

Exploration Licence 23846

First Annual Report  
February 9, 2004 – February 8, 2005

Tennant Creek District, Northern Territory  
Tennant Creek 1:250,000 Sheet SE 53-14  
Short Range 5659  
Kelly 5658  
Flynn 5759  
Tennant Creek 5758

Licensee  
Sitzler Savage Pty Ltd

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February 2005

## **SUMMARY**

Exploration Licence 23846 is wholly owned by Sitzler Savage Pty Ltd and is comprised of 79 graticular blocks for a total area of 201 square kilometres. This report records the exploration work carried out by the licensee during the reporting period February 9, 2004 – February 8, 2005.

Exploration Licence 23846 is considered to be highly prospective with several large producers located within 10kms of its boundaries. The Warrego Mine is located immediately to the west of the EL, the White Devil and Black Angel White Devil mines are in the centre of the EL but within exclusions, the Orlando and Gekko mines are within 7 kms of the east of the EL and Ivanhoe Mine is within 4kms of the south-east corner.

Recent analysis of regional geophysics and geological mapping and extensive literature searching shows potential for gold and base metal mineralisation and further exploration work is justified to test this potential.

Further geological, geophysical and geochemical work is recommended for the forthcoming year to determine the resource potential of the licence.

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## **INTRODUCTION**

Exploration Licence 23846 is wholly owned by Sitzler Savage Pty Ltd comprising four graticular blocks. This report records the exploration work carried out by the licensees during the reporting period February 9, 2004 – February 8, 2005.

## **LOCATION**

The south-east corner of the licence is located 25.5 kms by road north-west of Tennant Creek township. Access is along the Warrego Road which passes through the centre of the licence, figure 1. Several major mines are located within 10kms of the licence including Warrego Mine located immediately to the west of the EL, the White Devil and Black Angel White Devil mines are in the centre of the EL but within exclusions, the Orlando and Gekko mines are within 7 kms of the eastern boundary and the Ivanhoe Mine is within 4kms of the south-east corner.

## **TENURE**

The EL covers 79 graticular blocks with a total area of 201 square kilometres. The licence was granted for six years from February 9, 2004.

## **GEOLOGY**

### **Regional**

The Tennant Creek geology is described by Geoscience Australia as volcanoclastic/volcanic rocks and flysch sediments, intruded by granites and deformed by the Tennant Orogeny at ~1850 Ma. This succession is unconformably overlain by younger relatively undeformed and predominantly sedimentary successions of the Ashburton Province to the north and mildly deformed and metamorphosed Davenport Province to the south. The major rocktypes found within the Warramunga Formation, the host unit to most of the important economic mineralisation located at Tennant Creek, are greywackes, shales, siltstones and haematitic shales. Other rocktypes commonly found at Tennant Creek are granites, felsic volcanic rocks, sandstones, dolostones, mafic volcanics, dolerites.

The target style of mineralisation on the licence is typical of Tennant Creek which is believed to be a result of mineralised hydrothermal fluids, usually passing along a shear zones and reacting with Proterozoic iron oxide rich sediments of the Warramunga Formation and precipitating out Au-Cu-Bi sulphide mineralisation. The main characteristics of this style of mineralisation are a compact ore body within a magnetite host with distinct mineralogical zoning. This zoning is generally shown as a high grade gold core with a copper/bismuth capping. Later tectonic movements may modify the structure.

### **Local**

The NT Geol Survey 1:100 scale mapping shows the majority of the licence covered by Proterozoic sediments of the Lower Hatches Creek Sandstone. This unit conformably overlies other finer grained Proterozoic sediments of the Warramunga Formation comprising of greywacke, shale, siltstone and hematitic shales in the south-central portion of the licence. It is these older finer grained sediments that host most of the known mineralisation in the area, including the Warrego, White Devil, Black Angel White Devil, Orlando, Gekko and the Ivanhoe Mines. Proterozoic granite/gneiss intrusions are found along the south west and south east edges of the licence.

Figure 2 shows the geology of the area surrounding EL 23846.

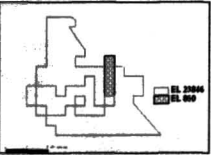
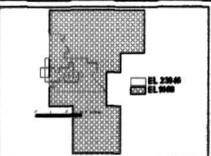
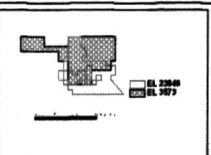
## **WORK DONE DURING THE YEAR**

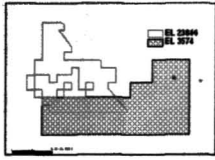
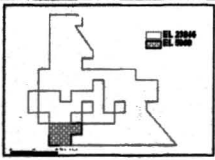
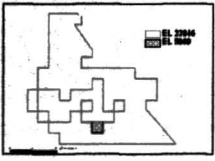
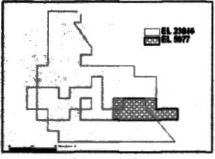
### **Data Compilation**

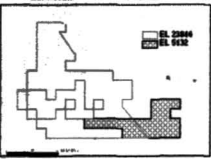
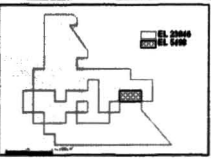
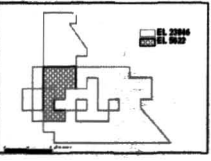
Tenure and geoscientific data compilation of from all available sources for all Sitzler Savage tenements was commenced and included mainly NT Geological Survey geological mapping and tenement maps.

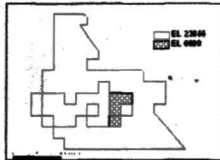
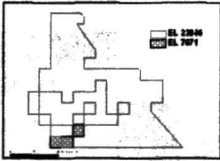
### **Past Exploration**

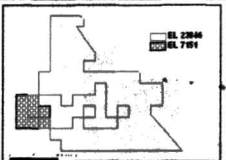
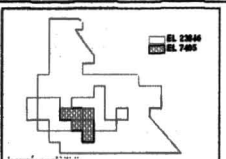
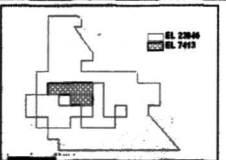
A search was made for all open file documents covering all previous exploration work carried out over the licence by earlier workers. The reports identified that cover areas that intersect or cover EL 23846 are listed in Table 1 along with location maps, abstracts and drilling information.


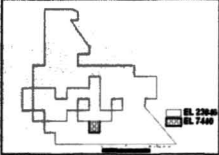
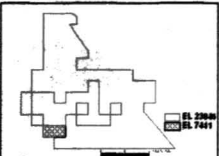
EL	MAP	Grouped ELs in reports	Operators	Drilling	Prospects	Comments - Abstracts
860		EL 860	Geopeko	Yes Not specified	Explorer 93, Explorer 119, Explorer 130, Explorer 113, Explorer 151	Drill holes intersected an ironstone body with anomalous copper values. The copper values did not continue at depth. Minor zone of magnetite bearing chloritic sediment intersected by drill hole. Geological survey provided greater definition of these anomalies outlined by the 1967 BMR survey. No new anomalies revealed, drilling downgraded the potential of the magnetic anomalies.
1668		EL 1669, EL 1668	Uranerz, Marathon Petroleum Australia	None	None	Geological mapping and the completion of scintillometer and track etch surveys. Results were less than encouraging and 2 areas remain to be tested. The target is Alligator River type uranium deposit located near an unconformity within EL's 1668 1669 Results not encouraging. Two targets remain to be tested.
3573		EL 3573	Peko-Wallsend Operations	Yes Not specified	Navigator 3, Navigator 6, Navigator 7 West, Navigator 8, Explorer 176, Explorer 204, Explorer 221, Black Angel, White Devil, Crusader, Navigator 7, Navigator 11, Explorer 113	The Black Angel area has excellent potential for significant supergene gold enrichment. Aerial magnetics obtained by compilation of existing data and reduction to 150 000 scale. Aeromagnetic contour diagrams indicated total of seven new anomalies within the EL. No significant mineralisation was encountered in DDH 3 at the Navigator 7 West prospect. Modelling of the Explorer 204 magnetic anomaly indicated the possibility of a shallow source. Mapping and sampling are yet to be completed. Evaluation is in progress of the remaining magnetic anomalies. 2 Diamond-Percussion drill holes were drilled and intersected significant ironstone. Only one significant assay at 1.2 g-t gold was discovered.

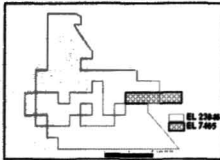
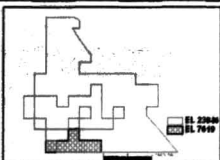
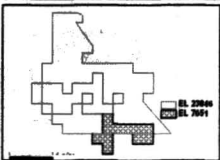
3574		EL 3574	Peko-Wallsend Operations	3? Diamond holes	Explorers (Ivanhoe Mine) 13, 17, 37, 54, 63, 64, 65, 80, 115, Navigators 9, 11	Twelve prospects have potential for shallow gold with Explorer 13 having most promise for a supergene enrichment deposit. Aeromagnetics compiled from other sources and reduced to 1: 50 000 scale. The Explorer 174 prospect was identified during prior exploration activities, however, it was selected as meriting re-evaluation following review of the 1984 aeromagnetics. This prospect was tested by a diamond drill hole which failed to pass through the target area due to excessive deviation. Explorer 208 was identified as a magnetic anomaly. Explorer 218 drill hole PDHL. Future work includes drilling, modelling and lead S isotope analysis. Prospect evaluation proved reserves of 376 000 tonnes of 3.4% copper and 0.6 g-t gold at Ivanhoe prospect. Anomalous gold-bismuth mineralisation found explorer 13
5068		EL 5068, EL 5069, EL 5070, EL 5077	Poseidon Gold; Newmont Australia	<u>1 RC = 279m &amp; 7m RAB</u>	Navigator 5 / Explorer 173 / Black Angel	As for EL 5077 and 5132
5069		EL 5068, EL 5069, EL 5070, EL 5077	Poseidon Gold; Newmont Australia	<u>1 RC = 279m &amp; 7m RAB</u>		As for EL 5077 and 5132
5077		EL 5068, EL 5069, EL 5070, EL 5077, EL 5073, EL 5132	Poseidon Gold; Newmont Australia	<u>1 RC = 279m &amp; 7m RAB</u>	Navigator 5, Explorer 73, Explorer 174, Explorer 173, Black Angel, P5	Exploration has consisted of airborne geophysics, geological mapping at 1:10 000 scale, stream sediment and soil bulk cyanide leach sampling and landsat interpretation. Modelling of the magnetic survey of Explorer 173 suggests the presence of an ironstone body at approximately 290m. In 1990-91 the work concentrated on the Navigator 5 and Explorer 173 anomalies. Drilling of these targets and downhole geophysics indicate that the anomalies may be attributed to the magnetic material intersected during drilling.

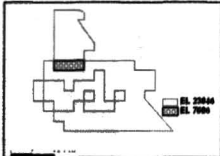
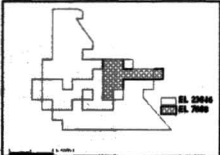
5132		EL 5068, EL 5069, EL 5070, EL 5077, EL 5073, EL 5132	Australian Development; Poseidon Gold; Newmont Australia	<u>1 RC = 279m &amp; ?m RAB</u>	Northern Star, Ivanhoe, Navigator 5, Explorer 174, Explorer 73, Explorer 173, Black Angel	Exploration has consisted of airborne geophysics, geological mapping at 1:10 000 scale, stream sediment and soil bulk cyanide leach sampling and landsat interpretation. 4 magnetic anomalies were outlined and are identified as P3, P4, P5, and P6. Both P4 and P6 are believed to lie within the Warrego Granite and are deemed less prospective than P3 and P5 which are thought to be associated with the Black Eye Member. 10 areas with anomalous geochemistry C14-C23 were identified, these areas generally had low order anomalies. Results for C21 and C22 are believed contaminated by passage of ore trucks. RAB drilling failed to identify significant gold mineralisation. No significant magnetic anomalies were recorded and the results of geochemical sampling were disappointing.
5498		EL 5498	Giants Reef Exploration; Western Mining Corporation	Yes Not specified	Black Eye East	Work concentrated on a magnetic anomaly that lies on the northern edge of the licence area. A slight geochemical elevation has been detected. Work in the final year located a magnetic anomaly straddling what are interpreted as two stratigraphic trends of high magnetic response. Bedrock sampling showed a low, consistent bismuth response associated with the anomaly. Geophysical surveys located a number of targets which were subsequently drilled. No massive ironstones or significant anomalies were encountered.
5622		EL 5622, EL 5624, EL 6199	Metana Minerals; Placer Exploration	<u>RC: WORC002 = 151m WORC001 = 139m Vacuum = 2803m 101 RAB = 1056m 1 RC = 100m (M15RC1) 1 diamond = 295.7m (M2DH1)</u>	Black Angel, White Devil	Aeromagnetic interpretation revealed 4 anomalies of possible significance, identified as M1, M2, M3 and M4. These anomalies are truncated against structural breaks belonging to the Navigator Fault System. Soil and bedrock samples of M1, M2, and M3 indicated that there was little chance of a significant shallow resource. Two RC holes tested M1 and M2. A detailed ground magnetic survey was undertaken over M4 anomaly. This detailed survey indicated that there was no significant anomaly. This result in conjunction with a regional analysis indicating that there were no structural or magnetic targets in the area led to the EL's relinquishment. Bedrock drilling was undertaken on magnetic anomalies M2, M8, M15, M16 and M25. The single RC hole on anomaly M15 intersected Pb-Zn mineralisation within a crystal-tuff horizon interbedded with clayey siltstone. The best intersect was 4m at 0.21% Pb and 0.14% Zn. No significant assays were outlined by the remainder of the drilling program.

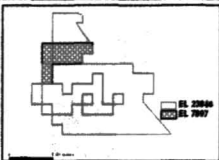
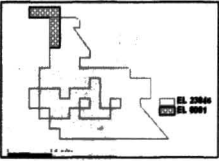
6099		EL 7405, EL 7414, EL 7431, EL 7440, EL 7441, EL 7619, EL 6099, EL 6100	North Flinders Mines; Roebuck Resources; Tennant Creek Gold	281 RAB = 4000m 2 RC (M18RC1 and M19RC1) = 436m	M18, M19	A ground magnetic traverse was undertaken to delineate drill targets. Interpretation of aeromagnetic data has highlighted 3 magnetic highs. 4 stream sediment samples were taken as part of a regional survey. The elevated copper and bismuth values are probably due to the proximity of the White Devil Mine. A ground magnetometer survey was undertaken over the 2 aeromagnetic anomalies (M18 and M19) interpreted from the Austrex surveys. Geological mapping indicated that M18 maybe the foot wall of the material hosting the anomaly (a quartz feldspar porphyry), where as there is no surficial manifestation of the cause of the M19 anomaly. Placer remodelled the Austrex aeromagnetic data delineating two magnetic anomalies. Ground magnetic surveys were undertaken over these anomalies. A photogeological interpretation reveals a number of lineaments and M19 appears to lie on of WNW trending linear. Geological mapping of M19 showed the rocks were of a typical turbidite sequence folded tightly about an E-W axis. Mapping of M18 shows that the prospect is dominated by an E-W trending quartz feldspar intrusive porphyry which has been extensively sheared.
						The anomaly is central north of the intrusive suggesting that the porphyry occurs in the foot wall of the sequence hosting the anomaly. Magnetic anomalies M18 and M19 were each tested by a single RC percussion drill hole. These holes intersected disseminated magnetite-bearing chloritic and siliceous siltstone. Assay results for gold (maximum 22ppb) were generally low as were the results for base metals.
7071		EL 7071	Placer Exploration; Metana Minerals	Nil		Ironstones appear to be located at or near the hinge of second order anticlines where there is a marked difference in the mechanical properties of the lithological units. Interpretation of the 1984 Austrex survey found no obvious magnetic targets. Exploration results for adjoining tenements further downgraded the prospectivity of the tenement.

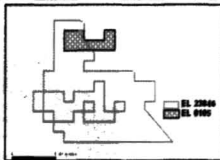
7151		EL 7151, EL 7153, EL 7413	Western Mining Corporation; Giants Reef Exploration	706m of RAB = 706m, 2 RC/diamond = 415.8m	Navigator 2	Reconnaissance of the licence have failed to locate any outcrop. A ground magnetic survey defined two small but highly magnetic remnant polarised bodies at interpreted depths of 100 and 115m. A 500x500m gravity survey completed on them. The gravity gradient reflecting the Warrego Granite. The lag sampling program verified several low order Cu-Bi anomalies. RAB follow up in two areas failed to locate any significant anomalism. Work completed consisted of the drilling of 2 RC diamond drill holes within EL7151. No significant results were obtained. GRM took over as managers 03-1995. line clearing, survey grid EL7151.
7405		EL 8276, EL 7904, EL 7405, EL 7414, EL 7441, EL 7405, EL 7619, EL 7431, EL 7440, EL 6099	North Flinders Mines; Roebuck Resources	281 RAB = 4000m 290 RAB = 2873m 844 vacuum = 622m The Tiger anomaly tested by 10 RAB = 580m total Navigator Anomaly, diamond drill holes DDH-2 DDH-3 DDH-4 = ?m	Navigator Magnetic Anomaly, Tiger Magnetic Anomaly, M1 Magnetic Anomaly, Explorer 173, Explorer 174, Bonza	Gridding, RAB holes on two grids and 227 'M' type samples. 'M' sampling refers to a proprietary technique. The 'M' sampling defined an area in the east >5ppb Au, open to the north, south and east. Extensive geochemical sampling including shallow RAB and vacuum drilling, soil and rock chip sampling have been completed. This work outlines a broad copper anomaly in the Marsanne area centred on the M9 magnetic anomaly. Three known magnetic anomalies (M1, Navigator 1 and Tiger) were subjected to detailed ground magnetics as well as a review of available data pertaining to these anomalies. The Tiger anomaly was also tested by 580m of RAB drilling. No strongly anomalous values were obtained, though copper values show a mushroom shaped dispersion hole associated with a possible shear and the porphyry-meta sediment contact.
7413		EL 7151, EL 7153, EL 7413	Western Mining Corporation	69 RAB = '706m	Navigator 2	Ground magnetics on EL7413 defined 4 magnetic highs on the western half of the grid, with a broad weak anomaly trending NE in the central part of the grid. 546 lag samples were collected within EL7413. The results were generally subdued with some isolated weak responses. Au and Bi data has highlighted WNW trending responses. A 500x500m gravity survey completed. The gravity gradient reflecting the Warrego Granite. A detailed airborne magnetics was processed. In addition 2514 lag samples were collected. Acquisition of gravity data (500x500m grid), plus airborne magnetic-radiometrics and lag sampling. The gravity data generally

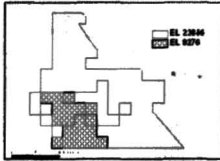
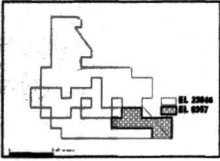
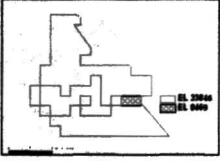
						reflected the contact between the Warrego Granite and Warramunga sediments. The lag sampling program verified several low order Cu-Bi anomalies. RAB follow up in two areas failed to locate any significant anomalism. GRM took over as managers 03-1995. Poor results of previous exploration resulting in tenement surrender.
7435		EL 7853, EL 7447, EL 7435	North Flinders Mines; Roebuck Resources	51 vacuum = 312m	Orlando, Explorer 1, Gecko	Work on ELs 7435 and 7853 was limited to general reconnaissance. The reconnaissance indicated that alteration was limited in these titles and so were considered as low priority targets. 51 vacuum drill holes totalling 312m were completed. They were designed to test an airborne magnetic anomaly in the north of the licence. No significant results were obtained.
7440		EL 7405, EL 7414, EL 7431, EL 7440, EL 7441, EL 7619, MCC 1059	North Flinders Mines; Roebuck Resources	281 RAB = <u>4000m, 290 RAB</u> <u>= 2873m, 844</u> <u>vacuum = 622m,</u> 89 vacuum = 552.5m	None	Gridding, RAB drilling on two grids and 227 'M' type samples. 'M' sampling refers to a proprietary technique. The 'M' sampling defined an area in the east >5ppb Au, open to the north, south and east. Rock chip sampling has also been completed. This work outlines a broad copper anomaly in the Marsanne area centred on the M9 magnetic anomaly. Another (?) phase of exploration 35 soil samples were collected. Anomalous values to 28ppb Au were obtained. While undertaking this soil sampling program an area of outcrop was identified and rock chip sampled. No significant gold anomalism was defined. Another (?) 2 phases of vacuum drilling (89 holes (552.5)) were completed. This outlined an E-W trending copper anomaly associated with a smaller Au-Bi anomaly. Two areas have been applied for as MCC's to cover areas of anomalism warranting follow up.
7441		EL 7405, EL 7414, EL 7431, EL 7440, EL 7441, EL 7619, MCC	North Flinders Mines; Roebuck Resources	281 RAB = <u>4000m, 290 RAB</u> <u>= 2873m, 844</u> <u>vacuum = 622m,</u> 89 vacuum = <u>552.5m</u>	Explorer 173, Explorer 174, Bonza	(See EL 7440) Gridding, RAB drilling on two grids and 227 'M' type samples. The 'M' sampling defined an area in the east >5ppb Au, open to the north, south and east. Extensive geochemical sampling including 290 shallow RAB holes and vacuum holes, soil and rock chip sampling have been completed. This work outlines a broad copper anomaly in the Marsanne area centred on the M9 magnetic anomaly. 91 Marshall 'M' type soil samples were collected no significant values were obtained. Vacuum

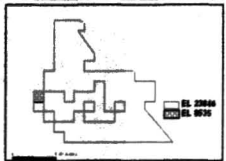
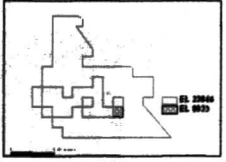
		1059				and RAB drilling returned no significant values.
7465		EL 7465	Giants Reef Exploration	Nil	None	Two orientation samples from boundary of the tenement with MLC600, returning anomalous Au (0.17 g-t). Gridding. Area subject to airborne magnetic survey and a limited gravity survey was also undertaken. Preliminary interpretation of A-magnetics has outlined some interesting structures warranting follow up. As a result a number of MCC's have been applied for. No obvious gravity targets were outlined. Reconnaissance outlined in the NW of the licence a line of old shallow prospecting pits. 40 samples were taken from outcrop, spoil heaps. No significant gold values were obtained. Copper and bismuth values were distinctly anomalous (max value 942ppm Cu and 143ppm Bi).
7619		EL 7405, EL 7414, EL 7431, EL 7440, EL 7441, EL 7619, EL 6099	North Flinders Mines; Roebuck Resources	<u>281 RAB = 4000m, 290 RAB = 2873m, 844 vacuum = 622m</u>	Explorer 173, Explorer 174, Bonza	(See EL 7440) Gridding, RAB drilling on two grids and 227 'M' type samples. The 'M' sampling defined an area in the east >5ppb Au, open to the north, south and east. Rock chip sampling also completed. This work outlines a broad copper anomaly in the Marsanne area centred on the M9 magnetic anomaly. 91 Marshall 'M' type soil samples were collected no significant values were obtained. Vacuum and RAB drilling returned no significant values.
7651		EL 7651, SEL 8776, EL 6205, EL 7443, EL 7432, EL 7445	North Flinders Mines; Roebuck Resources	<u>1128 RAB = 8142m, 18 inclined RAB = 971m, 156 vacuum = 1571m, 32 RAB = 131m, 193 RAB = 1103m, 156 vacuum =</u>	Redbluff	Gridding, 714 'M' samples, shallow RAB 18 inclined RAB completed. Limited outcrop. 'M' sampling outlined several anomalies. Follow up RAB returned generally spotty elevated gold values (penetration rates sometimes unsatisfactory, elevated copper associated with porphyry). Initial vacuum drilling program outlined several areas of anomalous copper geochemistry. The main anomaly along the sediment granite contact. An anomalous gold value of 4ppb Au also obtained. Follow up RAB downgraded anomaly. 'M' sample results reviewed and determined material collected unrelated to bedrock so anomaly not reflecting bedrock geochemistry. Apparent 'M'

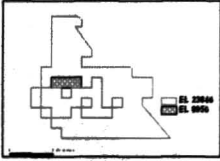
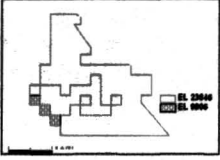
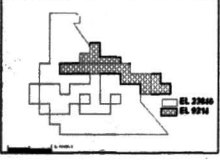
				<u>1571m, 32 RAB = 131m</u>		sample lag anomaly at Redbluff due to sampling errors. RAB-Vacuum drilling failed to outline any anomalies. 300 Marshall 'M' type soil samples collected returned values to 140ppb Au, 35ppm Bi and 280ppm Cu. Follow up RAB holes to test a 'M' type soil anomaly on the margin of the Red Bluff Granite in the NE of the licence. Results did not support the 'M' type soil results. Vacuum drilling completed in the SW of the licence over a magnetic anomaly, weak copper anomalism to a maximum value of 56ppm. Follow up RAB no significant results. Two MCC applications to cover anomalism.
7686		EL 7686, EL 9214	TC8; Giants Reef Mining; Carpentaria Gold	<u>78 vacuum = ?m</u>	Explorer 74	A reconnaissance lag sampling program was completed along a 1.5km traverse. Some samples returned low levels of gold anomalism, (maximum 10ppb) but the results are not regarded as conclusive. During Year 2 a detailed airborne magnetic survey was flown and the western block was grided and subsequently pegged as mineral claims to follow up aeromagnetics anomalies. Work completed within the relinquished block included the collection of 31 lag samples and the acquisition of detailed airborne magnetics. Some anomalous value to 10ppb Au were obtained. Third year work was restricted to interpretation of airborne magnetics previously acquired by Grant's Reef Mining. Refer to annual report EL7901 for details of magnetics. Vacuum drilling completed. Assays are to be reported in the first annual for SEL9214.
7688		EL 7688, EL 9214	TC8; Giants Reef Mining; Carpentaria Gold	<u>18 RC = 1203m, 11 RC BERC-1 to 11 = 731m</u>	Little Dolomite / Explorer 14 / M7 / Explorer207 / Black Eye Mine / Explorer113 / Explorer 204	Rock chip sampling of a small working near MLC0600 believed to have been known as Dolomite and three small ironstone bodies nearby as well as composite sampling of drill heaps located at Explorer 204. Analysis of the Dolomite rock chips returned anomalous gold, copper and bismuth values. Panning of the area also revealed free gold. These results suggest that this area may host a small high grade gold deposit. One of the ironstone bodies chip sampled returned anomalous gold values with a maximum assay of 0.19g-t Au obtained. The drill heaps from Explorer 204 produced anomalous Au-Bi values. Drilling at Little Dolomite and Explorer 14 did not produce particularly encouraging results. Detailed gravity was also undertaken as was an airborne magnetic survey which outlined a number of

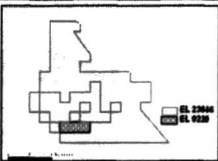
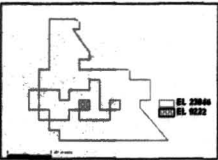
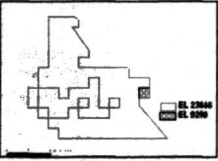
						features warranting follow up. RC drill holes BERC-1 to BERC-11 intersected sub-economic gold mineralisation at the Black Eye Mine. The best result was 2m at 4.32g-t, with 3 other intercepts in excess of 1g-t. 1:1000 geological mapping
7897		EL 8814, EL 6795, EL 7896, EL 7897, EL 8080, EL 8535, EL 8667, EL 8668, EL 8081	Normandy Gold/Poseidon Gold	518 vacuum = 2869m, 111 vacuum = 596m, <u>1016 vacuum =</u> <u>?m 22 RAB holes</u> <u>= 1280m, 6 RAB</u> <u>= 316m 2 RC =</u> <u>289m</u>	Last Hope, Explorer 68, Explorer 70, Parakeet, Headframe, Taucan, Mars, Jupiter, Cascade	A review of previous exploration activities, shallow vacuum drilling and a ground magnetic survey identified anomalous geochemical zone at Explorer 70. Vacuum drill holes drilled covering three areas. Results from the Parakeet, Taucan and from the Central area were encouraging and warranted follow up by RAB. 4 areas were RAB drilled. Anomalous Cu and Bi values were obtained from the Parakeet and Taucan areas. 10 rock chip samples collected from Parakeet returned peak values of 0.47g-t Au, 330ppm Cu, 1390ppm Bi and 0.3g-t Ag. RAB drilling designed to test anomalism outlined in previous vacuum drilling. Maximum values of 0.04ppm Au, 400ppm Cu, 495ppm Bi and 29ppm Co. These results adequately outline the vacuum drill hole anomalies. 2 RC holes were completed. They intersected Warramunga Formation with significant ironstone alteration. Maximum values of 0.14ppm Au, 2100ppm Cu, 246ppm Bi, 65ppm Co were attained.
8081		EL 8814, EL 6795, EL 8081, EL 8667, EL 8080, EL 8668, EL 7896, EL 7897	Normandy Gold/Poseidon Gold	95 vacuum = 520m, <u>1016</u> <u>vacuum = ?m 22</u> <u>RAB = 1280m, 2</u> <u>RC = 289m</u>	Last Hope, Explorer 68, Explorer 70, Parakeet, Headframe, Taucan, Mars, Jupiter, Cascade	95 vacuum drill holes totalling 520m were completed in EL 8081. An area of elevated Ag-Pb-Zn-Cu values coincident with an airborne magnetic anomaly was outlined. Further vacuum drill holes covering three areas in several ELs. Results from the Parakeet, Taucan and from the Central area were encouraging and warranted follow up by RAB. 4 areas were subject to RAB drilling (22 holes: 1280). Anomalous Cu and Bi values were obtained from the Parakeet and Taucan areas. 10 rock chip samples collected from Parakeet returned peak values of 0.47g-t Au, 330ppm Cu, 1390ppm Bi and 0.3g-t Ag. Vacuum drilling in several ELs generated a number of geochemical anomalies. These were followed up by RAB. This drilling returned maximum values of 0.04ppm Au, 400ppm Cu, 495ppm Bi and 29ppm Co. This work outlined a weakly developed mineralised system.

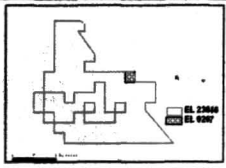
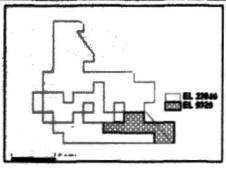
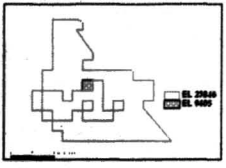
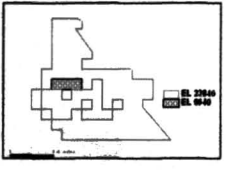
						The anomaly was further tested by 2 RC holes totalling 289m. Peak assays of 0.14ppm Au, 2100ppm Cu, 246ppm Bi, 65ppm Co were obtained. There was an order of magnitude difference between the peak values of the two holes.
8105		EL 8104, EL 8105	Giants Reef Mining	4 RC = 240 metres, 29 RAB = 1043m 4 RC = 240m	Jota, Windy Hill, Humid, Jewel	1302 soil and lag samples from several licences. Geochemical sampling and magnetic interpretation 5 areas were selected for follow up gravity, magnetics, soil and lag sampling on ELs 8105 and 8106. Poor geochemical results downgrade prospectivity of licence. Total of 138 soil samples were collected. At Humid, within EL8105, 91 soil samples were collected over a 600x300m area. No significant results. Established AMG grid and completed MMI soil sampling. 42 samples were analysed. No significant response. Reconnaissance sampling identified low level Jewel and Jupiter anomalies. Results discouraging. Five rock chip samples were collected with three samples showing slight copper anomalism. Four RC holes at Humid prospect. Hole HUP001 designed to cross hole H2 previously drilled; highest result 3m @ 0.19 g/t Au with 550ppm Cu within a weathered dolerite. Holes HUP2 and 3 drilled 25m east and west of H2, best result was 3m @ 0.43 g/t Au. HUP4 step back hole from H17 returned 3m @ 1.35g/t Au. Assessment of the major Rosella regional anomaly made. A hydrogeological database of water bore information over 1300 water bore records.
						A deep stratigraphic drill hole proposed to drill north-east corner of licence, at closest point to Rosella gravity anomaly centre. Reconnaissance, gridding, MMI soil sampling, rock chip sampling, geophysical surveys, RAB drilling and RC drilling concentrated on the Windy, Humid and Jewel prospects. Humid most prospective for gold mineralisation. Humid prospect not encouraging enough for further drilling. Detailed modelling of gravity data showed there are no targets for further investigation.

8276		EL 8276, EL 7904, EL 7405, EL 7414	North Flinders Mines; Roebuck Resources	4 RC = 456m, 438 vacuum = 4040.4m, 52 RAB = 2046.8m, 10 RAB = 580m, <u>diamond holes</u> <u>DDH-2 DDH-3</u> <u>DDH-4 = ?m, 1</u> <u>RC/diamond =</u> <u>207.5m</u> <u>Navigator 1,</u> <u>diamond DDH-1</u> <u>Tiger Prospect =</u> <u>?m, RC CTR-09</u> <u>= ?m</u>	MI, Tiger, Banger, Navigator 1, Explorer 173, Explorer 174, Bonza	Vacuum, RAB and RC holes plus 83.97 line km magnetics over 9 prospects on EL 8276. Copper anomalism was outlined at South Marsanne, Marsanne NE, M8, and Tiger South. 91 Marshall 'M' type soil samples were collected no significant values were obtained. Vacuum and RAB drilling on several ELs returned no significant values. Three known magnetic anomalies (M1, Navigator 1 and Tiger) were subjected to detailed ground magnetics as well as a review of available data pertaining to these anomalies. The Tiger anomaly was also tested by 580m of RAB drilling. No strongly anomalous values were obtained, though copper values show a mushroom shaped dispersion hole associated with a possible shear and the porphyry-meta sediment contact. Work concentrated in 4 areas in EL 8276: Tiger, Banger, MI and Navigator 1. This work included 1 RC hole with diamond tail at Tiger plus gravity and MMI soil survey at all 4 prospects. The significance of the MMI is unknown though there appears to be a persistent laboratory error associated with contamination at the start of runs. No gold anomalism was outlined from the drill hole. Each prospect is associated with a gravity ridge.
8357					None	No reports available
8469		EL 8469	Delta Gold Exploration	73 RAB = 2917m, 88 vacuum = 285m, 33 RAB = 986m	Saturn / Black Angel East	In year 1 multiclient aeromagnetic survey by World Geoscience Corporation purchased and interpreted and 17.9km of gridding completed. A ground magnetic survey was undertaken on this grid. In addition RAB holes were completed. This RAB defined two areas -Saturn and Black Angel East which were followed up by gridding magnetics, gravity, geological mapping, lag and soil sampling. At Black Angel East a small gold in soil anomaly was defined over an interpreted anticlinal. Regional vacuum drill program was completed. No significant values were obtained. Follow up of results at Black Angel from year one consisted of RAB holes.

						These holes intersected granite downgrading the prospectivity of the area. At Venus a ground magnetic survey was completed outlining a deep seated NW trending magnetic ridge. The bedrock geochemical sampling program over this area returned no significant values. The work to date has failed to highlight any mineralisation.
8535		EL 8814, EL 6795, EL 7896, EL 7897, EL 8080, EL 8535, EL 8667, EL 8668, EL 8081	Normandy Gold/Poseidon Gold	158 vacuum = 1154m, 31 RAB = 186m, <u>1016</u> <u>vacuum = ?m, 22</u> <u>RAB = 1280m, 6</u> <u>RAB = 316m, 2</u> <u>RC = 289m</u>	Explorer 68, Explorer 70, Parakeet, Headframe, Taucan, Mars, Jupiter, Cascade	Vacuum and RAB holes were completed in EL 8535. The vacuum drilling returned values to 12ppb Au, 33ppm Cu, 45ppm Bi, 52ppm Pb and 56ppm Zn. The RAB drilling returned values to 739ppm Zn and 214ppm Bi. Further vacuum drill holes covered three areas in several ELs. Results from the parakeet, Taucan and from the Central area were encouraging and warranted follow up by RAB. 4 areas were subject to RAB drilling (22 holes: 1280). Anomalous Cu and Bi values were obtained from the Parakeet and Taucan areas. 10 rock chip samples collected from Parakeet returned peak values of 0.47g-t Au, 330ppm Cu, 1390ppm Bi and 0.3g-t Ag. RAB holes were designed to test anomalism outlined in previous vacuum drilling. Maximum values of 0.04ppm Au, 400ppm Cu, 495ppm Bi and 29ppm Co. These results adequately outline the vacuum earlier drill hole anomalies in several ELs. RC holes (?) intersected Warramunga Formation with significant ironstone alteration. Maximum values of 0.14ppm Au, 2100ppm Cu, 246ppm Bi, 65ppm Co were attained.
8933		EL 8933	Normandy Gold/Poseidon Gold	74 vacuum = 425m, 134 vacuum = 511m	None	Vacuum holes completed to test the distribution of various lithologies as well as providing information on their bedrock geochemistry. No significant results were obtained. Further vacuum drilling was designed to extend pervious program and test a weak airborne magnetic anomaly. No anomalous values. Modelling of previously acquired ground magnetic survey was limited by lack of data in the northern portion of the magnetic anomaly identified. A moving loop Time Domain Electro Magnetic (TDEM) resistivity line survey was conducted over the magnetic anomaly. No significant resistor or conductor was indicated within the centre of the magnetic anomaly. A helimag survey was completed and subsequent modelling of the data indicate two separate magnetic bodies, one of which

						is interpreted to be of a depth of 263m, the other at 401m. Their structural position along strike from the White Devil Mine makes them prospective. The company priority was to test shallower targets and due to the closure of both the Gecko and White Devil mines the tenement was considered unprospective.
8956		EL 8956	Delta Gold Exploration	259 vacuum = 1174m	None	Work completed included a literature review, 23.3km gridding with 500 x 100m centres and vacuum drilling. Much of the licence was shown to have lateritic duricrust above the weathered bedrock and hence vacuum drilling did not sample bedrock over much of the licence though this material was sampled. A maximum assay of 7ppb Au was obtained. Analysis of results a poorly formed copper anomaly in the central west of the title supported by slightly elevated bismuth values.
9006		EL 9006	Nexus Minerals		None	No work was conducted during the tenure of the tenement.
9214		EL 7465, EL 9214, EL 7901	Giants Reef Exploration Pty Ltd	11 RC = 731m, 78 vacuum = ?m, 61 vacuum = ?m, 139 vacuum = ?m, 2 RC = 186m. 2 Diamond = 940.1m, 2 other holes 182 meters, 1 diamond = 531.5m.	Great Western, Explorer 14, Budgie, Explorer 113, Explorer 151, Black Eye Mine	Interpretation of airborne magnetics previously acquired by Grant's Reef Mining (EL7901 for details). RC holes at the Black Eye Mine, best result was 2m at 4.32g-t, with 3 other intercepts >1g-t. Reconnaissance in the NW of the licence a line of old shallow prospecting pits. 40 samples outcrop, spoil heaps. No significant gold values. Copper and bismuth distinctly anomalous (max value 942ppm Cu and 143ppm Bi). Vacuum holes assays reported SEL9214. Grided and airborne geophysical survey. 1:1000 geological mapping, acquired aerial photography. Much of the title lacks outcrop. Regional geological and aeromagnetic interpretation completed to detail distribution of Tennant Creek Granite and Warramunga Formation. Warrego East used to test model. Initially evaluated four pits test the soil and weathered profile. Suggested surface sampling inadequate, drilling to test lateritic horizons may be useful. Vacuum drill holes in EL 9214

						outlined Ag anomalism associated with an E-W Shear. RAB testing magnetic targets no anomalous Au. Elevated base metal with doleritic intrusions. Helimagnetic survey at line spacing 50m, sensor height 30m. Diamond hole test Explorer151 mag high.
						Target zone consisted magnetic hematite with chlorite alteration intersected 479-502m. Diamond hole to 408.6m at Explorer 113, no ironstone intersected. No significant geochem anomalies in both holes. 3100 line km aeromagnetic survey completed. Possibility Explorer 119 anomaly may have some potential. Remaining under-explored targets ( Explorer14/Franc, GW1/GW3 and Budgie prospects).
9220		EL 9220	Normandy Gold	43 Vacuum = 227-9m	None	Vacuum holes, Gold, Copper and Bismuth were all low. Detailed helimagnetic survey, digital data supplied on disk. The magnetic rich sediments intersected by previous drilling explain magnetic anomaly.
9222		EL 9222	Normandy Gold	75 Vacuum = ?m	None	Vacuum holes, assay values generally low. A single elevated gold value in SE at 24ppb Au. Detailed, 50m line spacing, heli-magnetic survey completed.
9290		EL 9290	Carpentaria Gold; Giants Reef Exploration	None specified	None	No field work was completed upon this title prior to termination.

9297		EL 9297	Carpentaria Gold	None specified	None	No field work was completed upon this title prior to termination.
9329		EL 9329	Carpentaria Gold; Giants Reef Exploration	None specified	None	No field work was completed. Interpretation of available data suggests area largely underlain by Tennant Creek Granite.
9405		EL 9405	Carpentaria Gold; Giants Reef Exploration	None specified	Orlando, White Devil Mine, Warrego Mine	A detailed helimagnetic survey at 50m line spacing and sensor height of 30m above terrain level. Geophysical interpretation did not identify any targets for further investigation.
9640		EL 9640	Normandy Gold	None specified	None	Toblerone Prospect. Regional aeromagnetics and gravity data acquired and interpreted. A detailed helimagnetic survey was completed during 1997-98. The data shows a number of structural features that make it an attractive area for exploration. The main feature of the data set is a small magnetic dipole situated along the Warrego Fault on the northern boundary of the tenement. The licence is located on a broad gravity gradient. The same gradient hosts the White Devil mine to the southeast and Warrego mine to the northwest. All these features have been reinterpreted in the light of information gained from drilling at Explorer 68 on the adjacent SEL 8814.

**Table 1.** Listing of former ELs/ATPs covering part or all of EL 23846 with Company Reports NOTE All holes underlined in drilling column may refer to other ELs in same report

## **Geophysics**

All available regional geophysical data was compiled and anomalous areas identified by Southern Geoscience Consultants over all the Peko Rehab tenements in the Tennant Creek region including EL23846. The data sets available and studied were as follows:

- Geoscience Australia and NTGS gravity databases for the Tennant Creek area. These databases include several thousand stations collected by explorers as well as regional government data.
- NTGS/GA supplied aeromagnetic and radiometric data covering the central part of the Tennant Creek 1:250,000 sheet. The survey was flown by Kevron in 1998 for GA (AGSO at the time) using 200m line spacing and 60m flying height.
- Shuttle Radar DEM available from NASA with a 90m pixel size.
- Several detailed aeromagnetics flown by Normandy Gold between 1996 and 1998 on 50m lines 30m above ground level and a WMC survey flown using 80m line spacing and 60m flying height by Austirex in 1993.

Figures 3 and 4 show the regional aeromagnetics and gravity respectively within the EL.

Most of the data listed above is regional and includes coverage of EL23846. A more detailed report on the results of the study by Southern Geosciences is attached as Appendix 1.

## **CONCLUSIONS**

Much past exploration effort has focused on the area covered by EL 23846. Many thousands of metres of drilling of various types has been used to test the main targets identified by earlier geological mapping, geophysics and surface geochemistry.

Regional geophysics and geological mapping however shows potential for gold and base metal mineralisation on EL 23846 using more modern exploration techniques than used in the past and so further exploration work is justified to test this potential.

## **EXPENDITURE CURRENT YEAR**

During the period February 9, 2004 – February 8, 2005 the company has expended \$23,500 broken down as follows;

Geological Consultants	\$10,250
Geophysical Consultants	\$ 8,150
Administration and Overheads	\$ 5,100
<b>TOTAL</b>	<b>\$23,500</b>

The Year 1 exploration expenditure commitment specified in the EL licence is \$23,000.

## **PROPOSED EXPLORATION PROGRAM AND EXPENDITURE FOR 2005**

Having completed the preparatory work outlined above it is proposed to carry out a field based exploration program over the EL to better define targets for future drilling in subsequent years. This work will include geological mapping and rock chip geochemical sampling where appropriate.

Planned geophysical work is as follows:

- Take gravimetric readings over the tenement on a 100m square grid and an area 2km around the tenement on a 1km square grid.
- Obtain the Normandy detailed aeromagnetics
- Image and model gravity and aeromagnetic data.

The budget for this proposed exploration program is as follows:

Geological Contractors and Consultants	\$18,250
Geophysical Consultants	\$10,000
Geophysical Equipment Hire and data collection	\$26,000
Chemical Analyses	\$ 2,200
Field Costs (vehicle hire, accommodation etc)	\$ 7,200
Administration and Overheads	\$ 5,000
<b>TOTAL</b>	<b>\$68,650</b>

Exploration program outcomes are unpredictable and most of the planned expenditure is contingent of outcomes from earlier work in the program. Actual expenditures may vary from the budget outlined above as a result of unexpected outcomes from the early work.

Phil Jones  
Geological

Consultant

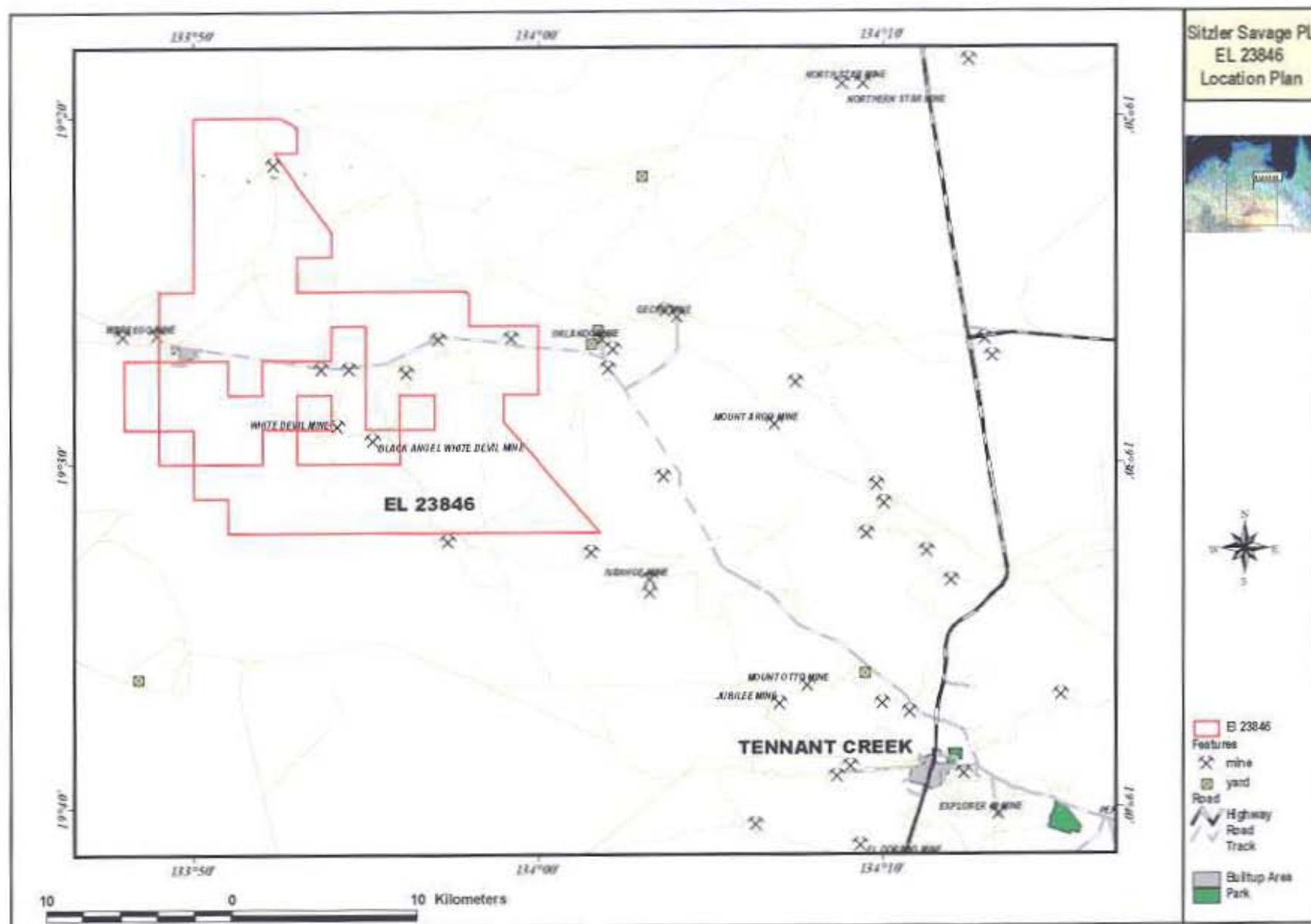


Figure 1. EL 23846 location plan

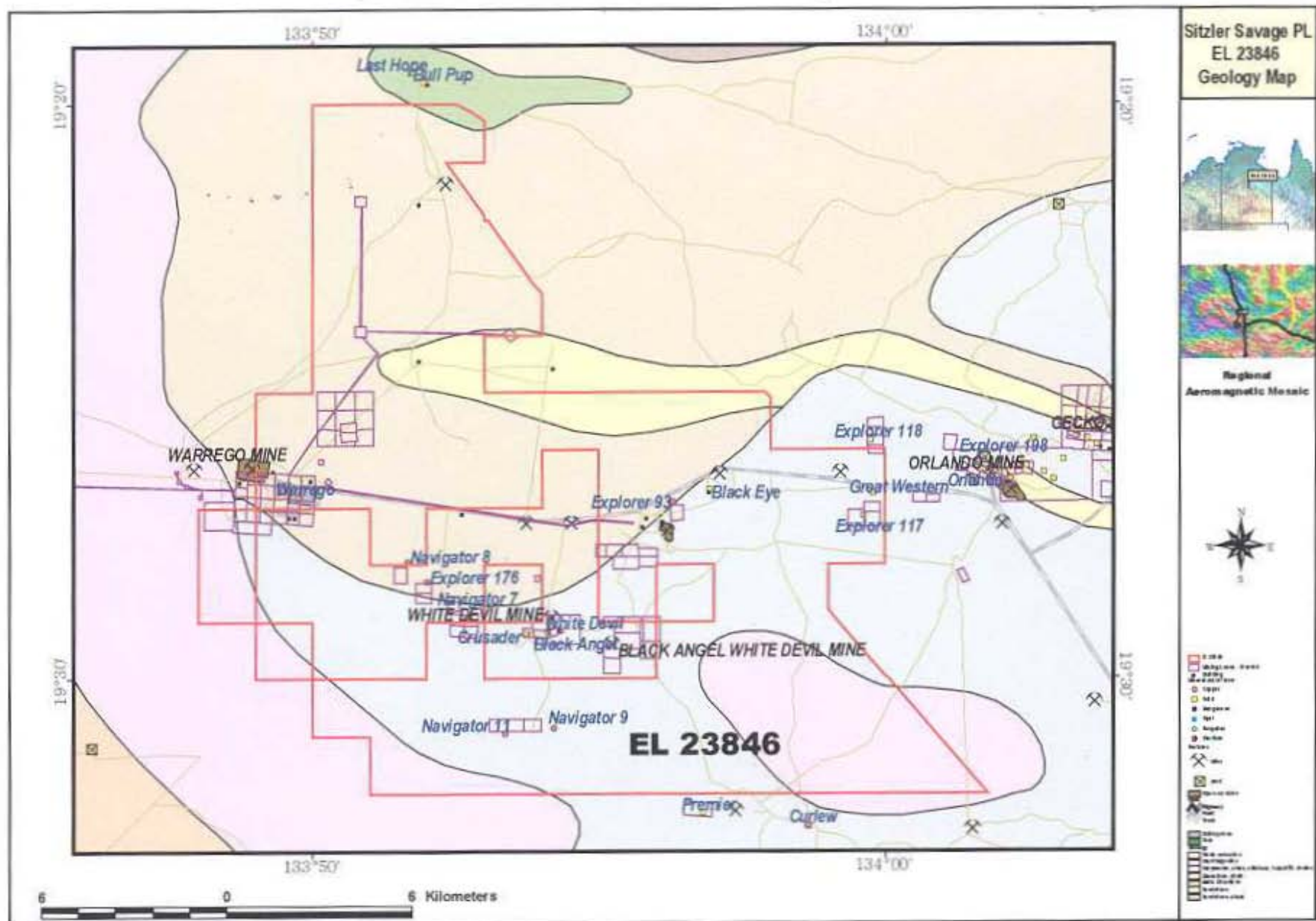
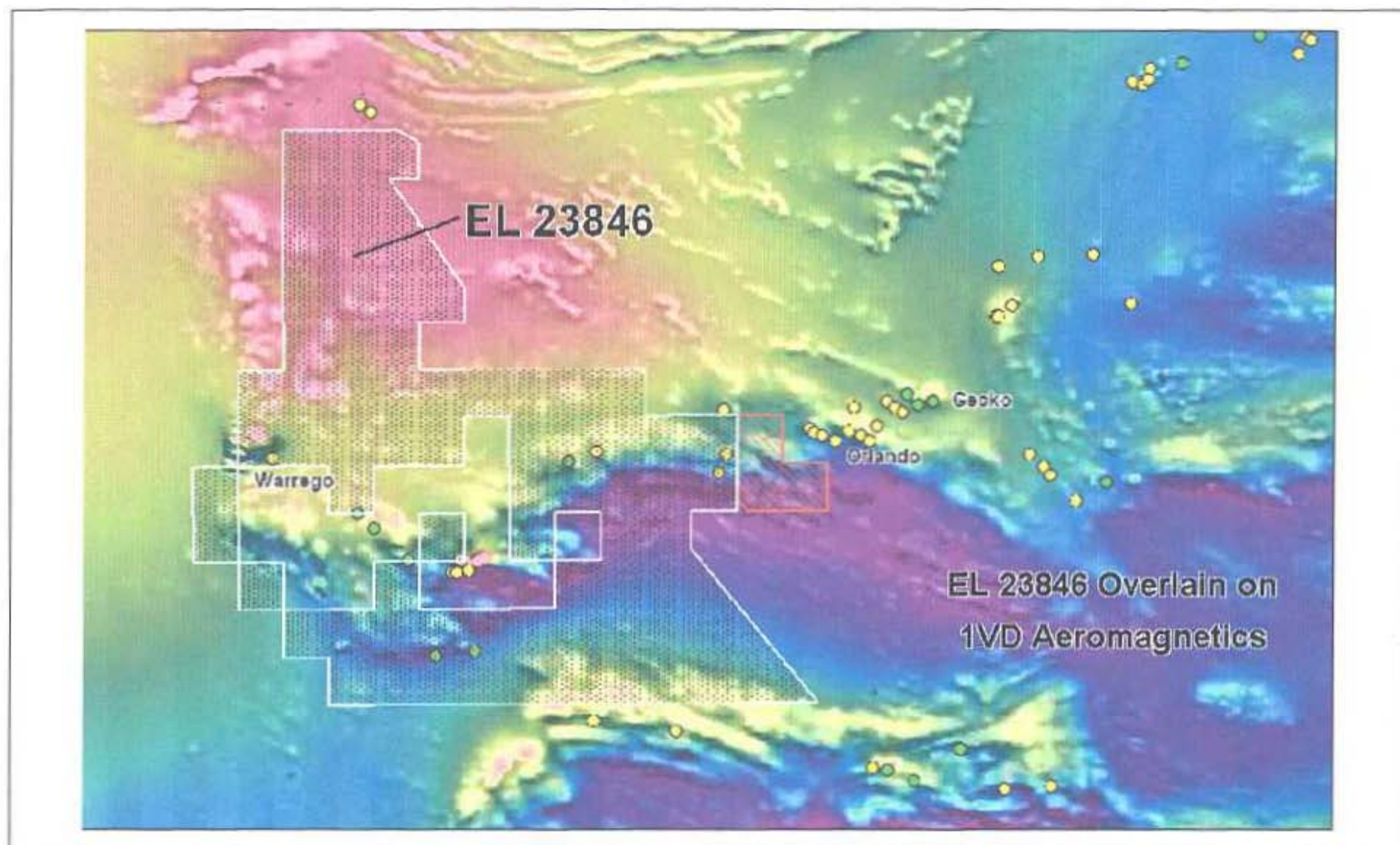


Figure 2 Local geology.



Figure

3.

Regional

Aeromagnetics

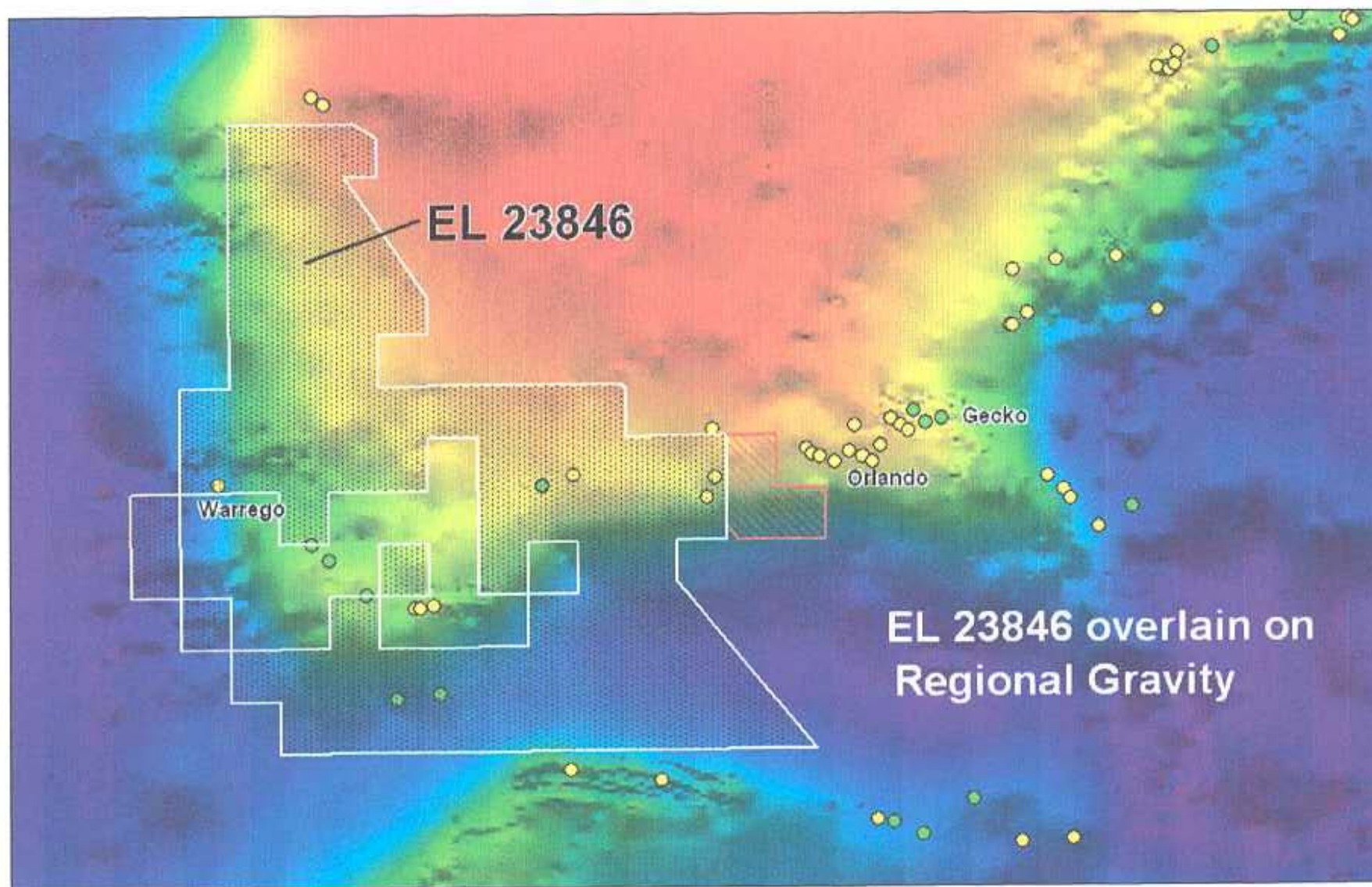


Figure 4. Regional Gravity

***Appendix 1***

*Memo from Southern Geoscience Consultants*



## MEMORANDUM

**TO:** Phil Jones  
**CC:** Laurie Whitehouse  
**FROM:** Kim Frankcombe  
**DATE:** 1 February, 2005  
**SUBJECT:** Regional Geophysics - EL 23846 Tennant Creek

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This memo is a summary of our progress to date with a regional geophysical compilation over EL23846.

Data sets available are;

- Geoscience Australia and NTGS gravity databases for the Tennant Creek area. These databases include several thousand stations collected by explorers as well as regional government data. For reasons I have not yet been able to determine, the NTGS and GA versions of the database are different. Some industry acquired stations plot in different places indicating different datum assumptions while some of the regional government stations have different values. As the GA data set produced a cleaner image this was used however we may have to go back to the NTGS database if this later proves to be the more accurate version.
- NTGS/GA supplied aeromagnetic and radiometric data covering the central part of the Tennant Creek 1:250,000 sheet. The survey was flown by Kevron in 1998 for GA (AGSO at the time) using 200m line spacing and 60m flying height.
- Shuttle Radar DEM available from NASA with a 90m pixel size.
- Several detailed aeromagnetics flown by Normandy Gold between 1996 and 1998 on 50m lines 30m above ground level and a WMC survey flown using 80m line spacing and 60m flying height by Austirex in 1993. These surveys combined cover most of the tenement however at the time of writing were not available to the author although they are all open file.

Gravity coverage on the tenement varies from a regional 4 km grid down to a semi-detailed 500m grid over selected areas. The gravity low at the southern end of the tenement would normally be interpreted as being due to underlying granite and indeed granite is mapped outcropping in the SE corner of the tenement, however the regional magnetics suggests that the metasediments of the Waramunga Fm continue north from Red bluff under the quaternary cover for at least a part of this area. The regional aeromagnetics also indicate a cluster of semi-parallel structures trending NW-SE and acting as a bounding corridor for several deposits, notably including While Devil and

Warrego but also including several of the smaller deposits such as Curlew, Black Angel, Navigator 7 & 8 and Explorer 176. There is scope to explore along these structures, under the thin transported cover at the southern end of the tenement. In the central eastern part of the tenement, between Great Western and Explorer 93 the magnetics and gravity indicate that Warramunga Fm rocks lie under thin transported cover. This should not pose a barrier to detailed gravity and aeromagnetic surveys in exploring for deep, ironstone hosted gold. A small discrete magnetic high under cover in the SW corner of the tenement at 379700E/7841700N (GDA94) warrants closer inspection. In the northern part of the area both the recent transported cover and the Paleoproterozoic Churchills Head Group thicken over the Warramunga metasediments. Although the regional gravity and magnetics suggest that the Warramunga Fm rocks continue under this cover and that major structures cut the area the regional data sets do not provide any discrete targets. A more detailed gravity data set would be useful here.

I recommend we obtain the detailed open file aeromagnetic data and process it to help with mapping, particularly the structures, as it is unlikely that there will be any obvious magnetic targets yet to be followed up. The tenement should also be in-filled initially with 500m x 500m gravity stations but possibly in more detail as prospects develop. This will help resolve the structures and lithological sequences for follow up. Detailed gravity may also lead to direct drill targets of deposits under cover. The open file aeromagnetic data is available free from the NTGS and depending on what shape it is in would only require \$3000 to \$5000 expenditure to stitch the surveys together and generate some useful images. 500m x 500m gravity in-fill would require of the order of 1500 stations and cost somewhere between \$40,000 and \$90,000 to acquire depending on how accessible the area was. The lower cost would be for vehicle based survey while the higher cost assumes helicopter transport. This would then have to be reduced, processed and imaged at an additional cost of around \$7,000