to camp scale of the Tennant Creek Mineral Field. All tenure in the EPA was included in this study which commenced in March 2008 and continued through to the end of the reporting period, and will continue into the next reporting period.

The work undertaken by CET in phase 1 of 3 involved targeted work on advanced prospects and deposits in the Tennant Creek Mineral Field, this was used to refine existing targets and provide further data towards generating near mine targets. Phase 2 of 3 involved developing a better regional structural map and structural model, with a core focus on directly linking outcomes with targeting. Phase 2 is near completion and phase 3 of 3 will be undertaken during the next reporting period.

Exploration drilling was conducted in MLC’s 4, 5 & 129 all contained within EL 8279, at the East Peko Prospect. 14 Reverse Circulation (RC) holes (EPRC001 – 014) were drilled by Gomex Drilling, between 11 August 2008 and 19 September 2008, for a total of 2,111m, and are detailed in the table below. No Significant intercepts were found. Drilling is identified in Figure 29.

<table>
<thead>
<tr>
<th>Hole ID</th>
<th>Datum</th>
<th>Easting</th>
<th>Northing</th>
<th>RL</th>
<th>Total Depth</th>
<th>Date Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

EMMERSON RESOURCES LTD
Total expenditure on the ELs during the EPA Combined Reporting period from 16 November 2007 to the 15 November 2008 was $785,423.91 versus a covenant of $138,000.00.

Expenditure on granted Leases and Claims underlying the EL areas was $181,978.10, expenditure on granted leases and claims outside of the EPA ELs, but still within the bounds of the EPA was $122,892.97, and all expenditures for granted leases and claims is exclusive of the ELs expenditure above.

Other expenditures in the EPA on areas under application, which included review and assessment of historical data, and assessment, analysis and interpretation of newly captured data over these areas, was $7,815.12.

Total expenditure by Emmerson on the EPA (which includes all ELs, Applications, Leases and Claims) was $1,098,110.10.
2.0 INTRODUCTION

ELs in the EPA, were acquired by Giants Reef and Santexco to search for Tennant Creek style iron oxide copper-gold deposits (IOCG deposits). Giants Reef and Santexco are wholly owned subsidiaries of Emmerson.

This combined report records the exploration work completed on these ELs during the EPA Combined Reporting period from 16 November 2007 to the 15 November 2008.

On the 6 August 2005 the Manager of Customer Services – Minerals & Energy Titles (DPIFM, now DRDPIFR) approved the Company’s request to combine the its 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.

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. The Company will also include any expenditures on mineral leases and claims within each EL, but separately to the qualifying EL expenditures.

3.0 LOCATION

Exploration Licences covered by the EPA covers an area of approximately 260km² east of the Tennant Creek Township.

The principal access to ELs in the EPA from Tennant Creek is east via the Peko Rd and Gosse River Road and then by various sealed haul roads (i.e. Juno and Nobles Nob) and unsealed 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 Licences within the EPA and with respect to the town of Tennant Creek and other combined project areas.

3.1 EL8199 CARLSBERG

Exploration Licence 8199, CARLSBERG is located approximately 17km east of the Tennant Creek Township.

Access to the Licence area is via a 4x4 drive dry weather track originating near the Tennant Creek microwave repeater tower and then to the "Lone Star" trend of workings. From here EL 8199 is reached by via a series of unsealed tracks for approximately 12 kms. The middle of the EL is 2km south from this track along the fence-line. During and
immediately after rain the area is generally inaccessible. EL 8199 is located on the Tennant Creek 1:100 000 scale map sheet (5758).

Figure 2 shows the location of EL 8199 and surrounding tenure.

3.2 EL8279 BINTANG

Exploration Licence 8279 BINTANG is located approximately 9km east of Tennant Creek town. The Licence falls on the Tennant Creek 1:100,000 scale map sheet (5758).

Access is via the sealed Peko road leading off Paterson Street, Tennant Creek. Access to the Licence area from Peko Road is via secondary unsealed tracks. During and immediately after rain the Licence areas are generally inaccessible.

Figure 3 shows the location of EL 8279 and surrounding tenure.

3.3 EL8280 SAN MIGUEL

Exploration Licence 8280 SAN MIGUEL is located approximately 4km east of Tennant Creek town. The Licence falls on the Tennant Creek 1:100,000 scale map sheet (5758).

Access is via the sealed Peko road leading off Paterson Street, Tennant Creek. Access to the Licence area from Peko Road is via secondary unsealed tracks. During and immediately after rain the Licence areas are generally inaccessible.

Figure 4 shows the location of EL 8280 and surrounding tenure.

3.4 EL8430 RED BACK

Exploration Licence 8430 RED BACK, is located approximately 10km southeast of the township of Tennant Creek on the 1:100 000 scale Tennant Creek map sheet (5758).

Access to EL 8430 from Tennant Creek town is via the sealed Peko and Juno mine roads. A series of un-sealed minor tracks provides access to the remainder of the tenement. During and immediately after rain the Licence area is generally inaccessible.

Figure 5 shows the location of EL 8430 and surrounding tenure.

3.5 EL8705 BOSEIVER

Exploration Licence 8705 BOSEIVER is located approximately 9 km southeast of the township of Tennant Creek on the 1:100 000 scale Tennant Creek map sheet (5758).
Access to EL 8705 from Tennant Creek town is via the sealed Peko and Juno mine roads. A series of un-sealed minor tracks provides access to the remainder of the tenement. During and immediately after rain the Licence areas are generally inaccessible.

Figure 6 shows the location of EL 8705 and surrounding tenure.

### 3.6 EL8786 FIRST LIGHT

Exploration Licence 8786 FIRST LIGHT, is located approximately 15 km south east of Tennant Creek and lies on the Tennant Creek 1:100 000 scale map sheet (5758).

Access to the Licence area from Tennant Creek is via the sealed road to the Peko and Nobles Nob Mines, and then along the Gosse River road.

Figure 7 shows the location of EL 8786 and surrounding tenure.

### 3.7 EL8879 MT CLELAND

Exploration Licence 8879 MT CLELAND, is located approximately 15km north east of the Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).

Access to the Licence area is via the Stuart Highway, east via Peko Road then along the road to the Lone Star Mine. Access to the licence from the Lone Star Mine Road is north east via a series of unsealed tracks and fence line tracks, which during and immediately after rain generally become inaccessible.

Figure 8 shows the location of EL 8879 and surrounding tenure.

### 3.8 EL8991 SUNRISE

EL 8991 SUNRISE is located approximately 11km southeast of Tennant Creek Township and lies on the Tennant Creek 1:100 000 scale map sheet (5758).

Access from Tennant Creek town is via the sealed Peko and Nobles Nob Roads. A series of un-sealed minor tracks provides access to the remainder of the tenement. During and immediately after rain the area is generally inaccessible.

Figure 9 shows the location of EL 8991 and surrounding tenure.

### 3.9 EL9293 JOKER

Exploration Licence 9293 JOKER is located approximately 13 km east southeast of Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).
Access is via the sealed Peko and Nobles Nob roads and the gazetted Gosse River Road. Various dirt and gravel tracks extend from these roads to provide reasonable vehicle access. During and immediately after rain the area is generally inaccessible.

Figure 10 shows the location of EL 9293 and surrounding tenure.

### 3.10 EL9403 JESS

Exploration Licence 9403 JESS, is located approximately 4km south south east of the Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).

Access to the Licence area is south via the Stuart Highway, south east via the road to the Cats Whiskers Mine, which is located immediately to the south of EL 9403’s southern boundary. Access to the licence from the Cats Whiskers Mine is north via a series of unsealed tracks and fence line tracks, which during and immediately after rain generally become inaccessible.

Figure 11 shows the location of EL 9403 and surrounding tenure.

### 3.11 EL9930 NEW MOON

Exploration Licence 9930 NEW MOON, is located approximately 18km north east of the Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).

Access to the Licence area is via the Stuart Highway, east via Peko Road, then along the road to the Lone Star Mine. Access to the licence from the Lone Star Mine Road is east via a series of unsealed tracks and fence line tracks, which during and immediately after rain generally become inaccessible.

Figure 12 shows the location of EL 9930 and surrounding tenure.

### 3.12 EL9985 RUNNING BEAR

Exploration Licence 9985 RUNNING BEAR, is located approximately 11km east northeast of the Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).

Access to the Licence area is via the Stuart Highway, east along Peko Road and via the road to the Lone Star Mine workings. From here EL 9985 is accessed by a series of unsealed tracks, which during and immediately after rain generally become inaccessible.

Figure 13 shows the location of EL 9985 and surrounding tenure.
3.13 EL10113 IVORY

Exploration Licence 10113 IVORY, is located approximately 7km north east of the Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).

Access to the Licence area is via the Stuart Highway, east via Peko Road then along the road to the Lone Star Mine, which lies on the licences’ southern boundary. Access to the licence from the Lone Star Mine Road is via a series of unsealed tracks and fence line tracks, which during and immediately after rain generally become inaccessible.

Figure 14 shows the location of EL 10113 and surrounding tenure.

3.14 EL10114 MCDougALL RANGES

Exploration Licence 10114 MCDougALL RANGES, is located approximately 6km east northeast of the Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).

Access to the Licence area is via the Stuart Highway, east along Peko Road and via the road to the Lone Star Mine workings, which runs through EL 10114.

Figure 15 shows the location of EL 10114 and surrounding tenure.

3.15 EL10118 ROCKY RANGE

Exploration Licence 10118 ROCKY RANGE, is located between 18km and 30km east of the Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).

Access to the Licence area is via the Stuart Highway, east via Peko Road then along the road to the Kiaora Mine. Access to the licence from the Kiaora Mine Road is east via a series of unsealed tracks and fence line tracks, which during and immediately after rain generally become inaccessible.

Figure 16 shows the location of EL 10118 and surrounding tenure.

3.16 EL10124 SPEEDWAY

Exploration Licence 10124 SPEEDWAY is dissected by the Stuart Highway, which divides the licence into eastern and western regions. The licence is more precisely located approximately 2km north and also north east of the Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).

Access to the Licence area is via the Stuart Highway and then west or east via a series of unsealed tracks and fence line tracks, which during and immediately after rain generally become inaccessible.
Figure 17 shows the location of EL 10124 and surrounding tenure.

### 3.17 EL10203 WHITE HILL BORE

EL 10203 WHITE HILL BORE is located approximately 17km northeast of Tennant Creek Township, on the Tennant Creek 1:100 000 scale map sheet (5759).

Access from Tennant Creek is north via Stuart Highway to a point about 700m north of the old Overland Telegraph Station, then easterly via series of un-sealed minor tracks to WHITE HILL BORE. During and immediately after rain the Licence area is generally inaccessible.

Figure 18 shows the location of EL 10203 and surrounding tenure.

### 3.18 EL10312 HOPEFUL

Exploration Licence 10312 HOPEFUL, is located approximately 15km north east of the Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).

Access to the Licence area is via the Stuart Highway, east via Peko Road then along the road to the Lone Star Mine. Access to the licence from the Lone Star Mine Road is east via a series of unsealed tracks and fence line tracks, which during and immediately after rain generally become inaccessible.

Figure 19 shows the location of EL 10312 and surrounding tenure.

### 3.19 EL10313 KODIAK

Exploration Licence 10313 KODIAK, is located approximately 15km east of the Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).

Access to the Licence area is via the Stuart Highway, east along Peko Road and via the road to the KiaOra Mine workings. From here EL 10313 is accessed by a series of north bound unsealed tracks and fence lines, which during and immediately after rain generally become inaccessible.

Figure 20 shows the location of EL 10313 and surrounding tenure.

### 3.20 EL10324 PANDA

Exploration Licence 10324 PANDA is located approximately 19km east of the Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).
Access to the Licence area is via a sealed road from Tennant Creek to the Tennant Creek microwave repeater tower and then east via a series un-sealed tracks. These roads are only negotiable for four wheel drive and are generally inaccessible immediately after rain.

Figure 21 shows the location of EL 10324 and surrounding tenure.

### 3.21 EL10406 MONTANA

Exploration Licence 10406 MONTANA, is located approximately 6km south east of the Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).

Access to the Licence area is south via the Stuart Highway, south east via the road to the Cats Whiskers Mine, which is located in the northern region of EL 10406. Access to other areas of the licence from the Cats Whiskers Mine is via a series of unsealed tracks and fence line tracks, which during and immediately after rain generally become inaccessible.

Figure 22 shows the location of EL 10406 and surrounding tenure.

### 3.22 EL22285 SNAPPY GUM

Exploration Licence 22285 SNAPPY GUM, is located approximately 23km east north east of the Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).

Access to the Licence area is via the Stuart Highway, east via Peko Road then along the road to the KiaOra Mine. Access to the licence from the KiaOra Mine Road is north east via a series of unsealed tracks and fence line tracks, which during and immediately after rain generally become inaccessible.

Figure 23 shows the location of EL 22285 and surrounding tenure.

### 3.23 SEL 25912 VOLK

Substitute Exploration Licence 25912 VOLK, is located between approximately 18km and 30km east of the Tennant Creek Township on the Tennant Creek 1:100 000 scale map sheet (5758).

Access to the Licence area is via the Stuart Highway, east via Peko Road then along the road to the KiaOra Mine. Access to the licence from the KiaOra Mine Road is east via a series of unsealed tracks and fence line tracks, which during and immediately after rain generally become inaccessible.

Figure 24 shows the location of SEL 25912 and surrounding tenure.
### 4.0 TENURE

Tenure details for the 23 Exploration Licences within the EPA are as follows:

**Table 1: EPA Tenure details.**

<table>
<thead>
<tr>
<th>Exploration Licence</th>
<th>Licence Holder</th>
<th>Blocks &amp; part-blocks</th>
<th>Area (km²)</th>
<th>Date of Grant/ Renewal</th>
<th>Period of Grant/ Renewal</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL8199 CARLSBERG</td>
<td>SANTEXCO PTY LTD *</td>
<td>1</td>
<td>3.23</td>
<td>8 March 2005</td>
<td>2</td>
</tr>
<tr>
<td>EL8279 BINTANG</td>
<td>SANTEXCO PTY LTD *</td>
<td>2</td>
<td>6.44</td>
<td>8 March 2005</td>
<td>2</td>
</tr>
<tr>
<td>EL8280 SAN MIGUEL</td>
<td>SANTEXCO PTY LTD *</td>
<td>3</td>
<td>9.67</td>
<td>8 March 2005</td>
<td>2</td>
</tr>
<tr>
<td>EL8430 RED BACK</td>
<td>SANTEXCO PTY LTD *</td>
<td>1</td>
<td>3.22</td>
<td>8 March 2005</td>
<td>2</td>
</tr>
<tr>
<td>EL8705 BOSEIVER</td>
<td>SANTEXCO PTY LTD *</td>
<td>1</td>
<td>3.22</td>
<td>8 March 2005</td>
<td>2</td>
</tr>
<tr>
<td>EL8786 FIRST LIGHT</td>
<td>SANTEXCO PTY LTD *</td>
<td>4</td>
<td>12.89</td>
<td>8 March 2005</td>
<td>2</td>
</tr>
<tr>
<td>EL8879 MT CLELAND</td>
<td>GIANTS REEF EXPLORATION PTY LTD *</td>
<td>8</td>
<td>25.8</td>
<td>19 October 2001</td>
<td>6</td>
</tr>
<tr>
<td>EL8991 SUNRISE</td>
<td>SANTEXCO PTY LTD *</td>
<td>1</td>
<td>3.22</td>
<td>8 March 2005</td>
<td>2</td>
</tr>
<tr>
<td>EL9293 JOKER</td>
<td>SANTEXCO PTY LTD *</td>
<td>2</td>
<td>6.44</td>
<td>8 March 2005</td>
<td>2</td>
</tr>
<tr>
<td>EL9403 JESS</td>
<td>GIANTS REEF EXPLORATION PTY LTD *</td>
<td>2</td>
<td>4.01</td>
<td>1 May 2003</td>
<td>6</td>
</tr>
<tr>
<td>EL9930 NEW MOON</td>
<td>GIANTS REEF EXPLORATION PTY LTD *</td>
<td>1</td>
<td>3.22</td>
<td>19 October 2001</td>
<td>6</td>
</tr>
<tr>
<td>EL9958 RUNNING BEAR</td>
<td>GIANTS REEF EXPLORATION PTY LTD *</td>
<td>3</td>
<td>9.66</td>
<td>1 May 2003</td>
<td>6</td>
</tr>
<tr>
<td>EL10113 IVORY</td>
<td>GIANTS REEF EXPLORATION PTY LTD *</td>
<td>10</td>
<td>30.51</td>
<td>19 October 2001</td>
<td>6</td>
</tr>
<tr>
<td>EL10114 McDUGALL RANGES</td>
<td>GIANTS REEF EXPLORATION PTY LTD *</td>
<td>9</td>
<td>14.62</td>
<td>1 May 2003</td>
<td>6</td>
</tr>
<tr>
<td>EL10118 ROCKY RANGE</td>
<td>GIANTS REEF EXPLORATION PTY LTD *</td>
<td>27</td>
<td>84.9</td>
<td>19 October 2001</td>
<td>6</td>
</tr>
<tr>
<td>EL10124 SPEEDWAY</td>
<td>GIANTS REEF EXPLORATION PTY LTD *</td>
<td>6</td>
<td>12.55</td>
<td>1 May 2003</td>
<td>6</td>
</tr>
</tbody>
</table>
Exploration Licences in the EPA lie within both NT Portions 00494 and 01075, Tennant Creek, Perpetual Pastoral Lease 1142 and on Aboriginal Freehold land administered 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 in December 1998, this agreement established land access for mineral exploration upon Warrumungu Land Trust areas within the EPA. Nine of the 24 ELs in the EPA fall on Perpetual Pastoral Lease and are subject to the 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 Exploration Pty Ltd.

### 4.1 EL8199 CARLSBERG

EL 8199 was applied for in May 1993 and approval to negotiate was given in November 1993. The Licence was originally granted to Normandy Tennant Creek Pty Ltd (NTC) on the 8 March 1999 after the signing of an agreement with the Central Land Council in December 1998 (Area of Interest Deed of Terms & Conditions for Exploration). The Licence covers an area of one graticular block.

On the 13 June 2001, Giants Reef Exploration Pty Ltd (Giants Reef), a wholly owned subsidiary of Emmerson Resources Ltd, purchased all of the shares in Normandy Tennant Creek Pty Ltd from Normandy Consolidated Gold Holdings Pty Ltd, a wholly owned subsidiary of Normandy Mining Limited. As a result of this, NTC is now a wholly owned subsidiary of Giants Reef and has had its name changed to Santexco Pty Ltd (Santexco).

The western half of the Licence falls on Aboriginal Freehold land held by the Warrumungu Land Trust. An agreement referred to as the Areas of Interest Agreement was signed by the Central Land Council, Traditional Landowners and NTC on 9 December 1998. This
agreement established land access for mineral exploration upon Warrumungu Land Trust areas, including EL 8199. The eastern half of the Licence falls on NT portion 00494 Perpetual Pastoral Lease 1142, Tennant Creek Station.

EL 8199 now forms part of Substitute Exploration Licence Applications (SEL) 25890 & 27011.

4.2 EL8279 BINTANG

EL 8279 was applied for in May 1993 and approval to negotiate was given in November 1993. The Licence was originally granted to Anthappi Pty Ltd (Normandy Tennant Creek Pty Ltd) on the 8 March 1999 after the signing of an agreement with the Central Land Council in December 1998 (Area of Interest Deed of Terms & Conditions for Exploration). The Licence covers an area of two graticular blocks.

The Licence falls within Aboriginal Freehold land held by the Warrumungu Land Trust. An agreement referred to as the Areas of Interest Agreement was signed by the Central Land Council, Traditional Landowners and NTC on 9 December 1998. This agreement established land access for mineral exploration upon Warrumungu Land Trust areas, including EL 8279.

Approximately 15 - 20% of the two-block area of EL 8279 is taken up with Mineral Claims and Mineral Leases that cover the western part of the Peko mine area, and the Comet mine leases.

On the 13 June 2001, Giants Reef Exploration Pty Ltd (Giants Reef), a wholly owned subsidiary of Emmerson Resources Ltd, purchased all of the shares in Normandy Tennant Creek Pty Ltd from Normandy Consolidated Gold Holdings Pty Ltd, a wholly owned subsidiary of Normandy Mining Limited.

EL 8279 now forms part of an SEL Application, 26597, the application was submitted on 15 January 2007, the consent to negotiate has recently been given, which Emmerson will enact upon in early 2009.

4.3 EL8280 SAN MIGUEL

EL 8280 was applied for in May 1993 and approval to negotiate was given in November 1993. The Licence was originally granted to Anthappi Pty Ltd (Normandy Tennant Creek Pty Ltd) on the 8 March 1999 after the signing of an agreement with the Central Land Council in December 1998 (Area of Interest Deed of Terms & Conditions for Exploration). The Licence covers an area of three graticular blocks.

The Licence falls within Crown Land (Tennant Creek Township) and Aboriginal Freehold land held by the Warrumungu Land Trust. An agreement referred to as the Areas of Interest Agreement was signed by the Central Land Council, Traditional Landowners and
EMMERSON RESOURCES LTD

NTC on 9 December 1998. This agreement established land access for mineral exploration upon Warrumungu Land Trust areas, including EL 8280.

A proportion of EL 8280 is taken up with Mineral Claims surrounding the historic Susan mine workings, and with Mineral Leases to the south east of the historic Argo mine. Altogether, these claims and leases make up less than 5% of the 3 blocks.

On the 13 June 2001, Giants Reef Exploration Pty Ltd (Giants Reef), a wholly owned subsidiary of Emmerson Resources Ltd, purchased all of the shares in Normandy Tennant Creek Pty Ltd from Normandy Consolidated Gold Holdings Pty Ltd, a wholly owned subsidiary of Normandy Mining Limited.

EL 8280 now forms part of an SEL Application, 26597, the application was submitted on 15 January 2007, the consent to negotiate has recently been given, which Emmerson will enact upon in early 2009.

4.4 EL8430 RED BACK

EL 8430 was applied for in May 1993 and approval to negotiate was given in November 1993. The Licence was originally granted to Anthappi Pty Ltd (Normandy Tennant Creek Pty Ltd) on the 8 March 1999 after the signing of an agreement with the Central Land Council in December 1998 (Area of Interest Deed of Terms & Conditions for Exploration). The Licence covers an area of one graticular block.

The Licence falls within Aboriginal Freehold land held by the Warumungu Land Trust. An agreement referred to as the Areas of Interest Agreement was signed by the Central Land Council, Traditional Landowners and NTC on 9 December 1998. This agreement established land access for mineral exploration upon Warumungu Land Trust areas, including EL 8430.

On the 13 June 2001, Giants Reef Exploration Pty Ltd (Giants Reef), a wholly owned subsidiary of Emmerson Resources Ltd, purchased all of the shares in Normandy Tennant Creek Pty Ltd from Normandy Consolidated Gold Holdings Pty Ltd, a wholly owned subsidiary of Normandy Mining Limited.

EL 8430 now forms part of an SEL 25890, the application was submitted on 15 January 2008.

4.5 EL8705 BOSEIVER

EL 8705 was applied for in May 1993 and approval to negotiate was given in November 1993. The Licence was originally granted to Anthappi Pty Ltd (Normandy Tennant Creek Pty Ltd) on the 8 March 1999 after the signing of an agreement with the Central Land Council in December 1998 (Area of Interest Deed of Terms & Conditions for Exploration). The Licence covers an area of one graticular block.
The Licence falls within Aboriginal Freehold land held by the Warrumungu Land Trust. An agreement referred to as the Areas of Interest Agreement was signed by the Central Land Council, Traditional Landowners and NTC on 9 December 1998. This agreement established land access for mineral exploration upon Warrumungu Land Trust areas, including EL 8705.

On the 13 June 2001, Giants Reef Exploration Pty Ltd (Giants Reef), a wholly owned subsidiary of Emmerson Resources Ltd, purchased all of the shares in Normandy Tennant Creek Pty Ltd from Normandy Consolidated Gold Holdings Pty Ltd, a wholly owned subsidiary of Normandy Mining Limited.

EL 8705 now forms part of an SEL Application 25890, the application was submitted on 15 January 2008.

4.6 EL8786 FIRST LIGHT

EL 8786 was applied for in June 1994 and approval to negotiate was given in February 1995. The Licence was originally granted to Anthappi Pty Ltd (Normandy Tennant Creek Pty Ltd) on the 8 March 1999 after the signing of an agreement with the Central Land Council in December 1998 (Area of Interest Deed of Terms & Conditions for Exploration). The Licence covers an area of four graticular blocks.

The Licence falls within Aboriginal Freehold land held by the Warrumungu Land Trust. An agreement referred to as the Areas of Interest Agreement was signed by the Central Land Council, Traditional Landowners and NTC on 9 December 1998. This agreement established land access for mineral exploration upon Warrumungu Land Trust areas, including EL 8786.

On the 13 June 2001, Giants Reef Exploration Pty Ltd (Giants Reef), a wholly owned subsidiary of Emmerson Resources Ltd, purchased all of the shares in Normandy Tennant Creek Pty Ltd from Normandy Consolidated Gold Holdings Pty Ltd, a wholly owned subsidiary of Normandy Mining Limited.

EL 8786 now forms part of an SEL Application 25890, the application was submitted on 15 January 2008.

4.7 EL8879 MT CLELAND

Exploration Licence 8879 Mt Cleland, consists of eight graticular blocks and was granted to Giants Reef Exploration Pty Ltd (a wholly owned subsidiary of Emmerson Resources Ltd) on the 19 October 2001 for a period of six years.

The entire licence falls on Aboriginal Freehold land held by the Warumungu Land Trust and 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.
The Exploration License lies within NT Portion 494, Perpetual Pastoral Lease 1142, Tennant Creek station.

In compliance with the statutory requirements of the mining act, an application for waiver of the compulsory reduction within EL 8879 was completed and was submitted to DPIFM during September 2007. A renewal application was submitted to DPIFM on 19 July 2007, and a renewal was granted for a term of two years.

**4.8 EL8991 SUNRISE**

EL 8991 was applied for in April 1994 and approval to negotiate was given in February 1995. The Licence was originally granted to Anthappi Pty Ltd (Normandy Tennant Creek Pty Ltd) on the 8 March 1999 after the signing of an agreement with the Central Land Council in December 1998. (Area of Interest Deed of Terms & Conditions for Exploration). The Licence covers an area of one graticular block.

The Licence falls within Aboriginal Freehold land held by the Warrumungu Land Trust. An agreement referred to as the Areas of Interest Agreement was signed by the Central Land Council, Traditional Landowners and NTC on 9 December 1998. This agreement established land access for mineral exploration upon Warrumungu Land Trust areas, including EL 8991.

On the 13 June 2001, Giants Reef Exploration Pty Ltd (Giants Reef), a wholly owned subsidiary of Emmerson Resources Ltd, purchased all of the shares in Normandy Tennant Creek Pty Ltd from Normandy Consolidated Gold Holdings Pty Ltd, a wholly owned subsidiary of Normandy Mining Limited.

EL 8991 now forms part of an SEL Application 25890, the application was submitted on 15 January 2008.

**4.9 EL9293 JOKER**

EL 9293 was applied for in August 1994 and approval to negotiate was given in October 1995. The Licence was originally granted to Anthappi Pty Ltd (Normandy Tennant Creek Pty Ltd) on the 8 March 1999 after the signing of an agreement with the Central Land Council in December 1998. (Area of Interest Deed of Terms & Conditions for Exploration). The Licence covers an area of two graticular blocks.

The Licence falls within Aboriginal Freehold land held by the Warrumungu Land Trust. An agreement referred to as the Areas of Interest Agreement was signed by the Central Land Council, Traditional Landowners and NTC on 9 December 1998. This agreement established land access for mineral exploration upon Warrumungu Land Trust areas, including EL 9293.

On the 13 June 2001, Giants Reef Exploration Pty Ltd (Giants Reef), a wholly owned subsidiary of Emmerson Resources Ltd, purchased all of the shares in Normandy Tennant
Creek Pty Ltd from Normandy Consolidated Gold Holdings Pty Ltd, a wholly owned subsidiary of Normandy Mining Limited.

EL 9293 now forms part of an SEL Application 25890, the application was submitted on 15 January 2008.

4.10 EL9403 JESS

Exploration Licence 9403 Jess, consists of two graticular blocks and was granted to Giants Reef Exploration Pty Ltd (a wholly owned subsidiary of Emmerson Resources Ltd) on the 1 May 2003 for a period of six years.

The entire licence falls on Aboriginal Freehold land held by the Warumungu Land Trust. An agreement referred to as the Wildhorse II Agreement for Exploration was signed by the Central Land Council (CLC), Traditional Landowners and NTC on the 25 February 2003. This agreement established land access for mineral exploration upon Warumungu Land Trust areas, including EL 9403.

4.11 EL9930 NEW MOON

Exploration Licence 9930 New Moon, consists of one graticular block and was granted to Giants Reef Exploration Pty Ltd (a wholly owned subsidiary of Emmerson Resources Pty Ltd) on the 19 October 2001 for a period of six years.

The entire licence falls on Aboriginal Freehold land held by the Warumungu Land Trust and 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.

The Exploration License lies within NT Portion 494, Perpetual Pastoral Lease 1142, Tennant Creek station.

A renewal application was submitted to DPIFM on 19 July 2007, and a renewal was granted for a period of two years.

4.12 EL9958 RUNNING BEAR

Exploration Licence 9958 Running Bear, consists of three graticular blocks and was granted to Giants Reef Exploration Pty Ltd (a wholly owned subsidiary of Emmerson Resources Ltd) on the 1 May 2003 for a period of six years.

The entire licence falls on Aboriginal Freehold land held by the Warumungu 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 25 February 2003. This agreement established land access for mineral exploration upon Warumungu Land Trust areas, including EL 9958.
4.13 EL10113 IVORY

Exploration Licence 10113 Ivory, consists of ten graticular blocks and was granted to Giants Reef Exploration Pty Ltd (a wholly owned subsidiary of Emmerson Resources Ltd) on the 19 October 2001 for a period of six years.

The entire licence falls on Aboriginal Freehold land held by the Warumungu Land Trust and 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.

The Exploration License lies within NT Portion 494, Perpetual Pastoral Lease 1142, Tennant Creek station.

A renewal application was submitted to DPIFM on 19 July 2007, and the renewal granted for a term of two years.

4.14 EL10114 McDougall Ranges

Exploration Licence 10114 McDougall Ranges, consists of nine graticular blocks and was granted to Giants Reef Exploration Pty Ltd (a wholly owned subsidiary of Emmerson Resources Ltd) on the 1 May 2003 for a period of six years.

The entire licence falls on Aboriginal Freehold land held by the Warumungu 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 25 February 2003. This agreement established land access for mineral exploration upon Warumungu Land Trust areas, including EL 10114.

4.15 EL10118 Rocky Range

Exploration Licence 10118 Rocky Range, consisted of twenty seven graticular blocks and was granted to Giants Reef Exploration Pty Ltd (a wholly owned subsidiary of Emmerson Resources Ltd) on the 19 October 2001 for a period of six years.

The entire licence fell on Aboriginal Freehold land held by the Warrumungu Land Trust and 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.

The Exploration License was within NT Portion 494, Perpetual Pastoral Lease 1142, Tennant Creek station.
EL 10118 now forms part of an SEL 25912, the SEL application was granted on 10 September 2008, EL 10118 was automatically cancelled on the granting of this SEL.

4.16 EL10124 SPEEDWAY

Exploration Licence 10124 Speedway, consists of six graticular blocks and was granted to Giants Reef Exploration Pty Ltd (a wholly owned subsidiary of Emmerson Resources Ltd) on the 1 May 2003 for a period of six years.

The entire licence falls on Aboriginal Freehold land held by the Warumungu 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 Warumungu Land Trust areas, including EL 10124.

4.17 EL10203 WHITE HILL BORE

EL 10203 WHITE HILL BORE was granted to Giants Reef Exploration Pty Ltd (a wholly owned subsidiary of Emmerson Resources Ltd) on 17 June 2001 for a period of 6 years.

The Licence covers two graticular blocks. The Licence falls within with in NT Portion 494, Perpetual Pastoral Lease 1142 (Tennant Creek Station).

The Licence area is subject to an Indigenous Land Use Agreement signed in September 2000 with the Native Title holders of the Tennant Creek region and the Central Land Council.

A renewal application was submitted to DPIFM on 17 March 2007. The renewal was referred to the Titles Advisory Board on 5 October 2007 where they are considering refusal. A ‘show cause’ document, outlining Emmerson’s position and reason’s for renewing the licence, was drafted and submitted to DPIFM 7 November 2007. A decision was made on 31 January 2008 to grant the Licence for a term of two years.

4.18 EL10312 HOPEFUL

Exploration Licence 10312 Hopeful, consists of two graticular blocks and was granted to Giants Reef Exploration Pty Ltd (a wholly owned subsidiary of Emmerson Resources Ltd) on the 9 October 2003 for a period of six years.

The entire licence falls on Inalienable Aboriginal Freehold land held by the Warumungu Land Trust and 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.

The Exploration License lies within NT Portion 494, Perpetual Pastoral Lease 1142, Tennant Creek station.
4.19 EL10313 KODIAK

Exploration Licence 10313 Kodiak, consists of two graticular blocks and was granted to Giants Reef Exploration Pty Ltd (a wholly owned subsidiary of Emmerson Resources Ltd) on the 1 May 2003 for a period of six years.

The entire licence falls on Aboriginal Freehold land held by the Warumungu Land Trust. An agreement referred to as the Wildhorse II Agreement for Exploration was signed by the Central Land Council (CLC), Traditional Landowners and NTC on the 25 February 2003. This agreement established land access for mineral exploration upon Warumungu Land Trust areas, including EL 10313.

4.20 EL10324 PANDA

Exploration Licence 10324 Panda was granted to Giants Reef Exploration (a wholly owned subsidiary of Emmerson Resources Ltd) on the 25 June 2004 for a period of six years. The Exploration Licence consists of five graticular blocks.

An agreement referred to as the Areas of Interest Agreement was signed by the Central Land Council, Traditional Landowners and NTC on 9 December 1998. This agreement established land access for mineral exploration upon Warumungu Land Trust areas, including EL 10324.

4.21 EL10406 MONTANA

Exploration Licence 10406 Montana, consists of one graticular block and was granted to Giants Reef Exploration Pty Ltd (a wholly owned subsidiary of Emmerson Resources Ltd) on the 1 May 2003 for a period of six years.

The entire licence falls on Aboriginal Freehold land held by the Warumungu Land Trust. An agreement referred to as the Wildhorse II Agreement for Exploration was signed by the Central Land Council (CLC), Traditional Landowners and NTC on the 25 February 2003. This agreement established land access for mineral exploration upon Warumungu Land Trust areas, including EL 10406.

4.22 EL22285 SNAPPY GUM

Exploration Licence 22285 Snappy Gum, consists of two graticular blocks and was granted to Giants Reef Exploration Pty Ltd (a wholly owned subsidiary of Emmerson Resources Ltd) on the 19 October 2001 for a period of six years.

The entire licence falls on Aboriginal Freehold land held by the Warumungu Land Trust and 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.

The Exploration License lies within NT Portion 494, Perpetual Pastoral Lease 1142, Tennant Creek station.

EL 22285 now forms part of an SEL Application, 27011, the application was submitted on 08 October 2008 and the application is currently being processed.

4.23 SEL 25912

SEL 25912 Volk, consists of Thirty Two graticular blocks and was granted to Giants Reef on the 10 September 2008 for a period of four years.

The entire licence falls on Perpetual Pastoral Lease 1142, Tennant Creek Station and 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.

SEL 25912 was formed to consolidate the expired SEL 8665 and EL 10118 into one licence for exploration.
5.0 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 1:100,000 sheet, 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 Eastern Project Area

The EPA 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 volcaniclastics (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 porphries. 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 EPA 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 EPA is limited to ridges and these comprise scattered outcrops of Palaeoproterozoic Warramunga Formation and Flynn Sub-group/ Tomkinson Creek Sub-group (Ooradidgee Group).
The EPA includes a number of significant gold-copper-bismuth deposits, including Nobles Nob, Juno, Peko, Eldorado and Argo.

5.3 EL8199 CARLSBERG

The Licence is located in the eastern region of the Tennant Creek Province. Outcrop within the tenements is limited to scattered outcrops of weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation, which is partially silicified in places. The Licence is mostly covered by Quaternary sediments and includes dissected colluvial fan deposits and red soil plains. The Quaternary deposits are assumed to cover Warramunga Formation, including the low magnetic sandstone units in the northern and high magnetic siltstone dominant units in the southern half of the Licence. Rock types include sandstone, carbonaceous siltstone, pyritic shale and haematite shale units, quartz dolerite dykes that trends NNW to north south with sub vertical dips. A number of small E-W fold hinges are displayed within the Warramunga sediments. Aeolian sands or alluvial material obscures large areas of bedrock.

The Licence lies within the south east extension of the Lonestar mineralised trend. There are no known deposits within the Licence, however the Lonestar deposit, which produced some 5,665 oz Au @ 17.6g/t, and smaller surrounding prospects are located approximately 8 km to the north west of the EL.

5.4 EL8279 BINTANG

The Licence is located in the eastern region of the Tennant Creek Province. Outcrop within the tenements is limited to scattered outcrops of weathered siltstone, sandstone, conglomerate and greywacke of the Palaeoproterozoic Warramunga Formation.

The Licence is mostly covered by Quaternary sediments and includes dissected colluvial fan deposits and red soil plains. The Quaternary deposits are assumed to cover Warramunga Formation, which comprise the high magnetic siltstone dominant units. Felsic porphyry intrusives are interpreted from aeromagnetic data as intruding the Warramunga units in the south east corner of the Licence.

The southern graticular block of EL 8279 covers the Peko Mine mineral leases. The Peko mine produced 263,885 oz Au @ 3.5g/t, 1,557 804 oz Ag @ 14.0g/t, 118 884t Cu @ 4% and 7,350 t @ 0.2% Bi. The deposit comprises a series of plunging pipes and lenses within a sheared anticlinal structure and mineralisation occurs within quartz-hematite lodes in the oxide zone and magnetite-sulphides zone at depth.

5.5 EL8280 SAN MIGUEL

The Licence is located in the eastern region of the Tennant Creek Province. 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. Lamprophyre has been mapped and was intersected in diamond drill holes at the Pinnacles Mine. Several east striking shears traverse the area.

Mineralisation styles are varied and include auriferous quartz veins within a quartz porphyry host (Dolomite and Pup Mines), shear hosted hematite-talc-chlorite ironstone (Pinnacles, Ajax, Fassifern and Southern Star Mines) and massive magnetite-chlorite ironstone (Argo Mine and Explorer 38).

The south west graticular block of EL 8280 covers the historic Argo Mine. The Argo mine produced 72,311 oz Au @ 8.6g/t and the deposit comprises an elongate lens within a reverse faulted anticline and hematite shale unit. Mineralisation occurs within a magnetite-pyrite core and footwall of massive ironstone

5.6 EL8430 RED BACK

The Licence is located in the south eastern region of the Tennant Creek Province. The geology of EL 8430 includes significant outcrops of weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation. In places these outcrops are silicified and are referred to in the 1995 NTGS Tennant Creek 1:100,000 scale geology map as being restricted to the eastern region of the EL 8705 where a anticline has been mapped. The steeply dipping bedding in the outcrops generally strikes west-northwest and displays sub-vertical cleavage. The western region of EL 8430 is covered by Cainozoic colluvium in the form of sheet wash and fanning topographic ridges. Airborne and ground magnetic data suggest that metasediments of the Palaeoproterozoic Warramunga Formation underlie the Licence area.

The Licence lies between the two significant deposits, including Nobles Nob and Juno. The Nobles Nob mine produced 1,219 774 oz Au @ 17.0g/t and Juno produced 921,709 oz Au @ 57.0g/t, 97,074 oz Ag @ 7.0g/t, 1,429t Cu @ 0.4% and 2,293t Bi @ 0.6%. The Nobles Nob deposit comprises an elongate lens coinciding with S1 cleavage and hematitic shale units and mineralisation occurs as brecciated, banded sericitic hematite and quartz-hematite. The Juno deposit comprises an elongate lens in an anticline and hematitic shale units, exhibits Au-Bi-Cu zonation and mineralisation occurs as pods in a magnetite-chlorite zone and stringer zone.

5.7 EL8705 BOSEIVER

The Licence is located in the south eastern region of the Tennant Creek Province. The geology of EL 8705 includes minor outcrops of weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation and these are restricted to the eastern boundary of the Licence. The steeply dipping bedding in the outcrops generally strikes west-northwest and displays sub-vertical cleavage. The western region of EL 8705 is covered by Cainozoic colluvium in the form of sheet wash and fanning topographic ridges. Airborne and ground magnetic data and field mapping suggest that metasediments of the Palaeoproterozoic Warramunga Formation underlie the Licence area.
The Licence lies between two significant deposits and include Nobles Nob and Juno. The Nobles Nob mine produced 1,219,774 oz Au @ 17.0g/t and Juno produced 921,709 oz Au @ 57.0g/t, 97,074 oz Ag @ 7.0g/t, 1,429t Cu @ 0.4% and 2,293t Bi @ 0.6%. The Nobles Nob deposit comprises an elongate lens coinciding with S₁ cleavage and hematitic shale units and mineralisation occurs as brecciated, banded sericitic hematite and quartz-hematite. The Juno deposit comprises an elongate lens in an anticline and hematitic shale units, exhibits Au-Bi-Cu zonation and mineralisation occurs as pods in a magnetite-chlorite zone and stringer zone.

5.8 EL8786 FIRST LIGHT

The Licence is located in the south eastern region of the Tennant Creek Province. The geology of Exploration Licence 8786 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.

The Licence is located immediately east and south east of the Nobles Nob deposit. The Nobles Nob mine produced 1,219,774 oz Au @ 17.0g/t and Juno produced 921,709 oz Au @ 57.0g/t, 97,074 oz Ag @ 7.0g/t, 1,429t Cu @ 0.4% and 2,293t Bi @ 0.6%. The Nobles Nob deposit comprises an elongate lens coinciding with S₁ cleavage and hematitic shale units and mineralisation occurs as brecciated, banded sericitic hematite and quartz-hematite.

5.9 EL8879 MT CLELAND

The northern region of EL 8879 includes a east-west metamorphic contact between the Tennant Creek Granite and sedimentary units. There are a number of intermittent outcrops of granite, metamorphosed sediments and ironstone proximal to the contact area. Outcrops, which coincide with ridges and isolated hills, dominate the southern region of 8879, these ridges and isolated hills consist of scattered outcrops of weathered siltstone and greywacke of the Palaeoproterozoic 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.

The Quartz Hill Fault system and the Hopeful Star Extended shear zone dominate the structure of the licence. The Licence includes numerous historical mine workings such as; Extended East (10.7oz @ 4.7g/t), Black Cat (1,125.4oz @ 15.6g/t), Mauretania (216oz @ 32g/t), Hopeful Star (758.8oz @ 8.7g/t) and Hopeful Star East (170oz @ 5.1g/t).

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Tennant Creek 1:100 000 sheet 5758, which covers the area of the license.
5.10 EL8991 SUNRISE

The Licence is located in the south eastern region of the Tennant Creek Province. The exposed geology in EL 8991 consists of several extensive outcrops of weathered siltstone and greywacke of the Palaeoproterozoic 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 Palaeoproterozoic Warramunga Formation underlie the Licence area.

The Licence located immediately west of the Nobles Nob deposit. The Nobles Nob mine produced 1,219,774 oz Au @ 17.0g/t and Juno produced 921,709 oz Au @ 57.0g/t, 97,074 oz Ag @ 7.0g/t, 1,429t Cu @ 0.4% and 2,293t Bi @ 0.6%. The Nobles Nob deposit comprises an elongate lens coinciding with S1 cleavage and hematitic shale units and mineralisation occurs as brecciated, banded sericitic hematite and quartz-hematite.

5.11 EL9293 JOKER

The Licence is located in the eastern region of the Tennant Creek Province. The geology in EL 9293 consists of scattered outcrops of weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation. Much of the Licence is covered by Cainozoic sediments including soils, sands and alluvial material. Airborne and ground magnetic data and field mapping suggest that metasediments of the Palaeoproterozoic Warramunga Formation underlie the Licence area.

The Licence includes the JOKER deposit, which produced 990 Au oz. The Licence located immediately east of the Nobles Nob deposit and south west of the Golden Forty deposit. The Nobles Nob mine produced 1,219,774 oz Au @ 17.0g/t and Juno produced 921,709 oz Au @ 57.0g/t, 97,074 oz Ag @ 7.0g/t, 1,429t Cu @ 0.4% and 2,293t Bi @ 0.6%. The Nobles Nob deposit comprises an elongate lens coinciding with S1 cleavage and hematitic shale units and mineralisation occurs as brecciated, banded sericitic hematite and quartz-hematite. The Golden Forty mine produced 62,153 oz Au @ 12.0g/t and comprises a plunging horseshoe-shaped pipe with hydrothermal alteration and metal zonation. Mineralisation occurs within a massive-chlorite pod and stringer zone.

5.12 EL9403 JESS

The geology of EL 9403 is dominated by Cainozoic dissected colluvium fan deposits and colluvium scree with less extensive alluvial deposits in active channels and on flood plains in the northern region of the licence. Ridges and isolated hills dominate the southern region of the licence and comprise scattered outcrops of weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation, which most likely underlies the dominate Cainozoic sediments. Less extensive sheet and dune sand and sandy soil can also be found in the southern region.

The licence also contains the Eldorado Anomaly 3 and Ellen M prospects which are located in the south west corner of the licence and are covered by a series of MLC’s,
namely MLC’s 15, 16, 51, 502, 503, 518, 523, 528, 529 & 535 and therefore will not be covered in this report.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Tennant Creek 1:100 000 sheet 5758, which covers the area of the license.

5.13 EL9930 NEW MOON

The geology of EL 9930 is dominated by outcrops, which coincide with ridges and isolated hills that dominate the central and northern regions of EL 9930. These ridges and isolated hills consist of scattered outcrops of weathered siltstone and greywacke of the Palaeoproterozoic 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. The Quartz Hill Fault system dominates the structure of the licence, and is the major control on mineralisation and ironstone emplacement.

The licence contains the historical New Moon mine workings (12.9oz Au @ 5g/t).

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Tennant Creek 1:100 000 sheet 5758, which covers the area of the license.

5.14 EL9958 RUNNING BEAR

The geology in EL 9958 consists of minor outcrops of weathered siltstone and greywacke of the Palaeoproterozoic 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.

The licence contains historical mine workings such as; Trump (4oz Au @ 22g/t) and Great Bear (192.1oz Au @ 18g/t).

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Tennant Creek 1:100 000 sheet 5758, which covers the area of the license.

5.15 EL10113 IVORY

Outcrops, which coincide with ridges and isolated hills, are dominate throughout EL 10113, these ridges and isolated hills consist of weathered siltstone and greywacke of the Palaeoproterozoic 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.

The licence contains numerous historical mine workings such as; True Blue (15oz Au @ 16.1g/t), Mint (25.2oz Au @ 8.9g/t), Aga Khan (96.5oz Au @ 11g/t), Memsahib (173.2oz Au @ 26.3g/t), Yellow Flame (22.5oz Au @ 55g/t), Mammoth (126.2oz Au @ 8.8g/t), Three Keys (306.9oz Au @ 20.5g/t) and Little wonder (27.4oz Au @ 7.3g/t). The Lone Star Mine workings (5665oz Au @ 17.6g/t) are located just south of EL 10113, and are covered by a series of MLC’s 362 – 365, 371 – 373, 530, 606, 610 & 616, these MLC’s also cover an area in the central south of the licence, and therefore will not be covered in this report. The Golden Key Mine workings (15.4oz Au @ 44.4g/t) are located in EL 10113 and are covered by a series of MLC’s 38, 253 – 261, 376 -387 & 432, and will therefore not be covered in this report.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Tennant Creek 1:100 000 sheet 5758, which covers the area of the license.

5.16 EL10114 McDOUGALL RANGES

The geology in EL 10114 consists of major outcrops of weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation forming a series of ridges trending north west, which dominates the western region and north east licence boundary. 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.

The licence contains the Lone Star Mine workings which are located in the north east region of EL 10114, and are covered by a series of MLC’s, MLC606 – 615, 368 -370, 374 & 375, and therefore will not be covered in this report.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Tennant Creek 1:100 000 sheet 5758, which covers the area of the license.

5.17 EL10118 ROCKY RANGE

The geology of EL 10118 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 10118, these isolated hills consist of scattered outcrops of weathered siltstone
and greywacke of the Palaeoproterozoic Warramunga Formation, which most likely underlies the dominate Cainozoic sediments.

The licence includes a number historical mines such as; Renate (15.6oz @ 24g/t) and Golden Mile (96.2oz @ 20.7g/t).

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Tennant Creek 1:100 000 sheet 5758, which covers the area of the license.

5.18 EL10124 SPEEDWAY

EL 10124 straddles the Stuart Highway with the greater area being east of the Stuart highway. The geology to the east of the Stuart Highway (eastern region) in EL 10124 consists of major outcrops of weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation forming a series of ridges that dominate the geology of the northern half of the eastern region of the licence. The southern half of the eastern region is dominated by Cainozoic colluvium, scree and alluvial deposits in active channels and on flood plains with less extensive minor outcropping weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation. On the western side of the Stuart Highway (western region), the geology is dominated by Cainozoic colluvium, scree and alluvial deposits in active channels and on flood plains with less extensive minor outcropping weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation with minor felsic porphyry confined to the north east area of the western region of EL 10124.

The licence contains many historical mine workings such as; Shamrock (9.6oz @ 4.8g/t), Burnt Shirt (2025.5oz @ 18.8g/t), Wedge (345.7oz @ 9.3g/t), Ace High (113.4oz @ 64.4g/t), Leichhardt One (891.8oz @ 24.1g/t), Kathleen (1154.2oz @ 20.5g/t) and Ortelle Star (9.1oz @ 8.4g/t). The Riesling Prospect is located within the eastern region of EL 10124 and is covered by MLC 182 -184 and therefore will not be covered in this report. MCC 211 encroaches on the northern EL boundary of the western region and will also not be covered in this report.

5.19 EL10203 WHITE HILL BORE

The Licence is located in the eastern region of the Tennant Creek Province. EL 10203 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. Outcrop is restricted to a small area in the north of the Licence and includes felsic volcanics and arenites of the Churchill’s Head Group.

Outcrop of the Tennant Creek Granite, with quartz reefs and veins, are found immediately north of the Licence and tourmaline-rich pegmatite’s outcrop around the White Hill Bore. Field evidence and interpretation of aeromagnetic data suggests that White Hill Bore
located on or very close to a contact-metamorphosed zone along the southern margin of the Tennant Creek Granite. The granite may be in contact with the Warramunga Formation turbidite sequence or with Flynn Sub-group sediments, or both.

There are no recorded mines or prospects within EL 10203. The nearest historic workings with moderate production (>100 oz Au) are about 6km to 8km to the south, and include Lone Star (5,665 oz Au), Memsahib (173 oz Au), Plain Jane (668 oz Au), Black Cat (1,125 oz Au), Mammoth (126 oz Au), Black Cat (1,125 oz Au), Memsahib (173 oz Au), Plain Jane (668 oz Au), Mauritania (216 oz Au), Hopeful Star (759 oz Au) and Hopeful Star East (170 oz Au).

5.20 EL10312 HOPEFUL

Outcrop within the tenement is restricted to the north and coincides with ridges and isolated hills. These comprise scattered outcrops of weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation.

The magnetic response over the Licence is relatively subdued and most likely reflects the low-magnetic sandstone dominant units of the Warramunga Formation, as interpreted by the N.T. Geological Survey (2002).

More than 90% of the region is covered by Quaternary colluvium scree, alluvial red soil plains and less extensive alluvial deposits in active channels and on flood plains. The recent cover is interpreted to be underlain by sandstone dominant Warramunga Formation Units.

The only known mineralisation within the Licence area is the Hopeful Star East. This small mine produced approximately 170 oz Au from 1,048 t @ 5.1 g/t Au and lies at the eastern extremity of a trend of prospects which include Hopeful Star (759 oz Au), Mauritania (127 oz Au), Little Wonder (27.4oz Au @ 7.3g/t), Mammoth (126.2oz Au @ 8.8g/t). Immediately to the west of the Licence are a group of Mineral Leases (Mulga Group) which include such prospects as Three Keys (306.9oz Au @ 20.5g/t), Memsahib (173.2oz Au @ 26.3g/t), Mint (25.2oz Au @ 8.9g/t), Aga Khan (96.5oz Au @ 11g/t) and Yellow Flame (22.5oz Au @ 55g/t). The trend of these prospects is interpreted as extending through the south western region of EL 10312.

EL 10312 lies between the significant northwest-southeast trending Quartz Hill Fault system in the south and the Hopeful Star Extended shear zone in the north. The Quartz Hill Fault system hosts such deposits as the Tennant Creek East Golden Mile workings, Cleo’s Gift, Mt Argo, Gecko, Orlando and many others.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Tennant Creek 1:100 000 sheet 5758, which covers the area of the license.
5.21 EL10313 KODIAK

The geology of EL 10313 has no outcropping rocks and is dominated by Cainozoic alluvial deposits in active channels and on flood plains, red earth soils that may contain ferruginous pisoliths with less extensive colluvium and scree. Dissected colluvial fan deposits are present as very minor cover in the eastern 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 Tennant Creek 1:100 000 sheet 5758, which covers the area of the license.

5.22 EL10324 PANDA

The EL10324 is located in the eastern region of the Tennant Creek Province. More than 90% of the tenement is covered by Cainozoic colluvium. A small area of outcropping Warramunga formation occurs in the north eastern region of the Licence.

Airborne and ground magnetic data and field mapping suggest that metasediments of the Palaeoproterozoic and Warramunga Formation and minor volcaniclastics of the Ooradidgee Group underlie the Licence area. Both the Mary Lane and Quartz Hill faults traverse the Licence.

There are no recorded mines or prospects within EL 10324. The nearest historic workings with moderate production (>100 oz Au) include Metallic Hill (150 oz Au), Billy Boy (inferred resource: 5,100 oz Au), which are 1km to the north east and Kiaora (1,019 oz Au), which is located 3kms to the south west. The Renate (17 oz Au) prospect is located approximately 1 km east of the Licence.

5.23 EL10406 MONTANA

The geology of EL 10406 is dominated by ridges and isolated hills in the northern region of the licence. These ridges and isolated hills comprise scattered outcrops of weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation, and most likely underlies Cainozoic sediments in the southern region of the licence. The Cainozoic sediments are predominately made up of sheet and dune sand and sandy soil, with less extensive dissected colluvium fan deposits, colluvium scree and a relict fluvial system covered by sands.

The licence contains the Cats Whiskers, Eldorado Anomalies 4 & 5 and Explorer 32 prospects which are located in the north of the licence and are covered by a series of MLC’s, namely MLC 16, 50, 51, 518, 528, 529 & 535 and therefore will not be covered in this report.

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Tennant Creek 1:100 000 sheet 5758, which covers the area of the license.
5.24 EL22285 SNAPPY GUM

The geology of EL 22285 is dominated by Cainozoic colluvium scree, alluvial red soil plains and less extensive alluvial deposits in active channels and on flood plains. Less extensive outcrops coinciding with ridges and isolated hills, are present in the north of EL 22285. These ridges and isolated hills consist of scattered outcrops of weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation and 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 Tennant Creek 1:100 000 sheet 5758, which covers the area of the license.

5.25 SEL25912 VOLK

The geology of SEL 25912 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 SEL 25912, these isolated hills consist of scattered outcrops of weathered siltstone and greywacke of the Palaeoproterozoic Warramunga Formation, which most likely underlies the dominate Cainozoic sediments.

The licence includes a number historical mines such as; Renate (15.6oz @ 24g/t) and Golden Mile (96.2oz @ 20.7g/t).

In 1995 the Northern Territory Geological Survey released geological maps and explanatory notes for the Tennant Creek 1:250,000 sheet, and the Tennant Creek 1:100 000 sheet 5758, which covers the area of the license.
6.0 PREVIOUS EXPLORATION

6.1 Targets and Concepts

Exploration within the EPA 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 silica 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 old mines and prospects within the EPA, held under Mineral Leases and Claims by Santexco Pty Ltd and Giants Reef Exploration Pty Ltd. Some of the more significant deposits included in these are Eldorado (134,042 oz Au @ 20.0g/t), Golden Forty (62,153 oz Au @ 12.0g/t), Lone Star (5,665 oz Au), Cat’s Whiskers (1824 oz Au), Kiaora (1,019 oz Au), New Hope (1,479 oz Au) and Comstock (1,151 oz Au). Some of the more significant deposits that fall within ELs in the EPA include Red Terror (1,690 oz Au), Burnt Shirt (2,026 oz Au) and Kathleen (1,154 oz Au).

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

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.

6.2 EL 8199 CARLSBERG

Peko-Wallsend held the area of this lease between 1984 and 1987 under EL 4536 (432 graticular blocks). A number of prospects were discovered in EL 4536 including Metallic Hill (Lowe, 1986) but no prospects were discovered in the area of EL 8199. Metana Minerals explored the area between 1988 and 1990, however no reports are available for any of the work undertaken.

The Exploration Licence was originally applied for in May 1993 by Poseidon Gold Limited to cover a regionally interesting geological and geophysical area. Poseidon’s exploration model was based on locating a non-magnetic gold or gold-copper deposit by geochemistry, rather than by the more established method of drilling magnetic anomalies.
In 1998 Normandy carried out a detailed airborne magnetic survey (Nob Line Survey), which included EL 8199.

Since the acquisition of the Licence by Centralian Minerals in 2001, exploration had been aimed at the discovery of IOCG deposits hosted in Warramunga Formation units within the Lonestar trend and re-modelling of magnetic data. This work identified a discrete low amplitude magnetic high (432700mE, 7828600mN MGA94) which, broadly coincides with the outcropping quartz reefs.

Centralian Minerals also conducted a number of field trips into the tenement to examine outcropping quartz reefs and to inspect areas coinciding with the magnetic anomalies, however these locations were found to be covered by Quaternary sediments, including red soil plains.

Other work completed by Centralian Minerals Limited includes data compilation, validation and integration of historical hard copy and digital data into the Company’s exploration GIS database. Various ground reconnaissance mapping surveys and rock chip sampling have also been undertaken.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.3 EL 8279 BINTANG

The southern block of the Licence is largely covered by Mineral Leases over the Peko deposit and Comet workings.

Australian Development held this area from 1973 to 1976 under EL 96. Aeromagnetic surveys were carried out with several magnetic anomalies selected for ground follow-up.

In 1982, Peko-Wallsend Operations held the ground with EL 2535. Low level aeromagnetic survey revealed two parallel WNW-ESE trending features. Magnetic anomalies were identified and evaluated over ironstones at Juno East and other areas.

Between 1987 and 1993, Wiluna Gold Pty Ltd explored the area under EL 5304. Exploration was carried out under a joint venture with Asarco Gold and Top End Resources. Exploration was directed towards locating near surface gold deposits having weak to no magnetic signature. A prime near surface target such as the anomalous large chloritic zone that lies beneath the Juno deposit was investigated. Prior to the surrender of the Licence, Asarco completed lag geochemistry, auger soil sampling, 6.6 line km of ground magnetics and vacuum drilling. Only weakly anomalous values were obtained from...
this work. Wiluna Gold was granted EL7182, which covered a portion of EL 8279, in May 1991, however this was surrendered in May 1995 with no field work being carried out.

In 1998 Normandy carried out a detailed airborne magnetic survey (Nob Line Survey), which included EL 8279. In 1999, a Normandy proprietary airborne Time Domain Electro Magnetics (TDEM) system was flown over the Nobles Nob and Peko areas, including EL 8279. The helicopter borne sensor was flown at 30m mean terrain clearance and 100m line spacing.

Following the acquisition of the Licence by Centralian Minerals a preliminary review of detailed aeromagnetics identified a significant magnetic in the central region of the north west block was undertaken. This magnetic high forms one of a number of anomalies of similar magnitude along a major east-west "magnetic ridge". A review of previous work undertaken in this area has shown that no geophysical assessment or modelling has been undertaken and previous explorers have considered the magnetic ridge to reflect a sequence of magnetite-bearing sediments within the Warramunga Formation. Whether the individual magnetic highs along this trend relate to ironstone bodies, and are therefore significantly prospective, or are merely the results of sporadic, relatively high concentrations of disseminated magnetite in the sediments, remains to be investigated.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.4 EL 8280 SAN MIGUEL

Previous exploration and mining history of the Argo leases which form part of the total area of EL 8280 has been presented previous reports.

Australian Development held this area from 1973 to 1976 under EL 96. Aeromagnetic surveys were carried out with several magnetic anomalies selected for ground follow-up.

In 1982, Peko-Wallsend Operations held the ground under EL 2535. Low level aeromagnetic survey revealed two parallel WNW-ESE trending features.

Between 1987 and 1993, Wiluna Gold Pty Ltd explored the area under EL 5304. Exploration was carried out under a joint venture with Asarco Gold and Top End Resources. Exploration was directed towards locating near surface gold deposits having weak to no magnetic signature. A prime near surface target such as the anomalous large chloritic zone that lies beneath the Juno deposit was investigated. Prior to the surrender of the Licence, Asarco completed lag geochemistry, auger soil sampling, 6.6 line km of ground magnetics and vacuum drilling. Only weakly anomalous values were obtained from
this work. Wiluna Gold was granted EL7182, which covered a portion of EL 8280, in May 1991, however was surrendered in May 1995 with no field work being carried out.

Exploration Licence 8280 was originally applied for in May 1993 by Poseidon Gold Limited (later NTC) to cover a regionally interesting geological and geophysical area. Poseidon’s exploration model was based on locating a non-magnetic gold or gold-copper deposit by geochemistry, rather than by the more established method of drilling magnetic anomalies. In 1998 Normandy carried out a detailed airborne magnetic survey (Nob Line Survey), which included EL 8280. In 1999 a Normandy proprietary airborne Time Domain Electro Magnetics (TDEM) system was flown over the Nobles Nob and Peko areas including EL 8280.

Following the acquisition of the Licence by Centralian Minerals in 2001, exploration has been aimed at the discovery of IOCG deposits hosted in Warramunga Formation units within the Argo - Peko trend and re-modelling of magnetic data. This work has identified a number of prominent and discrete low amplitude magnetic highs which warrant further investigation. Other work completed by Santexco included data compilation, validation and integration of historical hard copy and digital data into the Company’s exploration GIS database. Various ground reconnaissance mapping surveys have also been undertaken.

Santexco identified a discrete magnetic anomaly, termed the “South Argo”, at the southern boundary of EL 8280 during a regional geophysical assessment of the Licence. The South Argo anomaly is positioned along a prominent north northwest trending fault that has a clear spatial relationship to the Argo and Juno deposits. Geophysical modelling of this anomaly has determined the depth to top of the main causative magnetic body is at 175m below ground level. This is in contrast to previous modelling by other explorers that estimated a depth of 400m using less detailed aeromagnetic coverage.

Further exploration work included a Vacuum, RAB and RC drilling program was carried out at The Susan and Argo prospects, and whilst this work was restricted to MLC’s within EL 8280, it has demonstrated the potential for extending exploration along strike and into the EL. The area of interest includes a corridor of anomalous geochemistry and or geophysical response, under shallow cover. This area is earmarked for further work including geochemical sampling, ground magnetic surveys and follow up Vacuum, RAB, or RC drilling.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.
6.5 EL8430 RED BACK

No historical exploration work on EL 8430 has been conducted previous to granting of EL 8430 to Giants Reef, due to an entirety of cover by Cainozoic sediments.

During the years of tenure under Giants Reef, exploration work involved a detailed review of all available data. With no outcrop present in the licence geophysical surveys provide the best analysis tool of assessing the prospectivity of the licence. Assessment and interpretation was undertaken of regional magnetic data that covers the licence, these images outline a subtle magnetic anomalous ridges in the southern region of the licence. The subtle magnetic anomalous ridge lies on the southern flanks of a large area of subdue magnetic intensity. These identified magnetic anomalous ridges provide a target for further exploration and interpretation. A more detailed geophysical survey is required to further define the anomalous ridge, with the aim of generating shallow RAB targets within the area.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.6 EL 8705 BOSEIVER

In 1982, Peko-Wallsend Operations held the ground under EL 2535. Low level aeromagnetic survey revealed two parallel WNW-ESE trending features. Magnetic anomalies were identified and evaluated over ironstones at Juno East and other areas.

PosGold explored the area between 1986 and 1992 under EL 4929. An airborne survey flown in 1990 and this defined two magnetic features west of Nobles Nob. RC drilling of these returned significant gold grades at Anomaly 2 while Anomaly 3 failed to return any significant results. A further 11 RC holes were drilled at other prospects, however results were disappointing.

Between 1992 and 1994, Roebuck Resources and Normandy NFM held this area under EL 7650. Regional gravity data from a 1992 Aerodata multiclient survey outlined a gravity ridge trending across EL 7650. A weak aeromagnetic anomaly was delineated and tested by RAB drilling. Results from this produced a 400m by 100m copper anomaly (max 28ppm), however gold values were low.

Exploration Licence 8705 was originally applied for in May 1993 by Poseidon Gold Limited (later NTC) to cover a regionally interesting geological and geophysical area. Poseidon’s exploration model was based on locating a non-magnetic gold or gold-copper deposit by geochemistry, rather than by the more established method of drilling magnetic anomalies. In 1998 Normandy carried out a detailed airborne magnetic survey (Nob Line Survey), which included EL 8705. In 1999 a Normandy proprietary airborne Time Domain Electro
Magnetics (TDEM) system was flown over the Nobles Nob and Peko areas including EL 8750.

Since the acquisition of the Licence by Centralian Minerals in 2001, exploration has been aimed at the discovery of IOCG deposits hosted in Warramunga Formation units within the Eldorado – Juno - Juno trend and re-modelling of magnetic data. This work has identified a number of prominent and discrete low amplitude magnetic highs which warrant further investigation. Other work completed by Centralian Minerals Limited includes data compilation, validation and integration of historical hard copy and digital data into the Company’s exploration GIS database. Various ground reconnaissance mapping surveys have also been undertaken.

Other exploration work completed by Centralian Minerals/Giants Reef Exploration included contracted work by Vector Research Pty Ltd to process Giants Reef’s magnetic survey data using their proprietary MAGSURF® (magnetic surface filter). This data processing uses an algorithm which detects high-frequency magnetic noise associated with surface occurrences of weakly magnetic iron-oxide minerals and is aimed at mapping the high-frequency “textural noise” associated with the surface geology. The application also attempts to resolve detail in the overburden and delineate the noisy surface magnetic responses of sub-surface features such as structures and rock formations. Increasing the magnetic surface filter resolution increases the resolution of high frequencies, or smaller features. High frequencies are associated with features in the surface geology, while low frequencies are associated with large and deeper features. Filter resolution (N) for this study used 2, 4, 6 and 8 and resolution smoothing (nn) used levels 5, 11 and 25 (This is the number of data points averaged by applying a low-pass Hanning filter to the final MAGSURF response).

The Magsurf filter was applied to an area comprising some 20 km² and covers EL 8705. Geophysical signatures were compared over 9 prospects within the corridor, including Juno and Nobles Nob deposit with those within the Licence. Interpretation of geophysical signatures over the Nobles Nob deposit was made difficult by the presence of both strongly magnetic and non-magnetic waste dumps and the open cut. Giants Reef’s Nobline RTP 1VD magnetic data highlights some 27 discrete magnetic anomalies in the corridor ranging from large (Juno, Nobles Nob) to small (Kimberly Kids). Of these, 5 smaller magnetic are located within Giants Reef’s Exploration Licences. Previous mapping in the corridor has defined some 21 outcropping mineralised and non-mineralised ironstones.

The Nobline RTP 1VD magnetic data shows strong magnetic anomalies over the Juno and Nobles Nob deposits and a more subtle magnetic ridge extending west northwest through EL 8705, however only very minor magnetic peaks occur along this trend. Interesting the Nobline RTP 1VD magnetic data and Magsurf filters do not highlight many of the mapped ironstones in the survey area.

Neither the Nobline RTP 1VD magnetic data nor Magsurf filters provide a good correlation between any of the anomalies directly over the Nobles Nob deposit, however this is most likely due to the effects of the open cut and irregular, artificial anomalies resulting from magnetite in waste dumps. Probably the best correlation with the deposit is the Nobline
RTP 1vd data, which at least covers the eastern end of the pit. The waste dumps surrounding the Nobles Nob deposit is probably best mirrored by the Nobline RTP 1vd anomalies, however there is also some correlation with 400 series Magsurf filters. Interestingly all anomalies extend well beyond the waste dumps, suggesting that deeper source bodies exist or there are perhaps broader haloes of disseminated magnetite surrounding the main ironstone bodies. Another possibility is that the responses result from aerial dispersion of magnetite from the waste dumps and mine haulage activities. Not all of the waste dumps have a magnetic signature, suggesting that they comprise mullock material derived from the barren magnetite ironstone and non-magnetic Warramunga.

The Juno deposit is located centrally within the main Nobline RTP 1vd anomaly and correlates reasonably well with the 200 series Magsurf filters. The 400 series Magsurf filters appear to provide the best correlation to the Juno ironstone and defines a western anomaly which may represent a separate ironstone body. Unfortunately Exploration Licence 8705 does not include any significant 400 series Magsurf filter anomalies of interest. Further filtering (600 and 800 series) appears to only break the responses up into a myriad of anomalies that do not appear to correlate with any particular geological, regolith or topographical features.

The 200 series Magsurf filters defined the prominent north east trending fault structure at Nobles Nob which is also readily observed in the Nobline RTP 1vd magnetic data. This fault structure extends south west through the southern region of EL 8430, however no additional structures were observed elsewhere in the Exploration Licences. Interestingly none of the Magsurf filters reflected the prominent north west structure at Juno which is so clearly defined in the Nobline RTP 1vd magnetic data.

None of the filters appeared to correlate with drainage systems either emanating from known deposits or in the Exploration Licences which comprise sheet wash colluvium and minor drainages systems. Likewise areas of topographic relief, including low ridges of outcropping Warramunga Formation were not reflected in any of the Magsurf filtering.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.7 EL 8786 FIRST LIGHT

Australian Development held part of this area from 1973 to 1976 with EL 96. Aeromagnetic surveys were carried out with several magnetic anomalies selected for ground follow up.

A part of the area covered by the present Licence was also covered by EL 143, held by Nobelex. Several anomalies were investigated but were not believed to be due to discrete
ironstone bodies. A 1975 regional airborne geophysical survey failed to identify further targets.

In 1982, Peko-Wallsend Operations held the ground under EL 2535. Low level aeromagnetic survey revealed two parallel WNW-ESE trending features. Magnetic anomalies were identified and evaluated over ironstones at Juno East and other areas.

From 1984 to 1990 GeoPeko conducted exploration under EL 4536. Drilling at Explorer 26 prospect intersected several significant zones with the highest value at 5m @ 9.3 g/t Au. Exploration conducted by GeoPeko also included structural mapping.

PosGold explored the area between 1986 and 1992 under EL 4929. An airborne survey flown in 1990 and this defined two magnetic features west of Nobles Nob. RC drilling of these returned significant gold grades at Anomaly 2 while Anomaly 3 failed to return any significant results. A further 11 RC holes were drilled at other prospects, however results were disappointing.

Metana Minerals also held part of the area under EL 5729 from 1988 to 1991. Interpretation of the 1984 Austirex aeromagnetic survey indicated east-west trending beds with north west structural breaks. Soil samples collected in the north eastern part of the Licence did not return any anomalous values. Vacuum geochemical drilling failed to identify any presence of anomalous geochemical signatures within the bedrock.

TC8 Pty Ltd held part of the Licence from 1992 to 1997 under EL 7687. Rock chip and soil sampling was undertaken in the north east region of the Licences and assays returned anomalous gold and bismuth values. An extensive gravity survey and vacuum drilling program was completed over the licence in 1994. A review of the gravity data concluded that ground magnetics and vacuum drilling were required to determine drill targets.

The Exploration Licence was originally applied for in June 1994 by Poseidon Gold Limited (later NTC) to cover a regionally interesting geological and geophysical area. Poseidon’s exploration model was based on locating a non-magnetic gold or gold-copper deposit by geochemistry, rather than by the more established method of drilling magnetic anomalies. In 1998 Normandy carried out a detailed airborne magnetic survey (Nob Line Survey), which included EL 8705. In 1999 a Normandy proprietary airborne Time Domain Electro Magnetics (TDEM) system was flown over the Nobles Nob and Peko areas including EL 8750.

Following the acquisition of the Licence by Centralian Minerals in 2001, exploration had been aimed at the discovery of IOCG deposits hosted in Warramunga Formation units within the Eldorado – Juno - Juno trend and re-modelling of magnetic data. This work identified a number of prominent and discrete low amplitude magnetic highs which warrant further investigation. Other work completed by Centralian Minerals Limited included data compilation, validation and integration of historical hard copy and digital data into the Company’s exploration GIS database. Various ground reconnaissance mapping surveys have also been undertaken.
Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.8 EL8879 MT CLELAND

EL 8879 was acquired to search for IOCG deposits hosted in Warramunga Formation units on the northern fringes of the Quartz Hill Fault trend and to evaluate the potential around the southern margin of the Tennant Creek Granite. The licence incorporates many historical workings and prospects and therefore they will be treated separately.

Hopeful Star Prospect/Mine

The original Hopeful Star workings are located on the south side of a prominent conical-shaped mesa, known locally as ‘The Tooth’ which rises 25 metres above the surrounding plain. They comprise two 5m shafts, a small open pit and an adit. A glory hole has been gouged on the east side of the Tooth, about 70 metres of drives extended beneath the Tooth. Up until 1952 these workings produced 170 ounces at an average grade of 6.07 g/t, Au.

In 1969 BRM drilled two core holes, one inclined from the north (DDH01) and one inclined from the south (DDH02) of the main shaft area i.e. scissoring beneath the Tooth. A number of shallow percussion holes were drilled over the area, one of which intersected 3m @ 29.4 g/t from 3m. A 12 metre shaft was sunk on this hole some 80 metres east of the Tooth, producing 211.3 ounces Au at an average of 44 g/t. The shaft subsequently collapsed and a rectangular pit about 4m deep was excavated forming, what is locally referred to as the ‘slot’.

During 1971, Geotecnics Australia Pty Limited carried out a geological mapping program and ground magnetic survey over the southern boundary of EL 8879, around the area of the Hopeful Star mine workings.

Tennant Creek Gold (TCGL) acquired leases in the southern part of EL 8879, in 1987 and drilled three RC holes, totalling 220m, with one hole HPD2 drilled north beneath the slot intersecting 2m @ 2g/t Au. Further exploration was conducted in 1988 under a joint venture with Metana Minerals. This work included: Gridding the area on a 40m x 20m spacing and then geologically mapped, all outcropping ironstone was rock chipped and sampled. A total of 183 rock chips were collected with the best result returned of 2m @ 6g/t from the west corner of the gridded area. Samples were also collected from the Glory hole on the east side of the Tooth, with best results returned as 4m @ 2.8g/t and 4m @ 6.2g/t. 430 soil samples were collected and assayed for Au only, the results outlined the present day drainage pattern with the most elevated values, up to 3300ppb Au, originating from the Tooth. Follow-up analysis of these anomalous values was needed, therefore a
94 hole RAB drilling program, totalling 282m and a 93 hole vacuum, totalling 198m program was completed. Significant results returned from this work included 0.53g/t east of the Tooth, 2.5g/t north west of the Tooth. A 5 hole, 139m open-hole percussion program was undertaken to test the hematitic breccia zone in sheared contact with ironstone on the southern side of the Tooth. Unfortunately the contact was not intersected but a summary of the anomalous zones intersected is as follows: HAT1 12m @ 0.19g/t Au, HAT2 9m @ 0.15g/t Au, HAT3 14m @ 0.28g/t Au, HAT4 5m @ 0.58g/t Au, 5m @ 0.22g/t Au, 7m @ 0.22g/t Au, HAT5 6m @ 0.20g/t Au. A 6 hole RC drilling program (HRC004-HRC009), totalling 241m was also undertaken. HRC008 drilled beneath the shaft south of the Tooth, to intersect the southern shear zone recorded 26m @ 1.04g/t Au from 13m. Within this zone was a high grade intersection of 6m@ 3.92g/t Au. HRC005, 006 and 007 were drilled to intersect the down-plunge extension of the Tooth ironstone. Ironstone was intersected in all three holes with results as follows: HRC005 4m @ 0.28g/t Au, 10m @ 0.35g/t Au (including 5m @ 0.55g/t Au), HRC006 5m @ 0.12g/t Au, 8m @ 0.43g/t Au, HRC007 2m @ 0.55g/t Au, 3m @ 0.47g/t Au (including 1m @ 1.12g/t Au). The results can be interpreted as the identification of a bedrock gold anomaly. A ground magnetometer survey was undertaken on a 20m x 5m spacing, and identified a weak magnetic anomaly beneath the Tooth.

Metana withdrew from the JV in 1989. In 1990, TCGL conducted a 50 hole vacuum drilling program, totalling 100m, with the aim of defining the limits of the north-north east trending gold anomaly. Two 20m vacuum holes 5m apart were drilled on the east side of the collapsed shaft (trending north west) at the bottom of the slot. VDH002 recorded 12m @ 3.8g/t Au from 1m, with the best assay of 1m @ 10.26g/t Au.

In 1991 Roebuck drilled a further 21 RAB holes, totalling 63m, to check previous results. This was followed up in 1992 by a 14 hole, 570m, inclined percussion drilling program. HSG-P01 – P11 were drilled with the aim of testing the previously delineated bedrock gold anomaly east of the Tooth. No anomalous results were recorded thus indicating the transported nature of the anomaly having originated from the regolith of the Tooth, where free gold is known to occur i.e. superficial gold has penetrated fractures within the upper few metres of the bedrock thus generating spurious anomalies not related to subsurface mineralisation. HSG-P21, 22 and 23 were drilled across the main shaft-slot-Hopeful Star Extended shear zone trend. Anomalous values in Au, Bi, Cu and Pb were recorded from the last four metres of P22 and from 24m to the end of P21. A follow-up RAB program was undertaken delineating the Au, Bi, Cu and Pb anomaly. It is characterised by anomalous Au to 29ppb, Bi 44ppm, Cu 114ppm and Pb to 82ppm. These results showed that the anomalous zone was some 25m wide and extended for over 150m within both EL 8879 and EL 10312. The mineralisation appears to be parallel the Hopeful Star Extended shear zone.

Mt Margaret Prospect

Orientation sampling was carried out in the Tennant Creek mineral field in the period 16 – 18 December 1987. The objective was to determine the parameters for geochemical search technology which might be used in exploration for gold in the area.
Samples collected from a single traverse across the Mt Margaret area is characterised by two strong coincident anomalies for all three elements in both soils and lags.

CRA Exploration Pty. Ltd. (CRAE) explored for gold at Mt Margaret under leases MCC171 & 172. There is no record of exploration in the area previous to CRAE but there is one shaft present, which is over 30m deep, assays from samples collected from short drives on the 20m level reported up to 3200ppm Cu and 0.50ppm Au (samples 881425, 881426). Work completed by CRAE included: Surface rock chip sampling of old workings and prospective rock types – samples were collected from outcropping hematitic ironstone breccia, with returned anomalous results of 0.22ppm Au, 235ppm Bi and 200ppm Cu (sample 964469). Magnetic susceptibilities of surface exposures of the ironstone mullock were in the range .001 - .03 SI; A detailed grid survey and photometric mapping at 1:2000, were carried out by surveyors. Grid lines were marked at 50m intervals and ran north – south, from an east west baseline; A ground magnetic survey was carried out at 50m and 100m line intervals on a true north – south orientation, sensor height clearance was 2m. Three magnetic features suggestive of ironstone are apparent on contoured and profiled data. Two features correspond to mapped ironstones and talc-dolomite alteration. No deep seated magnetic sources were indicated. A strong magnetic source of moderate susceptibility is indicated by the data, modelling suggested that the source had a lower magnetic susceptibility than typical ironstone, gravity data also indicated a body of greater than average density, but not as high as typical ironstone; A detailed gravity survey was carried out on north – south lines 100m and 50m apart. Three features of note were present in the data. A gravity low corresponds with low density talc-dolomite and fracture zones mapped at surface. A subtle gravity high corresponds to the termination of a thin mapped ironstone against the NNE – SSW trending fault. An excess mass feature is coincident with a moderate amplitude magnetic anomaly. One other small gravity high does not coincide with a magnetic feature nor surface mapped ironstones; Drilling of defined geophysical and geological targets was carried out in October, 1985. PD85MM1 was drilled vertically to test the moderate excess mass and magnetic anomaly, intersected lithologies were interpreted to include an ironstone sediment breccia, assays returned anomalous values of 2m @ 0.06ppm Au from 30m and elevated Cu ranging from 350ppm to 1350ppm. PD85MM2 was drilled to test the subsurface extent of mapped talc-dolomite ironstone coincident with gravity low and a magnetic high. The hole was inclined at 60° at 020°, hematite shale with minor specular hematite and quartz was present from 32m to termination at 60m. Assays returned results of elevated Cu 550ppm – 3900ppm, 0.08ppm – 1.2ppm Au and 2m @ 59ppm Bi from 24m. PD85MM3 was drilled to test for the subsurface extension of mapped ironstone. The hole was inclined to 60° at 215°, no ironstone was intersected and only minor black hematite on fracture surfaces within unaltered siltstone indicated proximity to true ironstone. As no economic resource was indicated and additional targets could be generated by models at the time additional work was not required. Structural analysis of the ironstone interpreted the major faulting in the area to be along north west – south east trends and appears to either have broken up the ironstone in smaller en echelon bodies or controlled its emplacement. Further interpretation identifies a later set of faults on north north-east – south south-west trends often occupied by thin ‘buck quartz +/- specular hematite reefs, clearly cutting earlier structure and truncates the ironstone to the west.
In 1988 Asarco Australia Limited conducted lag sampling over the Mt Margaret area, 426 samples were collected on a 200m x 25m spacing, follow-up soil sampling was also conducted, 500 samples were collected on a 100m x 25m spacing. Results from both confirmed two anomalous zones. A total of 40 rock chip samples were collected mostly from around the alteration zone and shaft at the Mt Margaret mine, highest values returned were at 1.35g/t Au. Asarco also drilled four RC holes, totalling 276m, in March 1988. The holes aimed to test the alteration zone. Over a strike length of 70m three holes intersected ironstone and/or alteration assemblages over drill widths of up to 15m. A detailed aeromagnetic and radiometric survey was flown by Aerodata Holdings Limited. The survey was flown on a line spacing of 200m, flight height of 60m.

Asarco continued exploration work in 1989 and included: gridding of 1.5 line km for the collection of 63 lag samples at 25m spacing. A further 2km of gridding was conducted in the main shaft area to provide control for a ground magnetic survey. The survey totalled 7.4km, and comprised 25m stations on 200m line spacings. The survey aimed to locate the interpreted anomalies from the 1988 aeromagnetic survey. An anomalous magnetic high was defined in an area were soil and lag geochemistry registered only background levels. An identified radiometric anomaly exhibited a weak magnetic signature and had no geochemical anomalies. A magnetic high was identified 75m north of the mine, in an area of anomalous Au geochemistry. Further ground magnetic surveys failed to locate this anomaly. Two RC holes were drilled to test a lag anomaly coinciding with workings developed on massive hematite. Assays returned no anomalous results.

Black Cat Prospect

Gold was mined on a small scale from Black Cat prior to 1936 and then more consistently in the period 1937-42 for a total recorded production of 1023 ounces, with grades varying from 8 – 18 g/t. Previous exploration prior to 1988 is sited in an Adelaide Petroleum NL report dated February 1988, as being reported in Forrest R.J., 1987, Report on Lease Mapping and Sampling, Tennant Creek NT for National Gold, this report was unavailable for review. The previous exploration work cited, includes: ground magnetic surveys and geological mapping. Further mapping and electromagnetic survey and drilling of 11 wagon drill holes (SABC1 – 11) was completed by Australian Development NL in 1959. Results of this drilling were not considered encouraging, however, intercepts in six of the holes ranged from 3.65m @ 2.5g/t Au to 1.23m @ 5.4g/t Au. Drill holes 7 and 9 drilled intervals of green chloritic sediments with some ferruginous zones which may be indicative of the occurrence of deeper sourced chlorite-ironstone bodies. In 1987 National Gold NL completed a limited sampling program of the main workings and dumps of the Black Cat. Results of this work indicated potential for gold lodes to continue below existing workings in a shear zone.

CSIRO Work

In 1988, the CSIRO conducted a series of hydrogeochemistry (water sampling and trace element analysis) exercises in the Tennant Creek mineral field. The work was largely aimed at accumulating base data for the groundwaters of the district. It involved collecting
samples of groundwater from stock bores, exploration drill holes, and underground water seeping into the mines that were active at the time, with the objective of using the analytical information to help pin-point target areas for further mineral exploration. The collected samples were analysed to a very high degree of precision at the CSIRO’s North Ryde (NSW) laboratories and, after allowances were made for a number of variable factors, it was possible to compare the final results with each other. In this work, levels of gold are measured in nano-grams of gold per litre (ng Au/L). A nano-gram is one billionth of a gram. Out of 33 samples collected and analysed in 1988, only a few were found to contain gold detectable by the analytical methods of that time. The White Hill Bore water sample was one of these and, at 30ng Au/L, compared well with water samples from Warrego (40ng Au/L) and Peko (100ng Au/L). Nothing was done to follow up this result in the field, despite recommendations to do so. A repeat sample was taken from the bore in July 2000. Analysis of this sample, using techniques much improved since 1988, gave a result of 129ng Au/L. This strongly corroborated the result of the sample taken 12 years before. A water sample was also taken from Middle Bore, 3km southeast of White Hill Bore, and within EL 8879. This sample assayed 16ng Au/L, much less than the White Hill Bore sample, but still rated anomalous.

In Giants Reef first tenure year, consultant geophysicist Frank Lindeman, of Lindeman Geophysics Pty Ltd, was engaged to examine the 1998 AGSO aeromagnetic data over the White Hill Bore area, which covers the northern region of EL 8879. Due to the lack of detailed resolution in this data, no encouraging bodies were delineated and therefore no specific drill targets were produced. The various magnetic features that were noted appeared to relate to lithological units along the granite-sediment contact zone. and a more detailed ground magnetic survey was recommended in order to better define potential ironstone bodies/magnetic anomalies.

During the second tenure year Giants reef proposed a work program to drill a pattern of six shallow vertical holes around White Hill Bore to obtain assay samples and geological information that could lead to locating gold mineralisation. It has been ascertained that White Hill Bore is located more or less exactly on meridian 134° 19’E as per the AGD94 datum. This meridian forms the boundary between EL 8879 and Giants Reef's EL 10203 to the west. Three of the six proposed holes will therefore be in EL 8879 (see Figure 1), and three holes in EL 10203. The proposed exploration program was postponed during the term, due to the Company’s higher priority commitments on the further development and mining of the Chariot and Malbec Deposits.

During subsequent years all the historical drill and geochemical data over the EL was collated and converted from datamine format, and combined with the Company’s database and GIS.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.
6.9 EL 8991 SUN RISE

Australian Development held part of this area from 1973 to 1976 under EL 96. Aeromagnetic surveys were carried out with several magnetic anomalies selected for ground follow up.

A part of the Licence area was also covered by EL 143 held by Nobelex. Several anomalies were investigated but were not believed to be due to discrete ironstone bodies. A 1975 regional airborne geophysical survey failed to identify further targets.

In 1982, Peko-Wallsend Operations held the ground under EL 2535. Low level aeromagnetic survey revealed two parallel WNW-ESE trending features. Magnetic anomalies were identified and evaluated over ironstones at Juno East and other areas.

From 1984 to 1990, GeoPeko conducted exploration under EL 4536. Drilling at Explorer 26 prospect intersected several significant zones with the highest value at 5m grading 9.3g/t gold. Exploration conducted by GeoPeko also included structural mapping.

PosGold explored this area from 1986 to 1992 under EL 4929. An airborne survey flown in 1990 defined 2 magnetic features west of Nobles Nob. Four RC holes were drilled with Anomaly 2 showing significant gold grades and Anomaly 3 generating no significant anomalies. A further 11 RC holes were drilled (1071m) at other prospects but assay results were disappointing (Lindsay-Park, 1991). Exploration of this area was incomplete and inconclusive.

Metana Minerals also held part of the area under EL 5729 between 1988 to 1991. Interpretation of the 1984 Austirex aeromagnetic survey indicated east-west trending beds with north-west structural breaks. Soil sampling from the north-east were not anomalous. Bedrock drilling (111 vacuum drill holes – 580m, 187 RAB holes – 3,082m) failed to identify any presence of anomalous geochemical signatures within the bedrock.

Between 1992 and 1994, Roebuck Resources and Normandy NFM held this area under EL 7650. Regional gravity data from the 1992 Aerodata multiclient survey outlined a gravity ridge trending across EL 7650. A weak aeromagnetic anomaly was defined that was followed up by a 67 hole (1143m) RAB drill program. A 400m by 100m copper anomaly (max 28ppm) was outlined but gold values were low.

TC8 Pty Ltd held part of the ground between 1992 to 1997 under EL 7687. Rock chip and Soil samples were collected in the north east region of the Licence and results from this returning anomalous gold and bismuth values. An extensive gravity survey and vacuum geochemical drilling was completed over the licence in 1994. A review of the gravity data concluded that ground magnetics and vacuum drilling were required to determine drill targets.

The Exploration Licence was originally applied for in May 1993 by Poseidon Gold Limited (later NTC) to cover a regionally interesting geological and geophysical area. Poseidon’s exploration model was based on locating a non-magnetic gold or gold-copper deposit by geochemistry, rather than by the more established method of drilling magnetic anomalies.
In 1998 Normandy carried out a detailed airborne magnetic survey (Nob Line Survey), which included EL 8705. In 1999 a Normandy proprietary airborne Time Domain Electro Magnetics (TDEM) system was flown over the Nobles Nob and Peko areas including EL 8750.

Since the acquisition of the Licence by Centralian Minerals in 2001, exploration has been aimed at the discovery of IOCG deposits hosted in Warramunga Formation units within the Eldorado – Juno - Juno trend and re-modelling of magnetic data. This work has identified a number of prominent and discrete low amplitude magnetic highs which warrant further investigation. Other work completed by Centralian Minerals Limited includes data compilation, validation and integration of historical hard copy and digital data into the Company’s exploration GIS database. Various ground reconnaissance mapping surveys have also been undertaken.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.10 EL9293 JOKER

Australian Development held part of this area from 1973 to 1976 under EL 96. Aeromagnetic surveys were carried out with several magnetic anomalies selected for ground follow up.

A part of the area covered by the present Licence was also covered by EL 143, held by Nobelex. Several anomalies were investigated but were not believed to be due to discrete ironstone bodies. A 1975 regional airborne geophysical survey failed to identify further targets.

In 1982, Peko-Wallsend Operations held the ground under EL 2535. Low level aeromagnetic survey revealed two parallel WNW-ESE trending features. Magnetic anomalies were identified and evaluated over ironstones at Juno East and other areas.

PosGold explored the area between 1986 and 1992 under EL 4929. An airborne survey flown in 1990 and this defined two magnetic features west of Nobles Nob. RC drilling of these returned significant gold grades at Anomaly 2 while Anomaly 3 failed to return any significant results. A further 11 RC holes were drilled at other prospects, however results were disappointing.

TC8 Pty Ltd held part of the Licence from 1992 to 1997 under EL 7687. Rock chip and soil sampling was undertaken in the north east region of the Licences and assays returned anomalous gold and bismuth values. An extensive gravity survey and vacuum drilling
program was completed over the licence in 1994. A review of the gravity data concluded that ground magnetics and vacuum drilling were required to determine drill targets.

The Exploration Licence was originally applied for in August 1995 by Poseidon Gold Limited (later NTC) because of favourable structural and geophysical anomalies, and its location between the high-grade Nobles Nob and Golden Forty mines.

Poseidon’s exploration model was based on locating a non-magnetic gold or gold-copper deposit by geochemistry, rather than by the more established method of drilling magnetic anomalies. In 1998 Normandy carried out a detailed airborne magnetic survey (Nob Line Survey), which included EL 9293. In 1999 a Normandy proprietary airborne Time Domain Electro Magnetics (TDEM) system was flown over the Nobles Nob and Peko areas including EL 9293.

Since the acquisition of the Licence by Centralian Minerals in 2001, exploration has been aimed at the discovery of IOCG deposits hosted in Warramunga Formation units within the Eldorado – Juno - Juno trend and re-modelling of magnetic data. This work has identified a number of prominent and discrete low amplitude magnetic highs which warrant further investigation. Other work completed by Centralian Minerals Limited includes data compilation, validation and integration of historical hard copy and digital data into the Company’s exploration GIS database. Various ground reconnaissance mapping surveys have also been undertaken.

Reviews and modelling of the detailed aeromagnetic data by Centralian Minerals have shown a discrete magnetic anomaly in the northern block of EL 9293. It is located approximately 1km north of the JOKER mine. Reconnaissance surveys in this area have confirmed the presence of Warramunga Formation sub-outcrop, however as no ironstone outcrops, the source of the magnetic anomaly appears to be at depth.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.11 EL9403 JESS

During the period 1935 – 1937 geophysical surveys were carried out by the Aerial Geological and Geophysical Survey of Northern Australia (AGGSNA) with the aim of identifying magnetic bodies. Results from these surveys were unavailable, although AGGSNA conducted drilling in the Eldorado area including Anomaly 3, which is located in the south west corner of EL 9403, during 1936. The results from AGGSNA No. 2 hole drilled on anomaly 3, encountered a 13m talc-carbonate-magnetite formation containing disseminated sulphides from 135m, Cu assays from this interval ranged from 0.38% - 0.88%.
Exploration work was conducted over the Eldorado area in 1961 by N.J. McMillan and A.H. Debnam. The work they conducted focussed on geochemical prospecting for copper in the Tennant Creek Gold Field and included soil sampling over magnetic anomalies with 65m line spacing and sample intervals of 30m, the samples were only assayed for Cu. 80 soil samples and 220 bedrock samples were collected, with assay results averaging approximately 4ppm. The National Lead Company drilled two holes in this area, but neither encountered any magnetic material and the core was assayed with only background Cu results returned. Two diamond holes were drilled over the Eldorado area with on being in EL 10406, the results from this hole only returned background level Cu values. It was concluded from these results that the potential for economic discoveries was low, and therefore further exploration wasn’t recommended.

Exploration work was conducted during 1973 by GeoPeko Limited, the project work was aimed at evaluating the causative body sizes and to estimate the completeness of exploration. Work conducted included the compilation and assessment of all historical data. Anomaly 3 was reviewed and conclusions were drawn that the two narrow intersections offered encouragement for further work, DDH3 appeared to have missed to the underside of the main anomaly, but intersected a southern satellite body.

Aquitaine Australia Minerals Pty. Ltd. Conducted a further review of the Eldorado area in 1973-74. The review outlined that the known bodies needed to be further defined by geophysical and geological methods.

In 2003/4 Giants Reef assessed Normandy’s 1998 detailed aeromagnetic data and generated a number of low order magnetic anomalies within EL 10406. Giants Reef view the Licences as prospective for ironstone-related gold-copper deposits due to presence of favourable structures, subtle magnetic features, and because of their position between the high-grade Juno and Eldorado mines. 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 9403 and EL 10406. The Licence areas were individually assessed based on their prospectivity, targets and overall geological and geophysical potential.

During the second year of tenure Giants Reef conducted further exploration which included; MMP’s covering work planned in Eldorado Project Area (Eldorado Comstock Mineralised Corridor) were submitted to DBIRD in July and approved in August; Geophysical consultant Resource Potentials Pty Ltd were contracted in July to undertake geophysical data processing and interpretation work. In addition to prospect work, Resource Potentials requested to review the 1998 Kevron Nob-Line airborne magnetic data, and assist with compiling a systematic database of all the available geophysical data in the TC mineral field; A gravity survey covering some 1.7 km2 of the Eldorado Project Area including the Anomaly 3, 4 and 5 magnetic anomalies and portions of EL 9403 was planned in July. The survey also included several outcropping ironstones including those at the Mount, Ellen M and Cat’s Whiskers prospects. Daishsat Geodetic Surveyors completed approximately 22 line kilometres of gravity using 40 m station centres and 80 m line spacing; Geophysical modelling and interpretation of the newly acquired gravity data together with previous magnetic survey data was undertaken by Lindeman Geophysics.
Pty Ltd. The gravity, magnetic and geochemical data was also provided to Resource Potentials for modelling and interpretation. The new gravity data revealed more subsurface information than the magnetic data and resulted in the delineation of some 11 gravity high anomalies, which were interpreted as potential ironstones and/or structures. A density of 1.8g/cc rather than 2.2g/cc was applied to the bouguer correction in an effort to remove the effects of terrain and make the data more interpretable. Bouguer corrections use a uniform density over an area and the reality is that hills and gullies that produce topographic anomalies in the gravity data can be caused by rocks and regolith materials that have variable density across the survey area. Therefore, the Bouguer correction will not completely remove all terrain effect. Variable density Bouguer corrections can be undertaken, but this is a subjective process that may produce as many artefacts as it is trying to remove.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.12 EL9930 NEW MOON

Exploration License 9930 was initially applied for to cover the area over the known mine workings of New Moon, and to further investigate, review and model an isolated magnetic anomaly.

Previous exploration work conducted on EL 9930 is dominated by the New Moon mine workings. The New Moon mine was worked to a depth of 18m but no records of production could be found. The main shaft of the mine is situated on the southern side of the conical hill in the centre of the prospect.

GeoPeko conducted exploration work over the New Moon area, which included: Drilling of five airtrac holes ATH 1 – 5 and one diamond hole DDH1 into the central hill. ATH 1 – 4 intersected almost solely hematite-quartz ironstone. AHT 5 intersected hematitic sediments. Au was slightly anomalous in all holes, up to 0.26 g/t in AHT 1, while Bi was up to 1.36% in AHT 2. DDH1 was terminated at a depth of 76.2m after intersecting 9.25m of ironstone, assays returned results of 1.6m @ 15.3g/t Au, 330ppm Cu, 15440ppm Bi from 24.2m; Lead Isotope analysis was undertaken on samples from the diamond and airtrac holes. Results are listed in table 3:

Table 3: GeoPeko Lead Isotope Analyses at New Moon/Explorer 196

<table>
<thead>
<tr>
<th></th>
<th>208/206Pb</th>
<th>207/206Pb</th>
<th>206/204Pb</th>
<th>207/204Pb</th>
<th>208/204Pb</th>
</tr>
</thead>
<tbody>
<tr>
<td>EX196/1</td>
<td>1.9750</td>
<td>0.8182</td>
<td>19.192</td>
<td>15.703</td>
<td>37.904</td>
</tr>
<tr>
<td>(core)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EX196/2</td>
<td>1.9938</td>
<td>0.8072</td>
<td>19.531</td>
<td>15.765</td>
<td>38.940</td>
</tr>
</tbody>
</table>

EMMERSON RESOURCES LTD
Five rock chip samples were collected from around the mine area; results returned are listed in the table 4:

Table 4: New Moon Rock Chip Assays (ppm)

<table>
<thead>
<tr>
<th>Number</th>
<th>Au</th>
<th>Cu</th>
<th>Bi</th>
</tr>
</thead>
<tbody>
<tr>
<td>F30651</td>
<td>0.03</td>
<td>98</td>
<td>7</td>
</tr>
<tr>
<td>F30652</td>
<td>0.05</td>
<td>452</td>
<td>81</td>
</tr>
<tr>
<td>F30653</td>
<td>0.01</td>
<td>137</td>
<td>13</td>
</tr>
<tr>
<td>F30654</td>
<td>0.22</td>
<td>291</td>
<td>64</td>
</tr>
<tr>
<td>F30655</td>
<td>0.07</td>
<td>228</td>
<td>10</td>
</tr>
</tbody>
</table>

Under a Joint Venture between North Flinders Mines Ltd (NFM) and PosGold further exploration of the New Moon area was conducted during the second half of 1992. This exploration work included: Ground Magnetic Survey – With the regional aero-magnetics showing the New Moon anomaly as a small but distinct magnetic high in a sea of magnetic low material, closer and more detailed surveys needed to be conducted. Nine north south lines of ground magnetics were conducted by NFM over the tenement for a total survey of 4.5km. Lines were 50m apart and readings were taken every 10m. The diurnally corrected data was used to create a contour plan. The plan is dominated by the explorer 196 magnetic anomaly, which has a strong dipole in the south. The dipole is very even and has an approximate width of 30m, is steep sided (indicating a shallow source). Geophysical consultant Hugh Rutter expressed the opinion that it was unlikely to continue at depth, or to be laterally extensive; Vacuum drilling consisted of 432 vacuum holes, totalling 2378m, hole spacing was determined by the prospectivity of the geology encountered. A Geological map was produced from the bottom of hole geology logged. This drilling program revealed that the bedrock in the tenement was dominated by Warramunga Formation Siltstones and fine to medium grained greywackes. The rocks were moderately hematitic and sporadically quartz veined. Two main areas of ironstone were delineated, the main ironstone body making up the central hill and a minor ironstone occurrence in the north west of the prospect. Results from the drilling returned an anomaly coinciding with the main ironstone. A peak Au value of 29ppb occurred in dark pink indurated slightly cherty siltstone with 10% white vein quartz and 2% black
manganese staining. A peak Cu value of 1464ppm occurred in oxidised hematitic ironstone and yellow clay. A peak Bi value of 68ppm occurred in black hematite ironstone, partly oxidised to gossan yellow. The main zone of anomalous geochemistry is extended east by Cu values (and to a lesser extent by Au and Bi) together with minor ironstone occurrences; A seven hole RAB, totalling 392m and RC, totalling 132m, drilling program was conducted in four sections. Section one was aimed to test the south eastern extension of the main ironstone body. Section two passed through the mine hill at New Moon. Section three was aimed at testing the northern extension. Section four was aimed to test for a second ironstone zone in the northwest of the prospect. Significant results are summarised in table 5:

Table 5: Significant RAB and RC intersections.

<table>
<thead>
<tr>
<th>Hole No.</th>
<th>From</th>
<th>To</th>
<th>Au (ppm)</th>
<th>Cu (ppm)</th>
<th>Bi (ppm)</th>
<th>Geology</th>
</tr>
</thead>
<tbody>
<tr>
<td>NMB001</td>
<td>15</td>
<td>18</td>
<td>0.44</td>
<td>2976</td>
<td>5</td>
<td>Siltstone with up to 80% Mn</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>21</td>
<td>0.27</td>
<td>2150</td>
<td>19</td>
<td>Siltstone with up to 80% Mn</td>
</tr>
<tr>
<td>NMB002</td>
<td>36</td>
<td>39</td>
<td>0.10</td>
<td>835</td>
<td>15</td>
<td>Slst + 60% He vns</td>
</tr>
<tr>
<td>NMR001</td>
<td>38</td>
<td>41</td>
<td>0.74</td>
<td>261</td>
<td>212</td>
<td>Mt ironstone</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td>44</td>
<td>0.35</td>
<td>219</td>
<td>16</td>
<td>Mt ironstone</td>
</tr>
<tr>
<td></td>
<td>44</td>
<td>47</td>
<td>0.25</td>
<td>152</td>
<td>20</td>
<td>Mt ironstone</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>53</td>
<td>1.02</td>
<td>300</td>
<td>109</td>
<td>Bdry b/n Mt Festone (upper) and He-q Festone (lower)</td>
</tr>
<tr>
<td>NMR002</td>
<td>47</td>
<td>50</td>
<td>0.30</td>
<td>337</td>
<td>82</td>
<td>Si/chert-slst-he</td>
</tr>
<tr>
<td></td>
<td>53</td>
<td>55</td>
<td>0.35</td>
<td>353</td>
<td>632</td>
<td>Si/chert-slst-he</td>
</tr>
</tbody>
</table>
In 1996 Normandy conducted an evaluation of all previous exploration data over MC C1350 (MCC held within EL 9930). The Explorer 196 magnetic anomaly over the New Moon mine within MC C1350 was chosen for a Mobile Metal Ion (MMI) geochemical survey. The objective of the MMI survey was to assess the soils over Explorer 196 magnetic anomaly to determine whether there was anomalous Au, Cu, Bi and other indicator ions that may suggest the magnetic anomaly is Au/Cu/Bi mineralised. The samples were taken on 50m spaced lines at 100m intervals. A total of 38 samples were collected over MC C1350 a surrounding tenure. The results of the program were reported by Normandy as inconclusive. There was no reported follow up exploration to the results from the MMI survey. An environmental audit covering all historical disturbances in the Tennant Creek mineral field was undertaken by NTC in 1998. The audit located and detailed all occurrences of substantial disturbance including mine workings, tracks, dumps, drill holes, excavations, buildings and rubbish. The survey documented the historic New Moon workings within the Mineral Claim.

In May 1999 NFM were appointed as operators of the Central Joint Venture tenements, including MC 1350. NFM conducted no on-ground work over the Claim.

During the 1999/2000 year of tenure, Northern Gold N.L., as manager of the Mineral Claim completed evaluation studies and data compilation of the Tennant Creek region, including MC C1350.


In September 2002 an internal review of the Giants Reef tenement portfolio and a classification of exploration opportunities included a detailed assessment of all the tenements purchased from NTC, including the Central Joint Venture tenements.

Giants Reef recognised that significant exploration potential at Explorer 196 remains, however will require a great deal of work. Giants Reef noted that the prospect ranked high on the NTC list, however is located a long way east of Tennant Creek. As part of the rationalisation program the Claim was recommended for surrender to allow exploration over Explorer 196 to be conducted under Giants Reefs granted Exploration Licence 9930.


In the following tenure years Giants Reef's report to DBIRD, “Mineral Claim C1350, New Moon Final Report for the period 19 September 1995 to 31 December 2003” (J Cahill, February 2004) details all the historical exploration conducted over the Mineral Claim. As a consequence all the ground previously explored under MC C1350 is now being explored under EL9930. The New Moon mine is located over a magnetic anomaly referred to as Explorer 196, and no other magnetic or gravity anomalies have been identified in EL 9930 by Giants Reef. During the third tenure year all the historical drill and geochemical data
over the EL was collated and converted from datamine format, and combined with the Company’s database. This data has been reviewed for target areas with shallow oxide Au potential. Review of the vacuum and geochemical data have identified a number of small geochemical Au anomalies with a NW-SE strike over Explorer 196.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

**6.13 EL9958 RUNNING BEAR**

During 1976 Australian Development Limited (ADL) drill tested areas in the eastern region of the Licence, with the aim of testing a portion of an east west trending magnetic anomaly for base metals. ADL’s drilling intersected highly chloritised, magnetite veined rocks, which they interpreted as andesites and andesitic tuffs. ADL assays showed no base metal anomalies but identified a Bi anomaly peaking at 70ppm, and they conducted no Au analysis. In an exploration review conducted by Allchurch in January 1991, he indicated that the intersected highly chloritised, magnetite veined rocks, may in fact be intensely altered greywackes or porphyries. Allchurch also noted that the prospect was located between two interpreted faults trending north east, with the western most fault corresponding to a kink feature in the regional magnetic trend.

In 1991 Roebuck acted on Allchurches interpretations and conducted exploration work over the Eastern Prospect area. Work included a magnetic and structural interpretation. The interpretation was transcribed from published regional aeromagnetic data and therefore interpretation locations are imprecise. Vacuum drilling was conducted, and drilling west of the Eastern prospect was completed on a true north south grid using the cleared claim boundaries as base lines, with one short line completed on the old ADL 270° magnetic, cleared line and access track. 62 holes, totalling 771.5m were completed, returned results showed peak values as 3ppb Au, 25ppm Cu (with one spike of 195ppm) and 3ppm Bi.

In 1992 Roebuck continued exploration work covering the southern area of EL 9958, and the work included the collection of 249 samples. The assays returned outlined one anomaly, >40ppb Au, within the current boundaries of EL9958. The location of this anomaly is in the south western corner of the licence and is possibly a northeast extension of the Piccininny and Three Peaks Prospects located on the boundary of EL9958 and SEL 8665.

The Trump mine is located in the northwest of EL 9958. The mine workings comprise a shaft, tunnel, cross-cut and winze, carried out by Mr. M. Barker from early 1946 – 1950. One load of 15.6 tonnes was crushed and returned an assay of 31.1g/t Au. A review of the Trump Mine workings by Geopeko, at the request of Mr. H. DeVerrine, was conducted in 1988, then held under MLC 17, and originally under ML106E, jointly by Adelaide Petroleum and Mr. H. DeVerrine. Geopeko as part of their review, collected 21 samples
from both underground workings and surface outcrop for analysis. All results were disappointing with assays generally only slightly elevated above the background levels. The geophysics of the area was assessed, and a subtle flexure in the residual magnetic intensity contours was identified in the vicinity of the ironstones. A reconnaissance magnetometer traverse comprising two lines was carried out over the main ironstone, the line spacing was 50m apart and was 200m in length. The first line indicated no anomaly, while the second over the ironstone encountered a marked increase in readings. Geophysical modelling of this second line indicated a limited potential for the prospect.

The Great Bear Mine is located in the central north of EL 9958, and the main workings have targeted an ironstone at the northern end of a low ridge striking north west. The workings consist of an adit, which penetrates under the ridge to the hematite/sediment contact. There are also some large cuts into the ridge on the northern side from which several hundred cubic metres of hematite and sediments have been removed.

During the period March 1988 to March 1989 exploration on EL 9958 was conducted by Metana Minerals N.L. in a joint venture with Allender/Leburn under EL 5730 ‘Great Bear South’, this EL covers the southern area of the current EL 9958. Work conducted by the partners included: Photogeological interpretation which revealed the southern region of EL 9958 to have no outcrop or obvious photo lineaments. An aeromagnetic interpretation was made from data purchased by Metana from Austirex International Limited. Austirex conducted an aeromagnetic survey between June and July 1984, the flight line spacing was 200m with tie line spacings at 4000m and sample intervals of 30m. The results from this interpretation indicates a number of east north-east trending beds, with a north east trending structural break and associated splays east of the current EL 9958. Soil sampling was also carried out under MCC’s536 – 587 as part of a separate joint venture between Metana Minerals N.L. and Roebuck resources ltd. The samples were collected at 80m spacings around the MCC boundaries. 120 samples were collected and returned results indicated no anomalous values.

During 1988 Asarco Gold Pty. Ltd., a wholly owned subsidiary of Asarco Australia Ltd., explored in the northern region of the EL 9958, under MCC’s 223 - 225. Exploration work included lag sampling over the Great Bear mine and White Ridge regions, located in the central north of EL 9958. 75 samples were collected on a 200m x 25m grid. The results revealed a Bi anomaly over the Great Bear ridge which decreased rapidly to the south and a slightly slower change to the north. The highest Bi and Cu values were recorded at the top of the ridge on the shear zone, and the Cu values were also high and showed strong positive correlation with the Bi anomaly. Au values were uniformly low. Rock chip sampling was also conducted, with 21 rock chip samples collected along the Great Bear ridge with the best results returned from hematitic sediment adjacent to the mine, Au values were 2.63ppm.

Asarco continued exploration in EL 9958, under MCC’s 223 – 225, during 1989. Exploration work included: infill gridding of 1.2 line km during March. Soil sampling was also conducted with 72 samples being collected at 25m x 25m spacing to give infill coverage of the geochemical anomaly identified in 1988. The results showed a wide dispersion for Au, Bi and Cu down slope from central zones corresponding to ironstone
outcrop. A ground magnetic survey was conducted at 25m line spacing with 10m station spacing over the anomalous area. The results were found to be complicated and tended to be strongly influenced by two large single point lows of unknown reliability. There appeared to be at least two magnetic horizons that may be the north and south limbs of a fold structure, supported by the soil sampling. Three RC holes (TRC 34, 35 & 38), totalling 390m were drilled during October and November to test coincident lag anomalism, outcropping ironstone and historic workings. All holes were void of ironstone intersection or any alteration. Assay results for the holes were low, and from the results it was concluded that there was little potential for significant mineralisation below the geochemical targets outlined during 1988.

During the period 1995 – 1996, the three Asarco RC drill holes were rehabilitated and the sites cleaned up. A detailed aeromagnetic survey was flown by World Geoscience MCC223 is located just inside the survey area, and the Great Bear ironstone shows a coincident magnetic anomaly. Wiluna Mines Limited undertook a ‘Review of Past Exploration, Work programmes and Budgets for the Wiluna Joint Venture Tenements’. This in-house document noted that the three Asarco RC drill holes may have been targeted incorrectly to intersect the ironstone.

An application for renewal of MCC233 was lodged on 13th June 1997 and was granted for a period ending 15th September 2002, when Giants Reef decided to surrender the Claim rather than apply for another renewal.

During the first two years of tenure Giants Reef conducted an assessment of the geology, structure, geophysics and previous exploration work over the tenement. Whilst the tenement does not contain any significantly large deposits it includes a number of prospects which form strike extensions to more notable prospects, namely the Lone Star Mine workings. Prospects within the tenements examined during the year included Great Bear (192.1 oz), Trump (4.0 oz) and the Mineral Wealth, Central and Eastern Prospects. The extensions of the Piccaninny and Three Keys Prospects were also examined.

A review the airborne magnetics over the Licence suggests a strong structural correlation with clusters of ironstones and the three main gold camps (Caroline, Burnt Shirt and Lonestar) with areas comprising conjugate sets of major west northwest trending faults (thrust faults?) and north east trending faults. Further interpretation has highlighted target areas having favourable structural-geological-magnetic signatures, which warrant further investigation. These areas do not appear to have been adequately tested by either geochemistry or drilling by previous explorers.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.
6.14 EL10113 IVORY

Exploration License 10113 was initially applied to cover a prospective area of land host to many mine workings (listed in table four) and the more immediate surrounds of the Golden Key mine (production 10.8t @ 44.4 g/t Au) and the Lone Star mine (production 9983t @ 17.6 g/t Au). Both these mines are surrounded by Mineral Claims and Leases, which cover approximately 20% of License area and will therefore not be covered by this report.

EL 10113 encompasses a large quantity of mine workings and prospects, which are listed in table 2, and will be reviewed individually.

Table 2: Mine workings and Prospects of EL 10113.

<table>
<thead>
<tr>
<th>Mines</th>
<th>Prospects</th>
</tr>
</thead>
<tbody>
<tr>
<td>True Blue</td>
<td>Explorer 205</td>
</tr>
<tr>
<td>Copper Head</td>
<td>The Aris</td>
</tr>
<tr>
<td>Mint</td>
<td>TC40 / Budgie</td>
</tr>
<tr>
<td>Aga Khan</td>
<td>Austin</td>
</tr>
<tr>
<td>Memsahib</td>
<td>Warwick Castle</td>
</tr>
<tr>
<td>Iris</td>
<td>And including five unnamed prospects.</td>
</tr>
<tr>
<td>Yellow Flame</td>
<td></td>
</tr>
<tr>
<td>Mammoth</td>
<td></td>
</tr>
<tr>
<td>Three Ways</td>
<td></td>
</tr>
<tr>
<td>Little Wonder</td>
<td></td>
</tr>
</tbody>
</table>

TC40 / Budgie Prospect

Prior to 1973 no exploration records exist in the library of Centralian Minerals Limited. ADL through Nobelex, in 1973 conducted an aeromagnetic survey over then existing EL 96, this led to the discovery of the Budgie magnetic anomaly. Nobelex then established a local grid system over the magnetic anomaly, and in 1974 they conducted a ground magnetic survey on 100m line spacings with a 25m or 50m sample interval. The anomaly was defined as a small intense anomaly, initial interpretation suggested a body of depth to top of 40m, width of 60m and dip of 81° S. Specular hematite outcrop is located 60m west of the Budgie magnetic centre.
A small Jacro drilling traverse was drilled across the anomaly. Six holes, totalling 33m were drilled. Results defined the top of a quartz-hematite body, intersected in three holes, with a well defined alteration zone of ferruginous-sericite sediments. Au assays peaked at 5 g/t in ironstone without Cu or Bi support. A hanging wall shear zone to the ironstone was also recorded. These results warranted further drilling, therefore four diamond holes were drilled, totalling 554.5m. All drill holes returned anomalous Au assays with the best being, BGDH-461 1m @ 6.4g/t Au from 20m, BGDH-463 1m @ 18g/t Au from 51m, BGDH-473 2m @ 2.0g/t Au from 66m and BGDH-474 4m @ 0.5g/t Au from 61m.

In 1989 a further six RC holes (BGRC-001 – 006) were drilled, totalling 926m. The holes were drilled to the south as reinterpretation suggested cleavage and the ironstone dipped to the north. The holes were drilled with the aim to test the eastern extent of the ironstone. Best result returned was BGRC-001 2m @ 2.6g/t Au from 19m, but was interpreted to be within quartz veining. BGRC-003 & 004 were probed with the downhole magnetometer, results determined that the intersected magnetite-hematite system is probably responsible for the Budgie magnetic anomaly. During 1989 a BLEG stream sediment geochemical survey was conducted over the area. A total of 19 samples were taken, with returned results peaking at 14ppb.

Kevron, at the request of Normandy Tennant Creek (NTC), flew an Airborne Magnetics Survey in October 1998. Survey specifications were a 40m sensor height, 50m line spacing on a north – south line orientation with 7m in line sample spacing and elevations were recorded every seventh sample for digital terrain modelling. The survey indicated a greater level of structural detail could be delineated than from earlier available surveys.

NTC conducted an environmental audit covering all historical disturbances in the Tennant Creek mineral field during 1998. The audit located and detailed all occurrences of substantial disturbance including mine workings, tracks, dumps, drill holes, excavations, buildings and rubbish.

A detailed review by NTC was conducted over the Tennant Creek leases including ML C210. Historical exploration information was compiled and all geophysical, geochemical and geological information was assessed. Potential tonnage for an ironstone body(s) at the Budgie prospect based on exploration results was calculated at 560,000 to 688,000 tonnes. Further geophysical modelling of the two ironstone bodies suggested that they have a maximum potential tonnage reduced to 350,000t of ironstone, which is based on the potential magnetic mass, and does not include that attributed to specularite.

True Blue Prospect

Historic workings on the True Blue prospect include, numerous small pits and costeans and four shafts. All pits and costeans, hematite and ferruginous sandstone outcrops had been sampled prior to 1963 (exact date not known), with results indicating that ore is limited to the bed of brecciated ferruginous sandstone, but only where intersected by north – south fracturing. Best assay result returned was 10dwts/t.

During the period 1963 – 1965 exploration work conducted included: a magnetic survey, specifications unavailable, results of this survey revealed intense, localised variations in
vertical magnetic intensity over outcropping and float ironstone, but did not indicate any
significant extension of the ironstone either in depth or to the east or west; Wagon drilling
was designed to sample the ironstone and adjacent ferruginous sediments and to
delineate the extent of a north – south shear zone. Five holes were drilled (SWDH 496 –
500), totalling approximately 210m. Assay results returned were trace only with a highest
value 1.22m @ 3g/t Au from 10.36m in hole SWDH500.

In 1987 National Gold NL collected dump samples from three dumps, best results were
5.3g/t Au.

In 1998 three RC holes (SATB 1 – 3) were drilled by Sabminco NL, the holes were drilled
declined to 60˚ to intersect hematitic shales/siltstones. All three holes intersected
hematitic shales/siltstones with SATB 1 drilling 18m of specular hematite from 15m,
results returned were not encouraging, with the best result being SATB 1 1m @ 0.08ppm
Au from 11m.

Mint and Memsahib Prospects

Orientation sampling was carried out in the Tennant Creek mineral field in the period 16 –
18 December 1987. The objective was to determine the parameters for geochemical
search technology which might be used in exploration for gold in the area. Samples
collected from the Mint prospect (Mint), reflect a strong discrete anomaly. The areal extent
of the anomalous dispersion is generally greater for soils although anomaly contrast
appears stronger for lags for Au and Bi. The best anomaly shown is by Cu in soils, where
the total dimensions are in the order of 100m x 200m with very well defined central peak.

In 1988 Asarco Australia Limited conducted exploration work, which included: a detailed
geological interpretation of the Mint area, identifying a significant alteration zone;
Geochemical lag sampling over the Mint block of tenements. Line spacing was 100m with
25m sample spacing over the Mint alteration zone. Results confirmed the geological
interpretation with a broad Au, Cu and Bi anomaly covering the west north-west trending
shear zone, and continuing through to the Aga Khan workings further south; Detailed rock
chip sampling was conducted, 90 samples were collected with assay results returning six
samples >1.0ppm, the highest value being 3.22ppm Au. Numerous other samples
returned better than 0.25ppm Au, with high Bi up to 3050ppm and Cu up to 6550ppm.
The best results were generally from brecciated ironstone or hematitic sediments. Asarco
also conducted drilling in April of 1988. Nine RC holes were drilled, totalling 532m, to test
the strike extent of the Au, Cu and Bi anomalies defined by the soil and lag sampling. Two
vertical, and the rest inclined at 60˚ to the north, holes were drilled over a strike of 80m.
Seven of the holes intersected ironstone and/or alteration assemblages, the two that failed
to intersect ironstone are believed to have been drilled below the plunging body. Best
results returned were from TCRC19 1m @ 1.0g/t Au from 39m, this was from the furthest
down plunge of all holes indicating the possibility of economic mineralization at greater
depth. A detailed aeromagnetic and radiometric survey was flown by Aerodata Holdings
Limited. The survey was flown on a line spacing of 200m, flight height of 60m.

Asarco continued exploration work in 1989, which included, 11.4 line km of infill gridding,
together with 1:1000 geological mapping of the previously unmapped Mint northwest area.
32 rock chip samples were collected while mapping, with best results received 0.01ppm Au and 51ppm Cu. A ground magnetic survey was completed, totalling 12 line km. The magnetic profile from the main anomaly identified is consistent with a northerly dipping body (assuming normal magnetization), therefore not drill tested by the previously drilled holes. Further zones of complex magnetic anomalies exist with one a possible east south-east extension of the major ironstone, the southern part has an east west strike and appears to be reversely magnetized. A more significant magnetic anomaly is centred in an area of no ironstone outcrop. This anomaly is complex but appears to trend east west, whereas the mapped structure in the area trends north-west south-east. Drilling of seven RC holes (TCRC27-30,36,37 & 42), totalling 626m, was conducted in October 1989. Drill holes TCRC27, 28, 36 and 37 tested the Mint alteration zone and its eastern extent, no anomalous results were returned. Drill holes TCRC29 and 30 tested the historically exploited Memsahib mine and its eastern extent. Results from TCRC29 support the observation that the Memsahib ironstone body and associated mineralisation have limited strike length. Intersections in TCRC30 support the observations that the ovoid bodies mineralisation developed in sheared kaolinised mudstone which bounded the ironstone body. Assays from TCRC42 showed 2m @ >1g/t Au mineralisation within sheared siltstones at the southern contact of the target ironstone.

Asarco continued exploration work in 1990 which included: seven RC holes were drilled, four (TCRC43, 43A, 43B & 44) were drilled to follow up the intercept of 2m @ 1.56 Au. Best results returned a maximum intercept TCRC43B of 2m @ 0.17g/t Au and 330ppm Bi from 48m and Cu 240ppm over 2m from 60m. Three holes (TCRC45 – 47) were drilled at the Memsahib workings, best results returned were, TCRC45 2m @ 24.8g/t Au from 79m, TCRC46 2m @ 1.10g/t Au from 34m with 16m of 0.28% Cu from 38m.

Asarco continued exploration work in 1991, which included work predominately at the Memsahib area. A detailed ground magnetic survey was conducted with the aim of locating other magnetic anomalies along the east south-easterly shear zone. The survey was conducted on a 25m line spacing with station spacing of 5m. The survey identified one distinct anomaly and several subtle anomalies. Two RC holes were drilled (TCRC60 & 61); best results returned were TCRC60 2m @ 0.161 g/t Au, 465ppm Cu and 118ppm Bi. TCRC61 2m @ 0.011g/t Au, 252ppm Cu, <1ppm Bi.

During 1994 rock chip sampling was undertaken, samples of the mullock dump at Memsahib were taken to ascertain if the dump contained a grade of mineralisation which might be recoverable. Samples MS1 – MS5 were collected but returned no favourable results.

During 1995 restoration of the Asarco grid was completed, three rock chip samples (113438 – 113440) were taken from outcrops around the Memsahib mine and two others (113441 & 113442) from crumbling ironstone wall-rock in a pit in the same area. Two diamond holes were drilled (MSD1 & MSD2), these holes were drilled to locate ore adjacent to, and below, the Memsahib mine workings, Au was found in both holes although not at ore grade.

During 1996 a detailed Airborne Geophysical Survey was engaged by World Science corporation, with specifications of north – south lines at 50m spacings, and flying height of
50m above mean terrain. The data showed a strong magnetic anomaly linking the memsaahib, Hilltop and Mint prospects.

Further rock chip sampling was undertaken in 1997, three sets of old workings were investigated and rock chip samples taken. Assay results for two sets of old workings were low. The third prospect, where Asarco had returned sample results of up to 3.2g/t Au, returned assays with only some >1g/t, and they were 1.94 and 1.84g/t Au, with low Cu and Bi. Surveying was also conducted in 1997, position fixes were made on several widely separated grid pegs and claim corner posts.

In July 1998 a 1gm Au nugget was found by Kurinelli prospector Jimmy Hooker.

Aga Khan Prospect

In the 1960’s under the original name ‘Iris’ the lease was held under option by Australian Development NL. It is believed that some shallow holes were drilled prior to the relinquishment of the lease, but no records are available.

Exploration was conducted by National Gold NL has included: geological mapping, rock chip, dump sampling and an airborne magnetic survey. No prominent features were delineated by this survey, and only low Au values, the highest being 0.09 g/t Au, were returned.

During 1988 the area was mapped to 1:1000 scale to evaluate the prospect and also to determine the extent of any mineralisation and alteration. This mapping revealed an ironstone lode some 70m in length and trending north west lying within a sheared zone of Warramunga Group sediments, minor chlorite was recorded in the surrounding sediments. Geochemical lag and rock chip samples were taken over the area. These were analysed for Au, Cu and Bi. Although the lag results showed the area to be anomalous the rock chip samples taken around the workings have not supported the former. A large area has been flown by Aerodata for magnetics and radiometrics, of which the Aga Khan area wakes up an integral part.

Mammoth Prospect

The Mammoth area was explored in 1988 by J.F.Allender and A.F.G.LeBrun under MCC 789, this included: gridding of MCC 789 on a 20m x 40m grid. A ground magnetic survey was undertaken over this grid, results showed a small high amplitude anomaly coinciding with outcropping ironstones; a scintillometer survey was conducted over the grid and the results show no anomalies; a program of detailed channel sampling was conducted early in 1988. 138 samples were collected and subsequently assayed. Although the results were generally low, all but 10 of the samples returned Au values greater than the threshold. This is encouraging given the sampling was deliberately representative.

During the first tenure year Giants Reef conducted a number of reconnaissance trips to the Licence area. Targets of particular interest within the EL include the TC40/Budgie, The Aris, Warwick Castle and Austin magnetic anomalies. Other areas of interest include the Mammoth mine workings. Giants Reef undertook a preliminary assessment of
magnetics in the eastern part of the Tennant Creek goldfield. The TC40/Budgie causative body was modelled and interpreted as a steeply-dipping ellipsoidal body with a depth to top of 40m and extending down plunge in a south-easterly direction to 1600m below surface. Previous modelling by Normandy interpreted the causative body as two small bodies side by side, with maximum depth extending to less than 300m. Consequently further modelling is required to resolve the geometry of the magnetic anomaly.

In the second tenure year a literature and data search of exploration undertaken by previous companies indicates that drilling at the TC40/Budgie target encountered minor but broadly dispersed low level gold mineralisation in an ironstone body and which appears at the surface as a small outcrop of specular hematite. It was considered that a re-interpretation of the drilling and the magnetic data may produce potential drill targets. During the second tenure year the tenement over the TC40/Budgie target (ML C210) was surrendered and consequently any future exploration of the TC40/Budgie anomaly would be explored in the underlying EL 10113. The underlying geology of the EL is interpreted as comprising Warramunga Formation units, predominately siltstone and greywacke. This formation is host to virtually all the magnetite-haematite IOCG mineralisation and ore bodies in the Tennant Creek goldfield.

In subsequent years of tenure all previous geochemical and drill data over the EL was collated and integrated into the Company’s GIS and MicroMine database for technical review. A number of prospects not covered by existing Mineral Leases and Claims were identified, including Aga Khan, Memsahib, TC40/Budgie, Mint and True Blue. These prospects were reviewed for shallow oxide Au potential. Vacuum Au anomalies were investigated over the Licence area utilising the GIS database. These geochemical anomalies will be taken into account when reviewed for oxide Au potential.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.15 EL10114 McDougall Ranges

Historical exploration work in EL 10114 has been concentrated around the Lone Star Mine workings which is covered by a series of MLC’s (outlined in section 4.8) and is therefore not covered in this report. The Explorer 92 Prospect was identified in the south west region of EL 10114 but no exploration work ahhs been conducted over this prospect.

During the years of tenure under Giants Reef, exploration work involved in the licence area was concentrated around the Lone Star Mine workings, therefore the remainder of the licence has taken a lower priority. A review of all historical exploration work, geophysical data and drilling data from the Lone Star area has provided the basis to conduct a detailed review in the proceeding tenure year, with the aim of generating shallow RAB targets within the prospect area.
Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

**6.16 EL10118 ROCKY RANGE**

Exploration License 10118 was initially applied to cover a prospective area of Warramunga Formation, which includes mine workings such as Koala, Golden Mile, Lone Star, Renate and prospects such as Dolphin, Squid, C39, C21, C310, R27 (Explorer 89, C19), C17 and Welson Fold.

Dolphin Prospect

Australian Development Limited (ADL) conducted exploration work in the eastern most region of EL 10118, as part of its work associated with exploration over mine workings such as New Hope, Comstock, Tunnel, Red terror, Great Eastern and Three Thirty. The work conducted covered areas of EL 10118 in particular the Dolphin Prospect, and includes: geological mapping; percussion drilling, core drilling, geochemical and geophysical surveys

In the 1980’s portions of the licence were held by Peko-Wallsend Operations Limited, who conducted geological mapping and geophysical programmes over the area.

Parts of the licence were included in an area covered by a high resolution airborne magnetometer survey flown by Austirex Limited in 1990. Data from this survey was used in the compilation of contour plans at 1:25000 and 1:10000 scale. Detailed interpretation of this data by Poseidon Gold Ltd and a consultant geophysicist, recognised six subtle magnetic anomalies, none of these anomalies coincide with known mines, previous prospects and no surface features of significance.

In 1992 Poseidon Gold completed a detailed structural and stratigraphic mapping at a scale of 1:12000, using detailed aerial photographs and extensive field traverses. A regional gravity survey was completed by PosGold with the primary objectives of determining the distribution of major structures and ore deposits within the Warramunga sediment pile. The survey did not define any specific features which can be related to mineralised structures. In early 1992 PosGold undertook detailed interpretation of aerial photography and a regional geomorphological regolith mapping survey. The survey involved integration of aerial photograph mapping and interpretation with colour TM imagery and field traversing. In mid 1992 a vacuum drilling program was completed over the south west block of the licence, with the aim of testing the geochemical signature of the bedrock and to map the sub-cropping and sub-surface lithologies. 104 holes, totalling 473m were completed on a 250m x 50m spaced grid. The geochemical results were generally low with Au peaking at 8ppb and Bi peaking at 29ppb, other isolated values include 23ppm Cu and 5ppb Au.
Renate and Golden Mile Prospects

No mining of the Renate mine has been conducted since 1953, records of production for the mining previous is unavailable. The workings at Renate comprise a shallow open cut slot and adit system located on the footwall of the quartz-specularite-hematite body, with several other shallow pits, trenches and costeans extending west along the shear.

Exploration was conducted over the area by Roebuck resources NL during 1991 – 1992, work included: a photolineament evaluation of the Renate licence; a soil sampling survey around the Renate mine and area west of the Golden Mile, results returned defined four Au, Cu and Pb anomalies.

North Flinders Mines (NFM) conducted exploration work during 1992, which included an Airborne Magnetics Reinterpretation comprising the production of a variety of linear and non-linear greyscale and pseudocolour magnetic images including shaddowgrams and K, Th and U colour composite images. The aerodata digital datafiles were reformatted, gridded and produced as contoured plots at 1:100000 and 1:25000 scale.

During May 1993, NFM continued exploration, which included: geological mapping and rock chip sampling in the Golden Mile area at 1:2500 scale. 19 rock chip samples were collected, with results returning no anomalous values (the highest being 0.14ppm) a number of samples contained highly anomalous Bi.

During 1994 PosGold continued exploration in the Renate/Golden Mile region of the license, work included: Survey Gridding, totalling 4.3 line km’s of pegged grid, consisting of 100m – 200m spaced traverses, four short north – south lines were pegged around the Golden Mile area and two longer north – south lines pegged around the Renate area; Bedrock Geochemical Survey – a vacuum drilling program was undertaken over the gridded area with collars at intervals of 25m – 100m. 91 holes, totalling 543.7m. Results showed most lithologies to be turbiditic units of the Warramunga formation, with abundant siltstones and greywackes. Mineralisation intersected at Renate was limited with maximum values of 2ppb Au, 24ppm Cu and 4ppm Bi.

During the period February 1995 – October 1996 Normandy Tennant Creek (NTC) explored for Tennant Creek style Au-Cu-Bi ironstone related mineralisation. Exploration work included: Detailed Data Review – this review defined only lower order geochemical anomalies; Geological Mapping and Rock Chip Geochemistry – geological mapping was conducted at 1:5000 scale. A total of 35 rock chip samples were collected with subdued results. Peak Au values were returned from samples taken near the old Renate workings, up to 0.47g/t Au. Other peak values were returned in sheared sediments bounding a small ironstone knob west of Renate, with results up to 120ppm Cu, 25ppm Bi and 5ppm Co; Vacuum Drilling – 158 vertical holes, totalling 790m were drilled over a 100m x 50m grid opening to 100m x 100m in the east. Peak geochemical values returned included 385ppb Au, 25ppm Cu, 121ppm Zn and 8.09% Fe, other results included 73ppm Cu, 100ppm Pb, 9.46% Fe and 8520ppm Mn; RAB Drilling – A 3 hole RAB program was completed, totalling 153m. All holes were declined to 60° at 180°. The results returned were very subdued; Ground Magnetic Survey – a ground magnetic survey was completed in March 1996 to accurately map structures related to the Rocky Range Fault System and
define possible zones of dilatancy, the survey was done on 50m spaced north – south lines, for a total of 40 line km’s. They survey defined the Rocky Range Fault and associated splays. Overall the magnetic data is extremely flat and regionally of low intensity, with the exception of a magnetic high spatially corresponding to the Renate Hill workings; Sacred Site Clearance – clearance for a planned RAB drilling program was approved on 4th June 1996, the clearance outlined three sacred sites, one of which was located in the Renate Hill vicinity, and the proposed drilling program was abandoned.

During first year of tenure a reconnaissance-sampling trip of some jasper haematite outcrops in the eastern most block of the Licence area in June 2000 did not reveal any gold anomalies in eight rock sample collected. Highest Bi assays returned were 10ppm and 16ppm. Research and review of past reports and the geology and magnetics of this Licence area did not produce any immediate high priority targets in this Licence area.

The exploration work conducted during the second year of tenure focused on developing exploration models for the EL. The underlying geology of the EL is interpreted as comprising mostly Yungkulungu Formation which interturn is a member of the Ooradidgee Group (Flynn Group). The latter is intruded by series of Channingum Granite bodies. Warramunga Formation comprises less than 36% of the tenement and these are dominated by the high magnetic members (siltstone – greywacke) in the south and sandstone dominated units in the north. This formation is host to virtually all the magnetite-haematite IOCG mineralisation and ore bodies in the Tennant Creek goldfield.

Exploration work during subsequent years was dominated by reassessing geological models. The discovery of the non-magnetic, haematite-rich Chariot deposit resulted in a broader exploration model by Giants Reef, which allows for the presence of extensive ore grade mineralisation hosted within primary, non to weakly magnetic (haematite-rich) ironstones. Discoveries by Giants Reef of high grade mineralisation associated with haematite dominant ironstone at Marathon and Billy Boy, although small, are further examples of this style of mineralisation. The potential for the haematite ironstones to host mineralisation in non magnetic areas essentially opens up the whole Tennant Creek goldfield to new target review. A ground gravity survey was conducted at the southern end of the license and centred over the New Hope group of tenements. Gravity station readings were predominantly within the New Hope mineral leases however the survey extended into EL 10118. A reconnaissance trip to the Golden Mile prospect within the eastern border of the EL was made at the end of the third tenure year. The prospect was geologically and structurally inspected with the view to being a strike extension of the Perseverance prospect (within EL 10370, east). Giants Reef entered into a JV with Meteoric Resources on EL 10370 in an effort to accelerate regional exploration in this area and it is hoped that this work will assist developing exploration models to apply to EL 10118.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.
6.17 EL10124 SPEEDWAY

Many historical mine workings and prospects exist in EL 10124 and are outlined in table 6:

Table 6: Historical Mine workings of EL 10124.

<table>
<thead>
<tr>
<th>MINE WORKINGS</th>
<th>Operation Years</th>
<th>GRADE (g/t)</th>
<th>PRODUCTION (oz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irish Emblem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shamrock</td>
<td>1934-39</td>
<td>4.8</td>
<td>9.6</td>
</tr>
<tr>
<td>Burnt Shirt</td>
<td>1934-59, 66</td>
<td>18.8</td>
<td>2,025.5</td>
</tr>
<tr>
<td>Wedge/Golden Boy</td>
<td>1950-53</td>
<td>9.3</td>
<td>345.7</td>
</tr>
<tr>
<td>Leichardt One</td>
<td>1935-48</td>
<td>24.1</td>
<td>891.8</td>
</tr>
<tr>
<td>Ace High</td>
<td>1941-42</td>
<td>64.4</td>
<td>113.4</td>
</tr>
<tr>
<td>Leichardt Two</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leichardt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kathleen/Caveman</td>
<td>1937-41</td>
<td>20.5</td>
<td>1,154.2</td>
</tr>
<tr>
<td>Ortelle Star</td>
<td>1950</td>
<td>8.4</td>
<td>9.1</td>
</tr>
<tr>
<td><strong>PROSPECTS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cassawary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lynton</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In 1937 the Burnt Shirt to Kathleen areas, was subject to a ground magnetics survey, with one anomaly being defined between Burnt Shirt and Ace High at a modelled depth of 60m. The Bureau of mineral Resources (BMR) tested the anomaly with one drill hole in 1964, the hole intersected barren quartz magnetite ironstone between 112m and 128m.

In 1967, the BMR drilled a diamond hole (DDH-001) to test an anomaly known as Burnt Shirt Anomaly 4. The hole failed to intersect any magnetic material. A second hole was drilled to investigate a small outcropping magnetic boss and intersected a thin band of ironstone at approximately 70m depth. The BRM resurveyed the area in 1967 and on the
basis of new results drilled a further two holes. These two holes intercepted massive ironstone at depth but no significant assays were returned.

As a result of the 1957 aeromagnetic survey over the Tennant Creek area, the BMR defined a series of magnetic anomalies, two located east of the Ace High mine workings. The during 1971, BMR drilled one diamond hole (DDH14) into the eastern most magnetic high and intercepted 11m of a quartz-magnetite lode between 267.7m – 279.2m, with the best assayed returned at 1.6m @ 0.6ppm Au, 0.16% Cu and 0.18% Bi. Subsequently both anomalies were gridded and geologically mapped at 1:3000 and a ground magnetic survey was conducted. The survey indicated the eastern most anomaly required further testing and, the source for the western most anomaly was located 260m below surface. GeoPeko drilled another diamond hole (DDH1) inclined at 75° in to the anomaly but failed to intersect the magnetic source or economic mineralisation.

Peko-Wallsend Operations Ltd (GeoPeko) explored the area covering the Burnt Shirt leases, under EL 2535 between the period 1980 – 1986. During that time the exploration that was conducted included; compilation of topographic, geological, geophysical information onto 1:50 000 scale plans; low level airborne magnetic and gravity surveys in 1984; ground magnetic surveys over four anomalies identified from the 1984 survey and compilation of a geological map.

During September 1985, Geophysical Prospecting Analysis Pty Ltd, conducted a short field survey program, with the aim of upgrading the magnetic data on certain prospects including the Burnt Shirt and Ace High Prospects within EL 10124. The survey involved a pair of long central traverses in a north south orientation. Results from the survey indicated that the anomaly at Burnt Shirt could be readily split into three. One is shallow, corresponding to depth extent of the surface ironstone. The other two are situated to the east and west of ironstone.

Nobelex NL and Australian Development Limited (Poseidon Gold Limited) during 1985, conducted exploration work in EL 10124, under a series of MCC’s 175 – 178. 12 Percussion holes (BSP1 – BSP12), totalling 587m were drilled. No significant assays were returned from these holes.

During 1986 Nobelex and Poseidon, conducted a ground magnetic survey over the Burnt Shirt Prospect area. Consultant geophysicists identified deep drill hole targets.

During 1987 the deep drill targets generated in 1986 were drill tested. 6 holes (BSCRC1 – BSCRC6), totalling 1457m, were drilled, and one further RC hole (BSD7), totalling 312m, and extended by diamond drilling to 347m was drilled in 1988. Assays returned from these holes recorded some encouraging mineralised sections and the diamond drill core intersected notable amounts of visible native Cu. Significant intersections are presented in table 7:

Table 7: Best results from drilling conducted in 1987.

<table>
<thead>
<tr>
<th>Hole ID</th>
<th>From (m)</th>
<th>To (m)</th>
<th>(m)</th>
<th>Au (g/t)</th>
<th>Cu (ppm)</th>
<th>Bi (ppm)</th>
</tr>
</thead>
</table>

EMMERSON RESOURCES LTD
Other work conducted on EL 10124 included the installation of a lockable gate at the Burnt Shirt historical mine workings, to upgrade safety, and to close all other access to mine workings in the area.

In 1988 five grab samples from the Leichardt Two mullock stock piles were collected returning an average grade of 5.4 g/t Au.

Poseidon conducted further exploration in the area, which included studies that focused on the nature of the structural control on ironstone and Au-Cu-Bi mineralisation throughout the region. During the period 1991 – 1993 Poseidon conducted a regional gravity survey, with the aim to aid in refinement of regional geological interpretation and detection of structures possibly associated with the emplacement of ironstones and associated mineralisation. During 1992 the services of Australian Photogeological Consultants Pty Ltd was contracted to undertake a detailed Photogeological map in the Tennant Creek district.

During August 1996, all Burnt Shirt and Ace High prospects were subject to a rock chip sampling program. A total of 249 samples were collected. Significant results included: 3.26 g/t Au, 50ppm Bi and 98ppm Cu immediately north of the Ace High prospect, peak geochemistry of 12.8g/t Au, 73ppm Cu, 110ppm Bi from Kathleen, 2.75g/t Au, 200ppm Cu, 280ppm Bi from hematite altered siltstone in workings, located east north-east of Kathleen and south of Ace High.

During the period 1996 – 1997 Normandy Tennant Creek (NTC) explored the area under MLC’s 211 – 216, 281 – 284, 431, 623 and MCC 175 – 178. The exploration work conducted included the drilling of 3 RAB holes at Kathleen and 2 RAB holes at Ace High. The 2 RAB holes at Ace High were targeted to test for mineralisation extending beneath a quartz-hematite ironstone. There was no sign of alteration in the drill holes and best results were KTRB-002 3m @ 0.015g/t Au, 16ppm Cu and trace (TR) Bi from 36m. Drilling at Kathleen was targeted beneath two shafts to test for supergene enrichment. Two holes were drilled under a shaft on the western slope of the Kathleen hill and one hole drilled under a shaft on southern crest of the hill. The best results returned were as follows, KTRB-003 9m @ 0.025g/t Au, 63ppm Cu, 76 (inc. 3m @ 112ppm) Bi from 18m, 3m @ 0.279g/t Au, 67ppm Cu, TR Bi, KTRB-005 3m @ 8.5g/t Au, 10ppm Cu, 77ppm Bi

<table>
<thead>
<tr>
<th>BSRC2</th>
<th>BSRC3</th>
<th>BSRC3</th>
<th>BSRC5</th>
<th>BSD7</th>
</tr>
</thead>
<tbody>
<tr>
<td>116</td>
<td>46</td>
<td>60</td>
<td>243</td>
<td>315</td>
</tr>
<tr>
<td>117</td>
<td>47</td>
<td>61</td>
<td>244</td>
<td>316</td>
</tr>
<tr>
<td>1 @</td>
<td>1 @</td>
<td>1 @</td>
<td>1 @</td>
<td>1 @</td>
</tr>
<tr>
<td>1.25</td>
<td>0.64</td>
<td>0.36</td>
<td>0.05</td>
<td>0.22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4.85%</td>
<td>9350</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1200</td>
<td>360</td>
</tr>
</tbody>
</table>
from 6m, 3m @0.277g/t Au, 7ppm Cu, 5ppm Bi from 9m, 3m @ 0.03g/t Au, 55 Cu, 83ppm Bi from 45m.

Exploration during the period 1997 – 1999 was conducted by NTC and involved an Airborne Magnetics Survey – the survey was flown by Kevron in October 1998, with a 40m sensor height, 50m line spacing on a north south line orientation with 7m line sample spacing. Review of this data reveals greater structural detail than can be delineated from the earlier 1984 GeoPeko airborne magnetic survey. Other work involved an environmental audit covering all historical disturbances in the Tennant Creek mineral field.

The Burnt Shirt anomaly was further modelled in 1999 by NTC, and defined as an ironstone at a depth to top of 100m and a mass in the order of 1.3Mt. It was noted that the drilling to date hasn’t defined the strike extent.

In 2001 the Burnt Shirt area was visited by Giants Reef as part of a more regional reconnaissance trip, and several warning signs were erected around historical shafts and workings, as part of the companies Duty of Care.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.18 EL10203 WHITE HILL BORE

In 1988, the CSIRO conducted a series of hydrogeochemistry (water sampling and trace element analysis) exercises in the Tennant Creek mineral field. The work was largely aimed at accumulating base data for the groundwater's of the district. It involved collecting samples of groundwater from stock bores, exploration drill holes, and underground water seeping into the mines that were active at the time, with the objective of using the analytical information to help pin-point target areas for further mineral exploration. The collected samples were analysed to a very high degree of precision at the CSIRO’s North Ryde (NSW) laboratories and, after allowances were made for a number of variable factors, it was possible to compare the final results with each other. In this work, levels of gold are measured in nano-grams of gold per litre (ng Au/L). A nano-gram is one billionth of a gram. Out of 33 samples collected and analysed in 1988, only a few were found to contain gold detectable by the analytical methods of that time. The WHITE HILL BORE water sample was one of these and, at 30ng Au/L, compared well with water samples from Warrego (40ng Au/L) and Peko (100ng Au/L), however no follow-up work was undertaken, despite recommendations to do so. A repeat sample was taken from the bore in July 2000. Analysis of this sample, using techniques much improved since 1988, gave a result of 129ng Au/L. This strongly corroborated the result of the sample taken 12 years before. A water sample was also taken from Middle Bore, 3km southeast of WHITE HILL BORE, and within EL 8879. This sample assayed 16ng Au/L, much less than the WHITE HILL BORE sample, but still rated anomalous.
In Giants Reef first tenure year, the 1998 AGSO aeromagnetic data was assessed and modelled over the WHITE HILL BORE area, however due to the lack of detailed resolution in this data, no encouraging bodies were delineated and therefore no specific drill targets were produced. The various magnetic features that were noted appeared to relate to lithological units along the granite-sediment contact zone and a more detailed ground magnetic survey was recommended in order to better define potential ironstone bodies/magnetic anomalies.

During the second tenure year Giants reef proposed a work program to drill a pattern of six shallow vertical holes around WHITE HILL BORE to obtain assay samples and geological information that could lead to locating gold mineralisation. The proposed exploration program was postponed during the term, due to the Company’s higher priority commitments on the development and mining of the Chariot and Malbec Deposits.

During the following tenure years all the historical drill and geochemical data over the EL was collated and integrated into the Company’s database and GIS.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.19 EL10312 HOPEFUL

The License was acquired to search for IOCG deposits and to evaluate the extent of mineralisation associated with the Quartz Hill Fault zone and Hopeful Star Extended shear zone.

Most of the exploration conducted over EL 10312 has been focussed in the northern region where the Hopeful Star and Hopeful Star East(Extended) mine workings occur. During 1971, Geotecnics Australia Pty Limited carried out a geological mapping program and ground magnetic survey over an area on the northern boundary of EL 10312 and around the Hopeful Star mine.

Tennant Creek Gold (TCGL) acquired the leases in 1987 and drilled three RC holes, totalling 220m, then conducted further exploration in 1988 under a joint venture with Metana Minerals. This work included geological mapping and the collection of 183 rock chips and 430 soil samples. The results outlined the present drainage pattern with the most elevated values originating from a ironstone mesa, which is near the Hopeful Star mine workings. Anomalous values from this work included 494ppb Au from soils. A 94 hole RAB drilling program, totalling 282m and a 93 hole vacuum, totalling 198m program was completed. Significant results returned from this work 18ppb Au at the Hopeful Star Extended area and 42ppb Au from drilling on the Gail grid, which is located on the Eastern boundary of the Licence. A 6 hole RC drilling program (HRC004-HRC009), totalling 241m was also undertaken. The results from the JV exploration program identified a bedrock gold anomaly. In 1990, TCGL conducted a 50 hole vacuum drilling program, totalling
100m, with the aim of defining the limits of the north-north east trending gold anomaly. Significant results from this work included 12m @ 3.8 g/t AU from 1m.

In 1991 Roebuck drilled a further 21 RAB holes, totalling 63m, to check previous results and this was followed up in 1992 by a 14 hole inclined percussion drilling program (HSG-P01 – P11), which totalled 570m. The aim of this program was to test the previously delineated bedrock gold anomaly east of the ironstone mesa. Drilling around the Hopeful Star Extended mine workings recorded anomalous values of up to 29ppb Au, 44ppm Bi, 114ppm Cu and 82ppm Pb and showed that the anomalous zone was some 25m wide and extended for over 150m within both EL 10312 and EL 8879. The mineralisation appears to be parallel the Hopeful Star Extended shear zone.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.20 EL10313 KODIAK

No historical exploration work on EL 10313 has been conducted previous to granting of EL 10313 to Giants Reef on 1st May 2003, due to an entirety of cover by Cainozoic sediments.

During the years of tenure under Giants Reef, exploration work involved a detailed review of all available data. With no outcrop present in the licence geophysical surveys provide the best analysis tool of assessing the prospectivity of the licence. Assessment and interpretation was undertaken of regional magnetic data that covers the licence, these images outline a subtle magnetic anomalous ridges in the southern region of the licence. The subtle magnetic anomalous ridge lies on the southern flanks of a large area of subdued magnetic intensity. These identified magnetic anomalous ridges provide a target for further exploration and interpretation. A more detailed geophysical survey is required to further define the anomalous ridge, with the aim of generating shallow RAB targets within the area.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.21 EL10324 PANDA

The Licence was explored by Uranerz Australia Pty Ltd (Uranerz) during the 1980’s under EL 1745. Uranerz explored the Renate prospect area utilising magnetic prospecting,
gamma logging, scintillometry, drilling and rock chip geochemistry in search of ironstone and unconformity related uranium mineralisation.

Between 1991 and 1992 Roebuck Resources NL (Roebuck) and North Flinders Mining (NFM) explored regions of the eastern half of the Licence under EL 7453. Exploration focussed on Renate prospect and a north west trending structural/shear corridor, which extends into EL10324. In 1991 Roebuck undertook photo-lineament evaluation and carried out mapping of ironstones and a “M” magnetic fraction surface soil sampling programme over the Renate prospect. This work extended into the eastern region of what is now EL10324. The soil sampling and rock chip sampling indicated four Au-Cu-Pb anomalies. Of these only anomaly “D” (7,828,450mN; 436,840mE GDA94) falls within EL10324 and this located within a north west structural corridor, 1.5 kms north west of the Renate prospect. Values of up to 3 ppb Au (+copper +lead) were found in conjunction with a small outcrop of hematite. Overall these were considered as low order anomalies. In 1992 NFM acquired aeromagnetic/radiometric data over the area and undertook a structural – geological interpretation over the area.

Between 1995 and 1998 PosGold explored the Licence under EL8947. PosGold explored the Licence for iron oxide copper gold deposits and carried out mapping, rock chip sampling and vacuum geochemical drilling. Results for this work were not sufficiently encouraging to warrant further work.

Exploration Licence 10324 was originally applied for by Giants Reef in 2004 to explore the extensions of the Quartz Hill and Mary Lane Faults which extend eastwards from the Lone Star and Mulga Hill group of prospects. The Licence is also considered highly prospective given its proximity to the Company’s Billy Boy deposit, which contains an inferred resource of 5,100 oz Au.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.22 EL10406 MONTANA

The Cats Whiskers mine is a small working in an ironstone body that forms the crest of a low ridge. The mine produced 99.17 oz Au from 381.37 tons of ore.

During the period 1935 – 1937 geophysical surveys were carried out by the Aerial Geological and Geophysical Survey of Northern Australia (AGGSNA) with the aim of identifying magnetic bodies. Results from these surveys were unavailable, although AGGSNA conducted drilling in the Eldorado area including Anomaly 3, which is located in the south west corner of EL 9403, during 1936. The results from AGGSNA No. 2 hole drilled on anomaly 3, encountered a 13m talc-carbonate-magnetite formation containing disseminated sulphides from 135m, Cu assays from this interval ranged from 0.38% - 0.88%.
Exploration work was conducted over the Eldorado area in 1951 by N.J. McMillan and A.H. Debnam. The work they conducted focused on geochemical prospecting for copper in the Tennant Creek Gold Field and included soil sampling over magnetic anomalies with 65m line spacing and sample intervals of 30m. The samples were only assayed for Cu. 80 soil samples and 220 bedrock samples were collected, with assay results averaging approximately 4ppm. The National Lead Company drilled two holes in this area, but neither encountered any magnetic material and the core was assayed with only background Cu results returned. It was concluded from these results that the potential for economic discoveries was low, and therefore further exploration wasn't recommended. Detailed soil sampling was conducted over selected targets, which included Cats Whiskers, with the aim of checking the reliability of the sampling interval from the first soil sampling program. The results from Cats Whiskers were high Cu values at the surface and an inference was drawn for the prospect from the more explored Peko and North Star deposits, that the Cats Whiskers outcrop can be expected to have mineralisation at depth. Two diamond holes were drilled over the Eldorado area with no results being in EL 10406; the results from this hole only returned background level Cu values.

Five diamond holes (DDH1 – DDH5), totalling 760m, were drilled under an agreement between Eldorado Tennant Creek Limited and Mines Branch, Northern Territory Administration. The holes were completed in August 1963. DDH1 intersected leached ironstone between 37m - 70m, with only rare hematite below this intersection. Results for DDH2 – DDH4 and assays for DDH1 – DDH4 are unavailable. DDH5 intersected the ironstone between 133m – 135m, best assays returned recorded background levels with the exception of the last 2m of the intersected ironstone where Cu values were 2.55%, the following 1m was logged as chlorite schist and Cu values were 1.1%.

Exploration work was conducted during 1973 by GeoPeko Limited, the project work was aimed at evaluating the causative body sizes and to estimate the completeness of exploration. Work conducted included the compilation and assessment of all historical data. Anomalies 4 & 5 were reviewed, anomaly 4 indicated the presence of two parallel zones of Cu mineralisation that have not been adequately defined, and either has the ironstone body. Anomaly 5 indicated that various lithologic types existed in the main body of the ironstone and warrant further work, the ironstone contains Au, Cu and Bi values which can be correlated into three pods within the main body, the intersections to date support the presence of a main body and smaller satellite deposits to the north and south.

Aquitaine Australia Minerals Pty. Ltd. Conducted a further review of the Eldorado area in 1973-74. The review outlined that the known bodies needed to be further defined by geophysical and geological methods.

An honours thesis was conducted, examining the geology of the Eldorado area of Tennant Creek by Malcolm Norris, and completed in November 1980.

During the period July 1987 to January 1988 a program of 16 shallow holes comprising 10 RC (CW3 – CW12) and 6 diamond (CW13 – CW18) holes were drilled to test mineralisation. Patchy economic Au and Bi mineralisation was intersected with best results; CW# 1m @ 36.9g/t Au, 0.04% Cu, 0.63% Bi from 47m; CW5 1m @ 17.1g/t Au, 0.27% Bi from 62m, 1m @ 193.8g/t Au, 0.02% Cu, 0.21% Bi from 63m, 3m @ 3.9g/t Au,
0.20% Cu, 0.05% Bi from 64m, 1m @ 10.0g/t Au, 0.13% Cu, 0.02% Bi from 67m; CW14 2m @ 25.4g/t Au, 0.06% Cu, 0.10% Bi from 132m; CW17 2m @ 4.6g/t Au, 0.10% Cu, 0.18% Bi from 52m, 1m @ 47.0g/t Au, 0.04% Cu, 1.16% Bi from 54m, 2m @3.9g/t Au, 0.13% Cu, 0.42% Bi from 55m; CW18 2.2m @ 6.2g/t Au, 0.07% Cu, 0.04% Bi from 90m; CW11 3m @ 38.4g/t Au, 0.05% Cu, 0.99% Bi from 110m; CW16 3.3m @ 2.5g/t Au, 0.15% Cu, 0.41% Bi from 89m

An honours thesis was conducted, examining the geology and genesis of the Eldorado Au-bearing lode by Harry S. Horvath, and was completed in January 1988.

During 1990 detailed geological mapping and rock chip sampling was conducted. The mapping area was covered with a 10m x 10m grid and the mapping was carried out by traversing along north–south grid lines and the geology was inferred between grid lines, producing a 1:250 geology plan. The chip samples were taken at 1m intervals and each sample was logged before assaying. The assays showed very thin and patchy surface Au, of generally low grade. The higher values returned were from the north associated with the gossan.

In 2003/4 Giants Reef assessed Normandy’s 1998 detailed aeromagnetic data and generated a number of low order magnetic anomalies within EL 10406. Giants Reef view the Licences as prospective for ironstone-related gold-copper deposits due to presence of favourable structures, subtle magnetic features, and because of their position between the high-grade Juno and Eldorado mines. 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 10406. The Licence area was assessed based on its prospectivity, targets and overall geological and geophysical potential.

During the second year of tenure Giants Reef conducted further exploration which included; MMP’s covering work planned in Eldorado Project Area (Eldorado Comstock Mineralised Corridor) were submitted to DBIRD in July and approved in August. Geophysical consultant Resource Potentials Pty Ltd was contracted in July to undertake geophysical data processing and interpretation work. In addition to prospect work, Resource Potentials requested to review the 1998 Kevron Nob-Line airborne magnetic data, and assist with compiling a systematic database of all the available geophysical data in the TC mineral field. A gravity survey covering some 1.7 km2 of the Eldorado Project Area including the Anomaly 4 and 5 magnetic anomalies and portions of EL 10406 was planned in July. The survey also included several outcropping ironstones including those at the Mount, Ellen M and Cat’s Whiskers prospects. Daishsat Geodetic Surveyors completed approximately 22 line kilometres of gravity using 40 m station centres and 80 m line spacing. Geophysical modelling and interpretation of the newly acquired gravity data together with previous magnetic survey data was undertaken by Lindeman Geophysics Pty Ltd. The gravity, magnetic and geochemical data was also provided to Resource Potentials for modelling and interpretation. The new gravity data revealed more subsurface information than the magnetic data and resulted in the delineation of some 11 gravity high anomalies, which were interpreted as potential ironstones and/or structures. A density of 1.8g/cc rather than 2.2g/cc was applied to the bouguer correction in an effort to remove the effects of terrain and make the data more interpretable. Bouguer corrections
use a uniform density over an area and the reality is that hills and gullies that produce topographic anomalies in the gravity data can be caused by rocks and regolith materials that have variable density across the survey area. Therefore, the Bouguer correction will not completely remove all terrain effect. Variable density Bouguer corrections can be undertaken, but this is a subjective process that may produce as many artefacts as it is trying to remove. RAB drilling commenced over the Eldorado Prospects in September and a total of 75 holes were completed for 1,929 meters. Of these, 7 holes (ELRB 59-65) for a total of 175 meters were sited in EL 10406. Drilling was broadly undertaken on a 50m x 50m grid pattern. The initial drilling program was designed to test the series of 11 gravity anomalies, some of which are coincident with magnetic anomalies (4 and 5) and numerous Au geochemical anomalies which lie along strike to the Eldorado Deposit. Approximately 40% of the initial designed program was precluded by the CLC, including the majority of the more highly ranked gravity/geochemical targets, due to their proximity to areas of topographical relief both within and proximal to a AAPA “Unconfirmed Recorded Sites”. These included gravity-magnetic anomalies associated with several outcropping ironstones (Mount, Ellen M and Cat’s Whiskers prospects).

Lithologies encountered in the drilling included moderate to strongly sheared intercalated Warramunga Formation siltstones, shales and sandstones. Apart from three holes approximately 100m east of the Cat’s Whiskers prospect (MLC528 & 529), magnetite – hematite – chlorite ironstone bodies were not encountered in any of the holes drilled in EL 10406. Results from the drilling were mostly disappointing and apart from the drilling in MLC528 & 529 (12m @ 103ppb Au and 853ppm Cu from 12m (ELRB028), and 12m @ 137ppb Au from 30m (ELRB031), no significant assays results were returned for the 7 holes in EL 10406. The weak Au-Cu anomalies encountered in ELRB028 are hosted by a 12m zone strongly hematitic and chloritic sheared siltstone. The Au anomalies encountered in ELRB031 are hosted within a 10m wide zone of strongly hematite-limonitic siltstone-sandstone units. Results from the drilling suggest that the gravity highs occur in association with lithology that is either sheared or more resilient to weathering (oxidation). In contrast, gravity lows appear to be associated with units that are more deeply weathered and are best described as clay saprolite.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.23 EL22285 SNAPPY GUM

Exploration License 22285 was initially applied to cover a prospective area of Warramunga Formation which is situated in close proximity to known mineralisation. This ranks this Licence as moderately prospective.

During the first year of tenure a preliminary assessment and reconnaissance of this small (two part-blocks) EL failed to produce any immediate high priority targets. The Licence area is located directly south of the prospective MLA 22284, which contains multiple
magnetic anomalies, small mines and target areas including Metallic Hill, Leda and Ganaymede in the south.

Further work during the second year of tenure included an internal review of the Giants Reef tenement portfolio and a classification of exploration opportunities was conducted in the second year of tenure. The future exploration potential of Exploration Licence 22285 was assessed using an integrated geological, geochemical and geophysical approach. The close proximity of the Licence area to known mineralisation ranks this Licence as moderate prospectivity. Work during the year focused on developing exploration models for the EL. The underlying geology of the EL was interpreted as predominately siltstone and greywacke of the Warramunga Formation. 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 underlying geology of the EL is interpreted as predominately siltstone and greywacke of the Warramunga Formation. This formation is host to virtually all the magnetite-haematite (ironstone–hosted) gold-copper-bismuth mineralisation and ore bodies in the Tennant Creek goldfield.

Exploration work conducted during subsequent years was dominated by the discovery of the non-magnetic, haematite-rich Chariot deposit which resulted in a broader exploration model by Giants Reef, which allows for the presence of extensive ore grade mineralisation hosted within primary, non to weakly magnetic (haematite-rich) ironstones. Discoveries by Giants Reef of high grade mineralisation associated with haematite dominant ironstone at Marathon and Billy Boy, although small, are further examples of this style of mineralisation. The potential for the haematite ironstones to host mineralisation in non magnetic areas essentially opens up the whole Tennant Creek goldfield to new target review. During the third tenure year, the Licence area was comprehensively assessed prior to statutory relinquishment. It was noted that the magnetics over the EL is relatively subdued, and there are no identified prospect areas or targets over the area. No historical drilling or surface geochemistry was identified within the Licence area. However, given Giants Reef decision to proceed with the granting of the Mineral Lease Application 22284 Billy Boy which is located due north of EL 22285, has technical and geological implications for the strategic future of the Licence.

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.

6.24 SEL25912 VOLK

Substitute Exploration License 25912 was initially applied to consolidate EL 10118 and SEL 8665, both now expired. Refer to Exploration history for EL 10118 in section 5.17 of this report.

The eastern most portion of this SEL was included in this new SEL and the previous exploration conducted was limited and included investigation by ADL in the late 1960s.
under Authority to Prospect (AP 2386) and work included auger drilling, diamond drilling and geophysical surveying.

PosGold explored the south eastern portion of SEL 8865 between 1986 and 1992 under EL 4929. An airborne survey flown in 1990 highlighted 2 magnetic features west of Nobles Nob. Four RC holes were drilled with Anomaly 2 showing significant gold grades and Anomaly 3 (located in the portion of SEL 8665 now part of SEL 25912, generating no significant anomalies

Under the management of Emmerson exploration has been limited due to the initial purchase period and the period required to list the company on the Australian Stock Exchange (ASX), which occurred on 12 December 2007. Emmerson has now built a highly capable and skilled staff including an excellent team of Geoscientists to exploit Emmerson’s strong prospective tenement holding in the Tennant Creek Region.
7.0 WORK DONE DURING THE REPORT PERIOD

ELs in the EPA were explored by Emmerson Resources Ltd (Parent company of Giants Reef and Santexco for Tennant Creek style IOCG deposits.

Exploration work commenced in the EPA on 18 May 2008 at Golden Kangaroo East and continued throughout the entire reporting term. Exploration drilling in the EPA during the reporting period was focused at the following prospects:

- Golden Kangaroo East (MLC 577)
- Golden Forty Mine (MLC 36, 136, 584 - 586, & SEL Application 25890)
- Muscadel (MLC 52)
- East Peko (EL 8279)

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included all EPA tenements. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. Figure 25 displays the Gravity Reading Stations over the EPA.

A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The survey included areas of the EPA and is detailed in Figure 26. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing’s, with 750m tie line spacing’s and a sensor height of 25m for a total Line KM of 38,278, with 2,461km’s (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.

Emmerson engaged ‘Centre for Exploration Targeting’ (CET), School of Earth & Geographical Sciences, FNAS, based at the University of Western Australia (UWA) to undertake some focused geological studies of the Tennant Creek Mineral Field, in collaboration with geologist from Emmerson, through a 3 phased program. The Primary focus of the these programs is to undertake structural analysis at a deposit to camp scale of the Tennant Creek Mineral Field. All tenure in the EPA was included in this study which
commenced in March 2008 and continued through to the end of the reporting period, and will continue into the next reporting period.

The work undertaken by CET in phase 1 of 3 involved targeted work on advanced prospects and deposits in the Tennant Creek Mineral Field, this was used to refine existing targets and provide further data towards generating near mine targets. Phase 2 of 3 involved developing a better regional structural map and structural model, with a core focus on directly linking outcomes with targeting. Phase 2 is near completion and phase 3 of 3 will be undertaken during the next reporting period.

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

7.1 EL 8199 CARLSBERG

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 8199 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 8199. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 16 station readings were taken in EL 8199 and are detailed in Figure 27.

A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The survey included areas of the EPA and included all EL 8199, with the exception of a small corner in the south west, the area covered is detailed in Figure 27 also. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing’s, with 750m tie line spacing’s and a sensor height of 25m for a total Line KM of 38,278, with 2,461km’s (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.
7.2 EL 8279 BINTANG

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 8279 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 8279. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 208 station readings were taken in EL 8279, consisting of 8 regional and 200 Detailed readings, and are detailed in Figure 28.

Exploration drilling was conducted in MLC’s 4, 5 & 129 all contained within EL 8279, at the East Peko Prospect. 14 Reverse Circulation (RC) holes (EPRC001 – 014) were drilled by Gomex Drilling, between 11 August 2008 and 19 September 2008, for a total of 2,111m, and are detailed in the table below. No Significant intercepts were found. Drilling is identified in Figure 29.

<table>
<thead>
<tr>
<th>Hole ID</th>
<th>Datum</th>
<th>Easting</th>
<th>Northing</th>
<th>RL</th>
<th>Total Depth</th>
<th>Date Drilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPRC001</td>
<td>MGA94_53</td>
<td>426199.89</td>
<td>7823874.7</td>
<td>336.317</td>
<td>197</td>
<td>11/08/08</td>
</tr>
<tr>
<td>EPRC002</td>
<td>MGA94_53</td>
<td>426219.88</td>
<td>7823868.2</td>
<td>336.768</td>
<td>197</td>
<td>14/08/08</td>
</tr>
<tr>
<td>EPRC003</td>
<td>MGA94_53</td>
<td>426239.67</td>
<td>7823860.6</td>
<td>337.282</td>
<td>179</td>
<td>16/08/08</td>
</tr>
<tr>
<td>EPRC004</td>
<td>MGA94_53</td>
<td>426510.18</td>
<td>7823599.9</td>
<td>343.266</td>
<td>154</td>
<td>17/08/08</td>
</tr>
<tr>
<td>EPRC005</td>
<td>MGA94_53</td>
<td>426480.32</td>
<td>7823617</td>
<td>344.602</td>
<td>130</td>
<td>20/08/08</td>
</tr>
<tr>
<td>EPRC006</td>
<td>MGA94_53</td>
<td>426684.74</td>
<td>7823663.5</td>
<td>337.667</td>
<td>88</td>
<td>20/08/08</td>
</tr>
<tr>
<td>EPRC007</td>
<td>MGA94_53</td>
<td>426660.16</td>
<td>7823687.8</td>
<td>337.155</td>
<td>82</td>
<td>21/08/08</td>
</tr>
<tr>
<td>EPRC008</td>
<td>MGA94_53</td>
<td>426645.48</td>
<td>7823670.9</td>
<td>337.321</td>
<td>82</td>
<td>22/08/08</td>
</tr>
<tr>
<td>EPRC009</td>
<td>MGA94_53</td>
<td>426599.62</td>
<td>7823749</td>
<td>336.463</td>
<td>166</td>
<td>23/08/08</td>
</tr>
<tr>
<td>EPRC010</td>
<td>MGA94_53</td>
<td>426559.59</td>
<td>7823759.7</td>
<td>337.254</td>
<td>166</td>
<td>14/09/08</td>
</tr>
</tbody>
</table>
7.3 EL 8280 SAN MIGUEL

During the reporting term Emmerson successfully built a team of highly qualified and skilled staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 8280 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 8280. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 316 station readings were taken in EL 8280 and consisted of 12 Regional and 304 Detailed, and are displayed in Figure 30.

7.4 EL 8430 RED BACK

During the reporting term Emmerson successfully built a team of highly qualified and skilled staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 8430 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 8430. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were
taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 400 station readings were taken in EL 8430 and consisted of 1 regional and 399 detailed readings, and are displayed in Figure 31.

7.5 EL 8705 BOSEIVER

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 8705 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 8705. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 607 station readings were taken in EL 8705 and consisted of 0 Regional and 607 Detailed readings, and is displayed in Figure 32.

7.6 EL 8786 FIRST LIGHT

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 8786 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 8786. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 1405 station readings were taken in EL 8786 and consisted of 0 Regional and 1405 Detailed readings, and are displayed in Figure 33.
7.7 EL 8879 MOUNT CLELAND

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 8879 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 8879. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 109 station readings were taken in EL 8879 and are detailed in Figure 34.

A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The survey included areas of the EPA and included all EL 8879, with the exception of the southern half of the licence, the area covered is detailed in Figure 34. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing’s, with 750m tie line spacing’s and a sensor height of 25m for a total Line KM of 38,278, with 2,461km’s (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.

7.8 EL 8991 SUN RISE

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 8991 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 8991. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were
taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 140 station readings were taken in EL 8991 and consisted of 0 Regional and 140 Detailed readings, and are displayed in Figure 35.

7.9 EL 9293 JOKER

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 9293 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 9293. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 168 station readings were taken in EL 9293 and consisted of 13 Regional and 155 Detailed readings, and are displayed in Figure 36.

7.10 EL 9403 JESS

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 9403 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 9403. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 13 station readings were taken in EL 9403 and are detailed in Figure 37.
7.11 EL 9930 NEW MOON

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 9930 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

7.12 EL 9958 RUNNING BEAR

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 9958 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 9958. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 37 station readings were taken in EL 9958 and are detailed in Figure 38.

A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The survey included areas of the EPA and included all EL 9958, the area covered is detailed in Figure 38. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing’s, with 750m tie line spacing’s and a sensor height of 25m for a total Line KM of 38,278, with 2,461km’s (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.

7.13 EL 10113 IVORY

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over
Emmerson Tenure, including EL 10113 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 10113. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 126 station readings were taken in EL 10113 and are detailed in Figure 39.

A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The survey included areas of the EPA and included all EL 10113, with the exception of the north east corner, the area covered is detailed in Figure 39. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing’s, with 750m tie line spacing’s and a sensor height of 25m for a total Line KM of 38,278, with 2,461km’s (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.

7.14 EL 10114 McDougall Ranges

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 10114 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 10114. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 111 station readings were taken in EL 10114 and consisted of 51 Regional and 60 Detailed readings and is displayed in Figure 40.

A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The
survey included areas of the EPA and included the northern two blocks of EL 10114, the area covered is detailed in Figure 40. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing’s, with 750m tie line spacing’s and a sensor height of 25m for a total Line KM of 38,278, with 2,461km’s (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.

7.15 EL 10118 ROCKY RANGE

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 10118 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 10118. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 66 station readings were taken in EL 10118 and are detailed in Figure 41.

A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The survey included areas of the EPA and included all of the North east half of EL 10118, the area covered is detailed in Figure 41. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing’s, with 750m tie line spacing’s and a sensor height of 25m for a total Line KM of 38,278, with 2,461km’s (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.

7.16 EL 10124 SPEEDWAY

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling
data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 10124 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson's entire Tennant Creek tenure package and included EL 10124. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 112 station readings were taken in EL 10124 and consisted of 33 Regional and 79 Detailed readings and are displayed in Figure 42.

A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The survey included areas of the EPA and included all EL 8199, with the exception of the southernmost block, the area covered is detailed in Figure 42. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing’s, with 750m tie line spacing’s and a sensor height of 25m for a total Line KM of 38,278, with 2,461km’s (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploramium GR-820 gamma ray spectrometer and Exploramium gamma ray detectors.

### 7.17 EL 10203 WHITE HILL BORE

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 10203 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson's entire Tennant Creek tenure package and included EL 10203. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 27 station readings were taken in EL 10203 and are detailed in Figure 43.
A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The survey included areas of the EPA and included all EL 10203, the area covered is detailed in Figure 43. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing’s, with 750m tie line spacing’s and a sensor height of 25m for a total Line KM of 38,278, with 2,461km’s (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.

7.18 EL 10312 HOPEFUL

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 10312 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson's entire Tennant Creek tenure package and included EL 10312. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 25 station readings were taken in EL 10312 and are detailed in Figure 44.

A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The survey included areas of the EPA and included all EL 10312, the area covered is detailed in Figure 44. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing’s, with 750m tie line spacing’s and a sensor height of 25m for a total Line KM of 38,278, with 2,461km’s (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.

7.19 EL 10313 KODIAK
During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 10313 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson's entire Tennant Creek tenure package and included EL 10313. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing's, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing's on 100m spaced lines oriented North - South. The survey was completed during October 2008. 312 station readings were taken in EL 10313, and are detailed in Figure 45.

A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The survey included areas of the EPA and included all EL 10313, with the exception of the most southern region, the area covered is detailed in Figure 45. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing's, with 750m tie line spacing's and a sensor height of 25m for a total Line KM of 38,278, with 2,461km’s (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.

7.20 EL 10324 PANDA

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 10324 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson's entire Tennant Creek tenure package and included EL 10324. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing's, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing's on 100m spaced lines oriented North - South. The survey was completed during October 2008. 60 station readings were taken in EL 10324 and are detailed in Figure 46.
A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The survey included areas of the EPA and included all EL 10324, with the exception of the northernmost area, the area covered is detailed in Figure 46. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing's, with 750m tie line spacing's and a sensor height of 25m for a total Line KM of 38,278, with 2,461km's (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.

7.20 EL 10406 MONTANA

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 10406 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 10406. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 8 station readings were taken in EL 10406 and are detailed in Figure 47.

7.21 EL 22285 SNAPPY GUM

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including EL 22285 and then the compilation into a database. This work occurred over the entire reporting term and will continue into the next tenure term.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included EL 22285. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings
in areas requiring more detail were taken on 50 station spacing's on 100m spaced lines oriented North - South. The survey was completed during October 2008. 21 station readings were taken in EL 22285 and are detailed in Figure 48.

A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The survey included areas of the EPA and included all EL 22285, with the exception of a small corner in the north, the area covered is detailed in Figure 48. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing’s, with 750m tie line spacing’s and a sensor height of 25m for a total Line KM of 38,278, with 2,461km’s (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.

7.22 SEL 25912 VOLK

During the reporting term Emmerson successfully built a team of highly qualified and skilled, staff and Geoscientists. Work commenced on the analysis of all historic drilling data, which included the validation and assessment of all Historical drilling over Emmerson Tenure, including SEL 25912 and then the compilation into a database.

A Detailed Ground Gravity Survey, conducted by Fugro Ground Geophysics commenced 27 March 2008. This ground gravity survey was conducted over Emmerson’s entire Tennant Creek tenure package and included SEL 25912. The survey was conducted by three teams, each team consisted of a quad bike and rider equipped with a station meter. The three teams were supported by a Toyota Landcruiser 4WD Ute. The readings were taken on a 500m station spacing’s, on lines 500m apart oriented North – South. Readings in areas requiring more detail were taken on 50 station spacing’s on 100m spaced lines oriented North - South. The survey was completed during October 2008. 412 station readings were taken in SEL 25912 (which also duplicates EL 10118 readings) and consisted of 92 Regional and 320 Detailed readings, and are displayed in Figure 49.

A Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey was conducted by UTS Geophysics and commenced 26 May 2008 and was completed on 22 July 2008. The survey included areas of the EPA and included the north eastern half of SEL 25912, with the exception of a small corner in the south west, the area covered is detailed in Figure 49. The survey was flown with a FU24 – 954 fixed wing survey aircraft on 75m line spacing’s, with 750m tie line spacing’s and a sensor height of 25m for a total Line KM of 38,278, with 2,461km’s (approximately 6.43%) being in the EPA. Magnetic Data was captured using a Scintrex Cesium Vapour CS-2 total field magnetometer, Fluxgate three component vector magnetometer, RMS Aeromagnetic Automatic Digital Compensator (AADC II) and a Diurnal monitoring Magnetometer (Scintrex Envi8mag). Radiometric Data was captured using an Exploranium GR-820 gamma ray spectrometer and Exploranium gamma ray detectors.
8.0 REHABILITATION

The dominant proportion of exploration conducted in the EPA tenements was limited to non-invasive geological, geophysical and geochemical reassessments and reviews and non-invasive geophysical surveys. A small amount of RC drilling was conducted on EL 8279, totalling 14 RC holes. Rehabilitation has yet to commence, as the drilling at the East Peko Prospect is still in the analysis stage and any further work will be planned during the next tenure term. Rehabilitation will commence following the termination of the project and will abide by the rehabilitation set out in the governing Mining Management Plan (MMP); Authorisation 0422 – 01 Eldorado Project.
9.0 CONCLUSIONS

9.1 EL8199 CARLSBERG

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 8199.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 8199, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.2 EL8279 BINTANG

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 8279.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 8279, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.
9.3 EL8280 SAN MIGUEL

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 8280.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 8280, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.4 EL8430 RED BACK

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 8430.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 8430, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.5 EL8705 BOSEIVER

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.
The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 8705.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 8705, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.6 EL8786 FIRST LIGHT

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 8705.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 8705, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.7 EL8879 MT CLELAND

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now
commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 8879.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 8879, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.8 EL8991 SUNRISE

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 8991.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 8991, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.9 EL9293 JOKER

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 9293.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to
identify quality targets in the EPA including, EL 9293, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.10 EL9403 JESS

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 9403.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 9403, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.11 EL9930 NEW MOON

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 9930.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 9930, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.
9.12 EL9958 RUNNING BEAR

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 9958.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 9958, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.13 EL10113 IVORY

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 10113.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 10113, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.14 EL10114 McDOUGALL RANGES

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.
The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 10114.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 10114, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.15 EL10118 ROCKY RANGE

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 10118.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 10118, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.16 EL10124 SPEEDWAY

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now
commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 10124.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 10124, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.17 EL10203 WHITE HILL BORE

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 10203.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 10203, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.18 EL10312 HOPEFUL

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 10312.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to
identify quality targets in the EPA including, EL 10312, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.19 EL10313 KODIAK

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 10313.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 10313, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.20 EL10324 PANDA

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 10324.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 10324, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.
9.21 EL10406 MONTANA

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 10406.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 10406, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.22 EL22285 SNAPPY GUM

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.

The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically EL 22285.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, EL 22285, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.

9.23 SEL25912 VOLK

Emmerson began the opening of the reporting period with its listing on the ASX on 17 December 2008. Emmerson immediately commenced its aggressive exploration strategy in the Tennant Creek Mineral Field, including the EPA tenure.
The commencement and completion of the Detailed Ground Gravity Survey has provided Emmerson’s Geoscience team with data never captured before in the field. Analysis, assessment and interpretation of this data commenced during the reporting period and will continue during the next reporting period. Combined with the commencement and completion of a Detailed Airborne Magnetic, Radiometric and Digital Terrain Survey providing even more data for analysis, assessment and interpretation, Emmerson now commands a strong position for success in exploration of the Tennant Creek Mineral Field, the EPA and more specifically SEL 25912.

Preliminary analysis, assessment and interpretation of these data sets gathered during the reporting period have provided huge encouragement for Emmerson staff to be able to identify quality targets in the EPA including, SEL 25912, for further analysis and provided good outcomes from this analysis, drill testing during the next tenure term.
**EMMERSON RESOURCES LIMITED**

**HARD COPY REPORT META DATA FORM**

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PROSPECT NAMES(s):</td>
<td>CARLSBERG, BINTANG, SAN MIGUEL, BOSEIVER, FIRST LIGHT, SUN RISE, RUNNING BEAR, MCDougALL RANGES, KODIAK, SPEEDWAY, IVORY, NEW MOON, SNAPPY GUM, MT CLELAND, ROCKY RANGE, HOPEFUL, JESS, MONTANA, PANDA, VOLK, RED BACK, WHITE HILL BORE, JOKER</td>
</tr>
<tr>
<td>GROUP PROSPECT NAME:</td>
<td></td>
</tr>
<tr>
<td>TENEMENT NUMBERS(s):</td>
<td>EL 8199, EL 8279, EL 8280, EL 8705, EL9293, EL 8991, EL 9958, EL 10114, EL 10313, EL 10124, EL 10113, EL 8786, EL 22285, EL 8879, EL 10118, EL 10312, EL 9403, EL 10406, EL 9930, EL 10203, EL 8430, SEL 25912, EL10324</td>
</tr>
<tr>
<td>ANNIVERSARY DATE:</td>
<td></td>
</tr>
<tr>
<td>OWNER/JV PARTNERS:</td>
<td>EMMERSON RESOURCES LTD, GIANTS REEF EXPLORATION PTY LTD, SANTEXCO PTY LTD</td>
</tr>
<tr>
<td>AUTHOR(s):</td>
<td>A. WALTERS</td>
</tr>
<tr>
<td>COMMODITIES:</td>
<td>GOLD, COPPER</td>
</tr>
<tr>
<td>MAPS 1:250 000:</td>
<td>TENNANT CREEK SE53-14</td>
</tr>
<tr>
<td>MAPS 1:100 000:</td>
<td>FLYNN 5759, TENNANT CREEK 5758</td>
</tr>
<tr>
<td>MAPS 1:25 000</td>
<td></td>
</tr>
<tr>
<td>TECTONIC UNIT(s):</td>
<td>TENNANT CREEK INLIER</td>
</tr>
<tr>
<td>STRATIGRAPHIC NAME(s)</td>
<td>WARRAMUNGA FORMATION, CAMBRIAN WISO BASIN</td>
</tr>
<tr>
<td>AMF GENERAL TERMS:</td>
<td></td>
</tr>
<tr>
<td>AMF TARGET MINERALS:</td>
<td>GOLD, COPPER, LEAD, ZINC</td>
</tr>
<tr>
<td>AMF GEOPHYSICAL:</td>
<td>MAGNETIC INTERPRETATION, GRAVITY SURVEY</td>
</tr>
<tr>
<td>AMF GEOCHEMICAL:</td>
<td></td>
</tr>
<tr>
<td>AMF DRILL SAMPLING:</td>
<td>RIA’S REVENGE, BOSEIVER, QUEEN ALEXANDRIA, EDNA BERYL, GOLDEN SLIPPER, WHIPPET, GREAT BEAR, TRUMP, IRISH EMBLEM, SHAMROCK, BURNT SHIRT, WEDGE/GOLDEN BOY, LEICHRADT, LEICHRADT ONE, ACE HIGH, LEICHRADT TWO, KATHLEEN/CAVE MAN, ORTELLE STAR, TRUE BLUE, MINT, AGA KHAN, MEMSAHIB, IRIS, YELLOW FLAME, MAMMOTH, THREE KEYS,</td>
</tr>
<tr>
<td>HISTORIC MINES:</td>
<td></td>
</tr>
</tbody>
</table>

EMMERSON RESOURCES LTD
COPPER HEAD, LITTLE WONDER, NEW MOON, BLACK CAT, MT MARGARET, HOPEFUL STAR, RENATE, KOALA, GOLDEN MILE, HOPEFUL STAR EXTENDED, JESS, MONTANA

PEKO, NOBLES NOB, KATHREEN, BURNT SHIRT, GOLDEN KEY, BLACK CAT, LONE STAR, ARGO, RED TERROR, RISING SUN, COMSTOCK, HOPEFUL STAR, MEMSAHIB, MINT, ORTELLE STAR, RENATE, GOLDEN MILE, CATS WHISKERS

DEPOSITS:

PEKO, NOBLES NOB, KATHREEN, BURNT SHIRT, GOLDEN KEY, BLACK CAT, LONE STAR, ARGO, RED TERROR, RISING SUN, COMSTOCK, HOPEFUL STAR, MEMSAHIB, MINT, ORTELLE STAR, RENATE, GOLDEN MILE, CATS WHISKERS, RIA'S REVENGE, BOSEIVER, QUEEN ALEXANDRIA, EDNA BERYL, GOLDEN SLIPPER, WHIPPET, GREAT BEAR, TRUMP, IRISH EMBLEM, SHAMROCK

PROSPECTS:

BURNT SHIRT, WEDGE/GOLDEN BOY, LEICHARDT, LEICHARDT ONE, ACE HIGH, LEICHARDT TWO, KATHLEEN/CAVEMAN, ORTELLE STAR, TRUE BLUE, MINT, AGA KHAN, MEMSAHIB, IRIS, YELLOW FLAME, MAMMOTH, THREE KEYS, COPPER HEAD, LITTLE WONDER, NEW MOON, BLACK CAT, MT MARGARET, HOPEFUL STAR, RENATE, KOALA, GOLDEN MILE, HOPEFUL STAR EXTENDED, JESS, MONTANA

KEYWORDS:

CARLSBERG, BINTANG, SAN MIGUEL, BOSEIVER, FIRST LIGHT, SUN RISE, RUNNING BEAR, McDOUGALL RANGES, KODIAK, SPEEDWAY, IVORY, NEW MOON, SNAPPY GUM, MT CLELAND, ROCKY RANGE, HOPEFUL, JESS, MONTANA, VOLK, SHARK